

Petition for Covered Business Method (CBM)
Review of U.S. Patent No. 9,203,870

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Facebook, Inc., Instagram, LLC
Petitioners

v.

Skky, LLC
Patent Owner

U.S. Patent No. 9,203,870

Title: MEDIA DELIVERY PLATFORM

**PETITION FOR COVERED BUSINESS METHOD (CBM) PATENT
REVIEW OF U.S. PATENT NO. 9,203,870**

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1001	U.S. Patent No. 9,203,870 to Mikkelsen et al., entitled “Media Delivery Platform
1002	Declaration of William H. Beckmann, Ph.D.
1003	Second Amended Complaint filed in <i>Skky, LLC v. Facebook, Inc. and Instagram, LLC</i> , Case No. 16-CV-00094-WMW-FLN (D. Minn.)
1004	Excerpts from John Hedtke, <i>MP3 and the Digital Music Revolution: Turn your PC into a CD-Quality Digital Jukebox!</i> (1999)
1005	U.S. Patent No. 6,714,797 to Heikki Rautila, entitled “System and Method for the Transfer of Digital Data to a Mobile Device”
1006	Excerpts from Scot Hacker, <i>MP3: The Definitive Guide</i> (2000)
1007	EP 1033894 A2 to Masatoshi Saito, entitled “Portable Telephone Terminal Apparatus for Receiving Data and Data Receiving Method”
1008	Excerpts from Setrag Khoshafian, <i>Multimedia and Imaging Databases</i> (1995)
1009	U.S. Patent No. 6,423,892 to Muralidharan Ramaswamy, entitled “Method, Wireless MP3 Player and System for Downloading MP3 Files from the Internet”
1010	U.S. Patent No. 7,065,342 to Devon A. Rolf, entitled “System and Mobile Cellular Telephone Device for Playing Recorded Music”
1011	Alan Gatherer et al., <i>DSP-Based Architectures for Mobile Communications: Past, Present and Future</i> , IEEE Communications, pp. 84-90 (Jan. 2000)

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1012	Excerpts from Richard Van Nee et al., <i>OFDM for Wireless Multimedia Communications</i> (2000)
1013	U.S. Patent No. 3,488,445, entitled “Orthogonal Frequency Multiplex Transmission System”
1014	Excerpts from Ahmad R.S. Bahai et al., <i>Multi-Carrier Digital Communications</i> (1999)
1015	L. Cimini, <i>Analysis and Simulation of a Digital Mobile Channel Using Orthogonal Frequency Division Multiplexing</i> , IEEE Trans. Commun., Vol. 33, No. 7, pp. 665-675 (July 1985)
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1018	William Y. Zou and Yiyan Wu, <i>COFDM: An Overview</i> , IEEE Transactions on Broadcasting, Vol. 41, pp. 1-8 (Mar. 1995)
1019	W.A.C. Fernando and R.M.A.P. Rajatheva, <i>Performance of COFDM for LEO Satellite Channels in Global Mobile Communications</i> , Vehicular Technology Conference, 1998. VTC 98. 48th IEEE Vol. 2, 1503-1507 (1998)
1020	Justin Chuang et al., <i>High-Speed Wireless Data Access Based on Combining EDGE with Wideband OFDM</i> , IEEE Comms., Vol. 37, No. 11, pp. 92-98 (Nov. 1999)
1021	U.S. Patent No. 5,726,978 to Carl Frodigh et al., entitled “Adaptive Channel Allocation in a Frequency Division Multiplexed System”

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1022	U.S. Patent No. 5,828,650 to Esa Malkamaki, entitled “Combined Modulation—and Multiple Access Method for Radio Signals”
1023	EP 0786890 A2 to Mitsuhiro Suzuki, entitled “Resource Allocation in a Multi-User, Multicarrier Mobile Radio System”
1024	WO 1997030531 A1 to Roger Larsson, entitled “Improvements in or Relating to OFDM Systems”
1025	U.S. Patent No. 4,843,562 to Stephen C. Kenyon et al., entitled “Broadcast Information Classification System and Method”
1026	Tom McCourt et al., <i>SoundScan and the Consolidation of Control in the Popular Music Industry</i> , Media, Culture & Society (1997)
1027	“How You Get Paid at ASCAP” (attached to the Affidavit of Christopher Butler, Internet Archive)
1028	EMusic.com, Inc. 10-K Report for the Fiscal Year Ended June 30, 2000
1029	WO 2000/043905 A1 to Bernard Fritsch, entitled “Distribution of Musical Products over the Internet”
1030	Underhill & Gertler, <i>The Complete Idiot’s Guide to MP3: Music on the Internet</i> (2000)
1031	Robert W. Chang, <i>Synthesis of Band-Limited Orthogonal Signals for Multichannel Data Transmission</i> , Bell System Technical Journal, Volume 45, Issue 10, pp. 1775–1796 (Dec. 1966)
1032	U.S. App. Pub. No. 2002/0168082 to Ravi Razdan, entitled “Real-Time, Distributed, Transactional, Hybrid Watermarking Method to Provide Trace-Ability and Copyright Protection of Digital Content in Peer-to-Peer Networks”

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1033	Declaration of Robert Freidson under 37 C.F.R. § 1.132, August 8, 2008, filed in U.S. Patent Appl. No. 10/183,756
1034	Amendment and Response, August 5, 2008, filed in U.S. Patent Appl. No. 10/183,756
1035	Ex. 2021, Declaration of Prof. Kevin C. Almeroth, <i>Playboy Enters., Inc. et al. v. Skky, Inc.</i> , IPR2014-01236
1036	Excerpts from IEEE Std 802-11a-1999, <i>Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: High-speed Physical Layer in the 5 GHz Band</i>
1037	U.S. Patent No. 6,711,622 to Michael J. Fuller, entitled “Video and Audio Streaming for Multiple Users”
1038	U.S. Patent No. 5,533,019 to Jay P. Jayapalan, entitled “Packet Data in an Analog Cellular Radiotelephone System”
1039	U.S. Patent No. 7,187,947 to Russell W. White, entitled “System and Method for Communicating Selected Information to an Electronic Device”
1040	Final Decision, <i>Playboy Enters., Inc. et al. v. Skky, Inc.</i> , IPR2014-01236, Paper 45 (Jan. 29, 2016)
1041	U.S. Patent No. 7,548,875 to Mikkelsen et al., entitled “Media Delivery Platform”
1042	WO 2000/062265 A1 to Wiser et al., entitled “Secure Online Music Distribution System”
1043	Amendment and Response, August 22, 2014, filed in U.S. Patent Appl. No. 14/230,938

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1044	Non-Final Rejection, November 28, 2014, filed in U.S. Patent Appl. No. 14/230,938
1045	Amendment and Response, May 28, 2015, filed in U.S. Patent Appl. No. 14/230,938
1046	Notice of Allowance, September 11, 2015, filed in U.S. Patent Appl. No. 14/230,938
1047	U.S. Patent No. 9,124,717 to Mikkelsen et al., entitled “Media Delivery Platform”
1048	U.S. Patent No. 9,124,718 to Mikkelsen et al., entitled “Media Delivery Platform”
1049	Jim Gladstone, <i>Listening Booths are Back Now that CDs are ‘In’</i> , The Orlando Sentinel, October 30, 1988
1050	Walter Hurst et al., <i>The U.S. Master Producers & British Music Scene Book</i> (1973)
1051	Ernest S. Meyers, <i>Sound Recordings and the New Copyright Act</i> , 22 N. Y. L. Sch. L. Rev. 573 (1976-1977)
1052	Patent Owner’s Response, <i>Playboy Enters., Inc. et al. v. Skky, Inc.</i> , IPR2014-01236, Paper 21 (Apr. 29, 2015)
1053	Patent Owner’s Preliminary Response, <i>Facebook, Inc. v. Skky, LLC</i> , CBM2016-00091, Paper 6 (Sept. 15, 2016)
1054	Complaint, <i>Skky, LLC v. Playboy Enters., Inc.</i> , Case No. 13-CV-02089-PJS-HB (D. Minn.)
1055	U.S. Patent No. 6,560,577 to Gilbert et al., entitled “Process for Encoding Audio From an Analog Medium Into a Compressed Digital Format Using Attribute Information and Silence Detection”

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1056	<i>Myplay, inc. Debuts myplay-to-go™ - A Digital Entertainment Platform For Wireless Devices at DEMOMobile 2000</i> , PR Newswire (Sept. 2000)
1057	MyPlay.com Website, Tour (Nov. 28, 1999), <i>available at</i> https://web.archive.org/web/19991128142116/http://www.myplay.com/corp/tour_add.html
1058	<i>MP3.com and i-drive.com Join Forces to Store and Manage MP3 Files</i> , PR Newswire (Oct. 1999)
1059	i-Drive.com Website (Oct. 12, 1999), <i>available at</i> https://web.archive.org/web/19991012044738/http://idrive.com/
1060	Amendment and Response, June 24, 2015, filed in U.S. Patent Appl. No. 14/057,672
1061	Examiner-Initiated Interview Summary, September 30, 2015, filed in U.S. Patent Appl. No. 14/057, 672
1062	Leon Whiteson, <i>Architecture: Bekins: A Storehouse of History</i> , Los Angeles Times, March 1, 1989
1063	Image of Bekins Storage facility in San Diego, California, available through Online Archive of California, http://www.oac.cdlib.org/ark:/13030/kt9f59q503
1064	Michael deCourcy Hinds, <i>New Way to Save: Self-Service Storage</i> , NY Times, Oct. 23, 1980
1065	Richard Turner, <i>Media: The Secret of the Tapes</i> , New York Magazine, Jul. 1995
1066	Tom Vanderbilt, <i>Self-Storage Nation: Americans Are Storing More Stuff Than Ever</i> , Slate, July 2005

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1067	Jon Mooallem, <i>The Self-Storage Self</i> , New York Times, Sept. 2009
1068	Douglas Root, <i>Stuff It!</i> , Orange Coast Magazine, Jun. 1997
1069	Public Storage website (Feb. 1997), <i>available at</i> https://web.archive.org/web/19970227204153/ http://www.publicstorage.com/index.html
1070	Richard Lord, <i>The Legal History of Safekeeping and Safe Deposit Activities in the United States</i> , 38 Ark. L. Rev. 727, 728 (1984-1985)
1071	Remarks Made in Amendment, April 7, 2014, filed in U.S. Patent Appl. No. 14/057,672
1072	Remarks Made In Amendment, June 12, 2015, filed in U.S. Patent Appl. No. 14/230,906
1073	Ben Forta et al., <i>WAP Development with WML and WMLScript</i> (September 2000)
1074	Remarks Made in Amendment, June 8, 2015, filed in U.S. Patent Appl. No. 14/230,762
1075	Carol Bradley, <i>Notes of Some Pioneers: America's First Music Librarians</i> , Vol. 43, No. 2, at 272 (Dec. 1986)
1076	Robin DeRosa, <i>Box Office</i> , USA Today, Feb. 12, 1996
1077	Remarks Made in Amendment, September 5, 2014, filed in U.S. Patent Appl. No. 14/230,762
1078	<i>Audio, Video Tapes To Get a New Home</i> , Denver Post, March 19, 1995

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Ex. No.	Description of Document
1079	Amendment and Response, November 13, 2014, filed in U.S. Patent Appl. No. 14/057,672
1080	Non-Final Rejection, December 19, 2014, filed in U.S. Patent Appl. No. 14/057,672
1081	Notice of Allowance, September 30, 2015, filed in U.S. Patent Appl. No. 14/057,672
1082	Amendment and Response, September 9, 2014, filed in U.S. Patent Appl. No. 14/230,906
1083	Non-Final Rejection, December 9, 2014, filed in U.S. Patent Appl. No. 14/230,906
1084	Notice of Allowance, September 4, 2015, filed in U.S. Patent Appl. No. 14/230,906
1085	Examiner Initiated Interview Summary, September 4, 2015, filed in U.S. Patent Appl. No. 14/230,906
1086	Non-Final Rejection, November 4, 2014, filed in U.S. Patent Appl. No. 14/230,762
1087	Notice of Allowance, August 4, 2015, filed in U.S. Patent Appl. No. 14/230,762

Petition for Covered Business Method (CBM)
Review of U.S. Patent No. 9,203,870

Petitioners Facebook, Inc. and Instagram, LLC (“Petitioners”) respectfully submit this Petition for Covered Business Method (CBM) Patent Review of claims 1-14 of U.S. Patent No. 9,203,870 [Ex. 1001] (“’870 patent”).

I. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8(A)(1)

A. Real Party-In-Interest under 37 C.F.R. § 42.8(b)(1)

The Petitioners, Facebook, Inc. and Instagram, LLC, are the real parties-in-interest to this CBM petition. Instagram, LLC is a wholly owned subsidiary of Facebook, Inc.

B. Related Matters under 37 C.F.R. § 42.8(b)(2)

The ’870 patent is the subject of the following litigation: *Skky, LLC v. Facebook, Inc. et al.*, No. 16-cv-00094 (D. Minn.), filed on January 15, 2016. As of the date of this Petition, no claim construction proceedings have occurred.

On June 15, 2016, Petitioners also filed a petition for covered business method (CBM) patent review of U.S. Patent No. 9,037,502, a continuation of the same application to which the ’870 patent claims priority. *See Facebook, Inc. et al. v. Skky, LLC*, CBM2016-00091. No institution decision has yet been made. Concurrent with or shortly after filing this petition, Petitioners intend to file petitions for covered business method (CBM) patent review and *inter partes* review of related U.S. Patent Nos. of related U.S. Patent Nos. 9,203,956,

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9,215,310, 9,219,810, 8,892,465, 9,118,693, 9,124,717, 9,124,718, 9,203,870, and 9,037,502.

Additionally, an *inter partes* review (IPR) was instituted for U.S. Patent No. 7,548,875, the parent to the '870 patent. *See Playboy Enters., Inc. et al. v. Skky, Inc.*, IPR2014-01236. The Petitioners were not involved in IPR2014-01236. The PTAB issued a Final Decision on January 29, 2016 finding all challenged claims unpatentable. *See* IPR2014-01236, Paper 45 [Ex. 1040].

C. Lead and Back-Up Counsel under 37 C.F.R. § 42.8(b)(3)

Petitioners provide the following designation of counsel.

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D. Service Information under 37 C.F.R. § 42.8(b)(4)

This Petition is being served by Federal Express to the attorney of record for the '870 patent, PATTERSON THUENTE PEDERSEN, P.A., 4800 IDS Center, 80 South 8th St., Minneapolis, MN 55402-2100. The Petitioners may be served at the address provided immediately above for lead counsel, and consent to electronic service by e-mail at the addresses above.

E. Power of Attorney

Filed concurrently in accordance with 37 C.F.R. § 42.10(b).

II. PAYMENT OF FEES - 37 C.F.R. § 42.203

This Petition requests covered business method patent review of 14 claims of the '870 patent. A payment of \$30,000 is submitted herewith, which comprises a \$12,000 CBM Review Petition Fee and an \$18,000 Post-Institution Fee.

III. REQUIREMENTS FOR COVERED BUSINESS METHOD REVIEW UNDER 37 C.F.R. § 42.304

A. Grounds for Standing under 37 C.F.R. § 42.304(a)

1. Petitioners Have Been Sued For Alleged Infringement of the '870 patent and Are Not Estopped

Petitioners certify that they have been sued for alleged infringement of the '870 patent. Petitioners were named as defendants in *Skky, LLC v. Facebook, Inc. and Instagram, LLC*, Case No. 16-CV-00094-WMW-FLN (D. Minn.), which is pending. The currently-operative "Second Amended Complaint" in that action,

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filed on May 19, 2016, accuses Petitioners of infringing the '870 patent. (*See* Second Amended Complaint [**Ex. 1003**], ¶¶ 63, 186-197.) The Petitioners deny any infringement.

The Petitioners are unaware of any post-grant review of the '870 patent filed under 35 U.S.C. § 321(c). The Petitioners certify that the '870 patent is available for covered business method (CBM) patent review and that the Petitioners are not barred or otherwise estopped from requesting such review on the grounds identified in the present Petition.

2. The '870 patent is a “Covered Business Method Patent”

Determining whether a patent qualifies for CBM review entails a two prong inquiry. First, the Board determines whether the patent meets the definition of a “covered business method patent” under Section 18(d) of the AIA. Second, the Board determines whether the patent covers a “technological invention” that would exclude it from CBM review. Each prong is addressed below.

a. “Covered Business Method Patent” Prong

A “covered business method patent” is “a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service.” AIA § 18(d)(1). The Board may institute CBM review even if only one claim of

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the patent meets this definition. *See Liberty Mutual Ins. Co. v. Progressive Casualty Ins. Co.*, Case CBM2012-00002 (Paper 66), at 6 (PTAB January 23, 2014) (“Therefore, a *patent* is eligible for a covered business method patent review if the subject matter of at least one claim is directed to a covered business method.”) (italics in original). This definition broadly encompasses any patent claiming an activity that is financial in nature, incidental to a financial activity or complementary to a financial activity. *See e.g., Versata Dev. Group, Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1324-25 (Fed. Cir. 2015); *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1338 (Fed. Cir. 2016).

A covered business method patent “is not limited to products and services of only the financial industry, or to patents owned by or directly affecting the activities of financial institutions such as banks and brokerage houses.” *Versata*, 793 F.3d at 1325. For example, “a ‘financial activity’ not directed to money management or banking can constitute a ‘financial product or service’ within the meaning of the statute.” *Blue Calypso*, 815 F.3d at 1338. Accordingly, the Board may find a patent is eligible for CBM review even if the claims do not explicitly recite financial products or services. *See Google Inc. v. ContentGuard Holdings, Inc.*, Case CBM2015-00040, Paper 9, at 8-9 (PTAB June 24, 2015) (“[T]he definition of a covered business method patent should be interpreted broadly to

encompass patents claiming activities that are *incidental* or *complementary* to a financial activity. 77 Fed. Reg. at 48,735. ContentGuard does not direct us to a statutory or regulatory provision, much less legislative history, which would require a covered business method patent to recite explicitly a financial product or service.”) (italics in original).

The '870 patent qualifies as a “covered business method patent” under these principles. The patent claims a system and method for delivering copyrighted content to a cellular phone, with the ability to monitor the content downloaded to facilitate payment of royalties to the copyright owner. For instance, Claim 1, one of the two independent claims in the '870 patent, recites:

1. A system for providing digital media files over a cellular network to a user operating a cellular phone, the system comprising:
a content server operably coupled to the cellular network and configured to store a plurality of digital media files and provide for the transmission of the digital media files over the cellular network by orthogonal frequency-division multiplex modulation to the cellular phone;
said cellular phone including a digital signal processor and a receiver configured to request the digital media file from the content server and receive the transmission of the digital media files by orthogonal frequency-division multiplex modulation; and
a monitoring server operably coupled to the content server and **configured to record data about every digital media file downloaded from the content server to the cellular phone, wherein the monitor server provides rights management data for determination of royalty payments based on the requested digital media file.**

(’870, 32:62-33:13 (Claim 1).)¹ Independent claim 8 similarly recites:

8. A method for distributing electronic content over a cellular network to a user operating a cellular phone, the method being executable by a computer system that includes server hardware and a database, the method comprising:

providing for the transmission to the cellular phone by orthogonal frequency-division multiplex (OFDM) modulation of a database of electronically accessible data files, **each data file being subject to a copyright owner**;

receiving, by the computer system, a selection from the cellular phone corresponding to at least one of the data files;

providing for the transmission of, by the computer system and in response to the received selection, a portion of the selected data file to the cellular phone electronic device;

receiving, by the computer system, a request for the data file for which the portion was provided to the cellular phone electronic device; and

providing for the transmitting, by the computer system, of the requested data file to the cellular phone, said cellular phone including a digital signal processor configured to receive the data file over a cellular network by orthogonal frequency-division multiplex (OFDM) modulation.

(’870, 33:40-34:18 (Claim 8).) Independent claims 1 and 8 each make clear that the ’870 patent claims an activity that is financial in nature, incidental to a financial

¹ In this Petition, all underlining, italics, and emphasis in quoted text is added, unless otherwise indicated.

activity or complementary to a financial activity. Claim 1 recites the financial activity of “royalty payments” based on files transmitted to a cell phone, and claim 8 recites that the files transmitted to the cell phone are “subject to a copyright owner,” which is plainly incidental or complementary to the financial activity of royalty payments. In fact, the underlying purpose of copyright is to create financial incentives for the creation of original works. *See Golan v. Holder*, 132 S. Ct. 873, 889 (2012) (“[C]opyright supplies the economic incentive to create and disseminate ideas.”); *see also, e.g., id.* at 908 (Breyer, J., dissenting) (“copyright’s traditional public ends” include the “creation of monetary awards that motivate the creative activity of authors”); *Harris v. Coca-Cola Co.*, 73 F.2d 370, 371 (5th Cir. 1934) (“The great purpose of a copyright is to secure to authors and artists the financial fruits of their own mental labors.”).

The specification confirms the financial nature of claims 1 and 8. The section titled “Industrial Applicability” explains that it is an “object of the present invention to provide a method for selling and buying products associated with existing copyrighted music,” and a “further object of the present invention to provide a tracking feature for devices capable of receiving and playing music files for providing performers and writers rights organizations with an accurate method of determining royalty right payments to registered performers and writers.” (’870,

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32:49-51, 32:41-45.) Financial features are therefore not simply an embodiment, but an “object” of the alleged invention. As the Board has explained, “[f]inancially-related illustrative embodiments in the specification may be sufficient in cases where the specification indicates particular advantages or applicability to financial embodiments” or “where the specification makes clear that claim limitations are interpreted expressly to cover financial embodiments.” *ServiceNow, Inc. v. Hewlett-Packard, Co.*, CBM2015-00077, Paper 12, at p. 12 (PTAB Sept. 17, 2015); *see also ServiceNow, Inc. v. Hewlett-Packard, Co.*, CBM2015-00108, Paper 10, at p. 17 (PTAB Oct. 7, 2015).

These financial purposes are reflected in the claim language. (*Compare id.*, with 33:40-34:18 (Claim 8) (“providing for the transmission to the cellular phone ... of a database of electronically accessible data files, each data file being subject to a copyright owner”), *and* 32:62-33:13 (Claim 1) (“a monitoring server ... configured to record data about every digital media file downloaded from the content server to the cellular phone, wherein the monitor server provides rights management data for determination of royalty payments based on the requested digital media file”).)

Consistent with the financial nature of the claims, the specification describes monitoring information related to each copyrighted file downloaded to a user device, such as purchase price, and reporting that information:

The monitoring server **1806** monitors and counts every file delivered to the consumer device **1802**, The server **1806** may track each individually titled file which may include information such as song title and artist name, purchase price, the consumer's name, and other identity information, time of delivery, and any other pertinent information.... The content server **1808** stores copyrighted digital media content licensed from multiple entertainment companies. Thereafter, monitoring information, including statistics may be transmitted (e.g. through the Internet) to a company or organization.

(’870, 30:40-52; *see also id.*, 31:59-65 (“Tracking those consumers who received the download of the copyrighted work and reporting to the copyright owner of [sic] their representatives information concerning the download.”).) The specification also explains that the tracked information can be “reported to different third parties such as the Copyright Office, or performing or artist’s rights organizations or societies.” (’870, 29:30-32.) This, in turn, “provid[es] performing rights organizations or songwriters’ organizations with an accurate method for determining royalty payments to writers and performers of music.” (’870, 3:33-

35.) The specification thus confirms that the claimed transmission of files subject to copyright is incidental or complementary to the financial activity of:

(g) Tracking those consumers who received the download of the copyrighted work and reporting to the copyright owner of their representatives information concerning the download; and

(h) Paying the copyright owners or their representatives a portion of the money received from the consumers for their downloading of the copyrighted work.

(’870, 31:59-65; *see also id.*, 3:31-35; 6:54-65; 30:28-32; 31:62-65.) Indeed, the PTAB has cited similar disclosures to support a finding of CBM eligibility. *Apple Inc. v. Sightsound Techs., LLC*, CBM2013-00019, Paper 17, at p. 13 (PTAB Oct. 8, 2013) (“[W]e do not agree with Patent Owner that the ’573 patent has nothing to do with finance. The Specification of the ’573 patent states repeatedly that the disclosed method involves the electronic ‘sale’ of digital audio and the electronic ‘transfer’ of ‘money.’”).

Several of the dependent claims of the ’870 patent further confirm the financial nature of independent claims 1 and 8, and the patent as a whole. For example, dependent claim 9 expressly recites that the copyright owner in claim 8 is “credited” an amount associated with the price paid by the user:

9. The method of claim 8, further comprising:

debiting, by the computer system, **an account of the user corresponding to a price of the transmitted data file** and

crediting, by the computer system, **an account of the copyright owner an amount associated with the price of the transmitted data file**.

('870, 34:18-24 (Claim 9).)

Moreover, dependent claim 4 recites that the data recorded by the monitoring server of claim 1 includes information described in the specification as being used to determine royalty payments, such as song title and purchase price:

4. The system of claim 1 wherein the data recorded by the monitoring server is at least one of **a song title, an artist name, a purchase price**, a user name, or a time of delivery.

('870, 33:25-27 (Claim 4); *see also id.*, 30:43-52, 31:59-65.) Claims 10 and 11 similarly recite tracking information described in the specification as being used to determine royalty payments:

10. The method of claim 8, further comprising: **tracking**, by the computer system, **the user of the cellular phone receiving the data file to determine data about the user**; and **reporting, by the computer system and to the copyright owner, the data about the user**.
11. The method of claim 8, further comprising **tracking**, by the computer system, **the user of the cellular phone receiving the data file to determine data about the user**.

('870, 34:25-33 (Claim 10 and 11); *see also id.*, 30:43-52, 31:59-65.)

Claims 14 recites that the copyrighted files of claim 8 each include an identifier associated with the copyright owner:

14. The method of claim **12**, wherein each of the electronically-accessible data files comprises **an identifier associated with the copyright owner**.

(’870, 34:42-44 (Claim 14).) The specification makes clear that using files “coded internally with identification to a copyright owner” facilitates payment of royalties.
(’870, 31:37-65.)

Any one of the dependent claims discussed above, in addition to independent claims 1 and 8, would be sufficient to render the ’870 patent eligible for CBM review. Collectively, they confirm that the transmission of content recited in independent claims 1 and 8 is incidental or complementary to financial activity – specifically, the payment of royalties to copyright owners.

In addition to claiming activities incidental or complementary to the payment of royalties to copyright owners, the ’870 patent also claims “financial products” in the form of advertisements. Specifically, claim 2 recites that the content delivered to users can include audio or visual advertisements:

2. The system of claim **1**, wherein each of the plurality of digital media files comprises at least one of a full, partial, or segment of: a song, a musical score, musical composition, other audio recording, a ringtone, a video, other visual recording, a movie, a film, an image clip, a picture, a clip, an image, a photograph, a television show, a human voice recording, a personal recording, a cartoon, an animation, **an**

audio advertisement, a visual advertisement, or combinations thereof.

(’870, 33:14-21 (Claim 2); *see also id.*, 7:38-31, 31:16-34.) This alone is also sufficient to qualify the ’870 patent as a “covered business method patent.” *See, e.g., Google, Inc. v. Performance Price Holdings, LLC*, CBM2016-00049, Paper 10, at p. 9 (PTAB Sept. 21, 2016) (“Each of the present claims are directed to distributing advertising content, which is a financial activity.”); *Google, Inc. v. Network-1 Techs., Inc.*, CBM2015-00113, Paper 7, at p. 7 (PTAB Oct. 19, 2015) (“Advertising is a fundamental business practice.”); *Allscripts Healthcare Solutions, Inc. v. MyMedical Records, Inc.*, CBM2015-00033, Paper 10, at p. 11 (PTAB May 5, 2015); *Google Inc. v. Unwired Planet, LLC*, CBM2014-00004, Paper 8, at p. 10 (PTAB Apr. 8, 2014); *Hulu, LLC v. Intertainer, Inc.*, CBM2014-00053, Paper 11, at p. 12 (PTAB June 23, 2014).

The Board has previously found claims to be financial in nature based on claims similar to claims 1 and 8. For example, in *ServiceNow, Inc. v. BMC Software, Inc.*, CBM2015-00170, Paper 9 (PTAB Feb. 16, 2016), the Board evaluated a claim that recites a “software license contract,” and determined that “such license contracts qualify as a financial product or financial activity because they represent an agreement between two parties stipulating movements of money or other consideration now or in the future.” *Id.* at 9-10 (internal quotation marks

omitted). The Board has also found a claim reciting “a method for *sharing rights adapted to be associated with an item*,” and “specifying, in a first *license*... at least one usage right” to be financial in nature, explaining that “the sharing of rights associated with an item using a license is an activity that, at the very least, is incidental or complementary to a financial activity.” *Google Inc. v. ContentGuard Holdings, Inc.*, CBM2015-00043, Paper 9, at p. 12 (PTAB June 26, 2015) (emphasis in original). Similar to these recitations, the “copyright owner” in claim 8 concerns rights implicating money or other consideration to be exchanged, and as such, is at least incidental or complementary to financial activity. *See also FFF Enters, Inc. v. Amerisourcebergen Specialty Grp., Inc.*, CBM2014-00154, Paper 14, at p. 7 (“Both claims of the ’607 patent recite a server that may be used to create an invoice. As commonly understood, an invoice is ‘a detailed list of goods shipped or services rendered, with an account of all costs; an itemized bill.’ Requesting money to be paid in exchange for goods is financial in nature.”) (internal citation omitted). For all of these reasons, therefore, the Board should find that the ’870 patent is a “covered business method patent.”

b. “Technological Invention” Prong

To determine whether a patent covers a “technological invention,” and is thus excluded from CBM eligibility, the USPTO considers “whether the claimed

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subject matter as a whole recites a technological feature that is novel and unobvious over the prior art; and solves a technical problem using a technical solution.” 37 C.F.R. § 42.301(b); *see also* Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48763-64 (Aug. 14, 2012) (explaining drafting techniques that typically do not render a patent a “technological invention”). The ’870 patent satisfies the “technological invention” prong because the claims recite no technological feature that is novel and nonobvious over the prior art. The claims instead recite the use of known prior art technology to carry out a method of delivering digital content to users.

Independent claims 1 and 8, reproduced in the section above, recite a system and method, respectively, for delivering content upon request. (’870, 32:62-33:13 (Claim 1), 33:40-34:18 (Claim 8).) Both independent claims recite no more than the known prior art technologies of (a) storing and providing for the transmission of files (e.g., “digital media files”) upon request, (b) a “cellular phone” having the off-the-shelf components of a “digital signal processor” and/or “receiver,” and (c) use of orthogonal frequency-division multiplexing (OFDM), a signal multiplexing technique that predates the ’870 patent by several decades. (*See* Beckmann Decl. at ¶¶ 25-35.) Independent claim 1 also recites servers for storing files and for recording and providing data about the files downloaded, and claim 8 additionally

recites transmitting a “portion” of a file before receiving a request for the entire file and transmitting that file. None of these limitations in claims 1 or 8 provides any “technological invention.” *See* Office Patent Trial Practice Guide, 77 Fed. Reg. at 48763-64. Moreover, the dependent claims discussed above add additional financial and business steps but do not recite any “technological” features. Thus, as explained below, the claims provide no “technological invention” that excludes the ’870 patent from CBM eligibility.

(1) Storage and Transmission of Media Files

Claim 1 recites “stor[ing] a plurality of digital media files and provid[ing] for the transmission of the digital media files.” (’870, 32:66-67.) Claim 8 similarly recites “providing for the transmission ... of a database of electronically accessible data files,” and “providing for the transmitting, by the computer system, of the requested data file.” (’870, 33:33-34:2.) The ’870 patent purports to disclose “an improved method for delivery and play back of sound and image files which include songs, musical compositions, and other sound recordings[,] cartoons, movies, television shows, or any other type of performance.” (’870, 1:63-67.) But the Background Art section of the patent itself concedes that “[t]he general concept for delivery of sound recordings or clips and visual recordings or

clips by way of the Internet is known and described in various U.S. patent applications.” (’870, 1:25-27.)

For example, as described in the “Background” section of Nokia’s U.S. Patent No. 6,714,797 (the “Nokia patent”) [Ex. 1005], filed more than a year before the earliest application to which the ’870 patent can claim priority:

The user would [] log onto a web site and view the products or services available for sale.... In the case where the item ordered is digital in format, such as software, graphics, text, video, or music, the item ordered maybe [sic] downloaded into the user’s PC, server, lap top, palm computer or other processor-based system.

(*Id.*, 1:16-41.) Indeed, by 1999 – two years before the earliest application to which the ’870 patent can claim priority – the electronic distribution of songs and music in the form of digital MP3 files had already become “enormously popular.” (John Hedtke, *MP3 and the Digital Music Revolution* (1999) (“Hedtke”) [Ex. 1004], at p. 1.) As explained in Hedtke, “[t]he most popular way of finding MP3 files is through MP3 web sites. There are hundreds of MP3 web sites in existence that distribute MP3 files, software, news bulletins about MP3, and provide a forum for discussions by MP3 users.” (*Id.* at p. 37 (under “Getting MP3 Files from Web Sites”).) For example, the patent itself acknowledges the existence of prior art

websites such as “Amazon.com” that maintain digital music samples to which users can listen. (’870, 1:31-33.)

Claim 1 additionally recites that the digital media files are stored in and transmitted from a “content server.” (’870, 32:65.) Claim 8 likewise recites “server hardware” and a “database” of electronically accessible data files. (’870, 33:42-43, 34:1.) However, server and database techniques used in the storage and transmission of digital files (e.g., over a network) were well-known. As explained in Scot Hacker, *MP3: The Definitive Guide* (2000) (“Hacker”) [Ex. 1006], it was known that:

[Y]ou can store all of your songs in a database such as MySQL and interface with it through a web server extension such as Perl or PHP. Myriad Perl modules are available so you won’t have to create everything from scratch.... Once configured, you’ll be able to bookmark a web page in a browser on another machine in the house, see available playlists, and select songs on your stereo just by clicking on them in your browser.

(*Id.* at p. 258.) Moreover, the application of these known techniques was not limited to music files. As noted in Setrag Khoshafian, *Multimedia and Imaging Databases* (1995) (“Khoshafian”) [Ex. 1008], “multimedia database applications” started “gain[ing] popularity” as early as 1995, more than five years before the alleged invention. (*Id.* at p. 2.) Khoshafian – published in 1995 – also described in

detail known techniques for implementing “servers involved in the multimedia database applications.” (*Id.* at p. 14; *see also id.* at pp. 215-62 (Chapter entitled “Client/Server Architectures and Multimedia Databases).) Accordingly, storage and transmission of digital files, and the use of servers and databases, provide no technological invention.

(2) Cellular Phones and Digital Content Delivery

The preamble of claim 1 recites “[a] system for providing digital media files over a cellular network to a user operating a cellular phone,” and limitations 1[a] and [b] are directed to requesting digital media files from a cell phone and delivery of the requested digital media files to the cell phone. (’870, 32:62-33:7.) Similarly, the preamble of claim 8 recites “[a] method for distributing electronic content over a cellular network to a user operating a cellular phone,” and limitations 8[a]-[e] are directed to selecting and transmitting data files to a cell phone. (*Id.*, 33:40-34:18.) These limitations recite no technological invention.

As noted previously, by no later than 1999, there were “hundreds of MP3 web sites in existence that distribute MP3 files” (Ex. 1004, at p. 37), so delivery of data files and digital media files over the Internet was already well-known. Allowing the selection and delivery to occur using a “cellular phone” does not provide any technological invention.

Cell phones were not an invention of the '870 patent. The patent explains that the claimed cellular phone “may be any commercially available cellular phone” having standardized capabilities for handling dialing, command, and caller ID features. ('870, 14:27-38.) The Background Art section acknowledges the existence of cellular phones that can play music in a digital format such as MP3. ('870, 1:36-40.)

At least four prior art references further demonstrate that delivering digital content to cellular phones was already known. To take one example, the Nokia patent, filed in May 2000, discloses an “Internet capable cellular phone” capable of ordering and downloading digital products. (Ex. 1005, 1:8-12.) These digital products can include “software, graphics, text, video, or music.” (*Id.*, 1:38-39.) The Nokia patent also discloses a server that provides a menu of digital products available for purchase, and downloading those digital products from the server using the cell phone. (*Id.*, 4:41-45.)

To take another example, Sony’s EP 1033894 A2 to Masatoshi Saito (“Saito”) [**Ex. 1007**], published before the earliest application on the face of the '870 patent, explains that cell phones “have been widely used as terminal apparatuses for transmitting and receiving audio information services,” and could be used to select and download music titles from a server and play them back.

(Saito, ¶¶ 0002, 0003, 0023, 0025, 0026.) Saito discloses a cell phone that allows a user to select digital music titles that are wirelessly delivered from a server. (*Id.*, ¶¶ 0015, 0016, 0022, 0028.)

A similar technique is disclosed in U.S. Patent No. 6,423,892 to Muralidharan Ramaswamy, filed on January 29, 2001 (“Ramaswamy”) [Ex. 1009]. Ramaswamy discloses a handheld wireless device that combines a wireless MP3 player with cellular phone features. (Ramaswamy, 2:26-31.) The user can select MP3 files from a list provided by a music server, which transmits the selected files to the wireless device for storage and playback. (*Id.*, 1:32-2:2.) U.S. Patent No. 7,065,342 to Devon A. Rolf [Ex. 1010], filed on November 22, 2000, likewise discloses a cell phone for wirelessly downloading MP3 files for storage and playback. (*Id.*, 1:28-51.)

Accordingly, the limitations of requesting or selecting digital content from a cellular phone, and having the digital content transmitted to the cell phone, recite no technological invention.

(3) Cell Phone Processors and Receivers

Limitation 1[b] recites that the claimed cellular phone “includ[es] a digital signal processor and a receiver.” (’870, 33:3-7.) Limitation 8[e] similarly recites that the “cellular phone includ[es] a digital signal processor.” (*Id.*, 34:14-17.) The

claims do not require that the “digital signal processor” and “receiver” components comply with any particular architecture or technology, and as such, these components provide no technological invention because they were standard components of prior art cell phones. (Beckmann Decl. ¶ 49-50, 63-64, 25-35.) Saito, for example, discloses a receiver (“receiving circuit 10”) for receiving the digital music downloaded from the server and delivering it to other components of the phone. (Saito, Ex. 1007, ¶¶ 0019, 0022.)

The term “digital signal processing” refers to a broad range of techniques for analyzing or manipulating the information in a signal. (Beckmann Decl. ¶ 64.) Digital signal processors (DSPs) were standard components of prior art cell phones, and off-the-shelf DSPs suitable for cellular phones were available from a number of manufacturers such as Texas Instruments. (*Id.*) In the embodiment disclosed in the specification, the digital signal processor (DSP) **300** shown in Figure 3 is the same processor **300** that performs a number of other functions including monitoring keypresses by the user, receiving sound clips, unpacking and playing back sound clips through a built-in speaker, controlling a voice-driven user interface, and “other auxiliary functions.” (’870, 14:51-63.) As explained in Alan Gatherer, *DSP-Based Architectures for Mobile Communications: Past, Present and Future*, IEEE Communications (Jan. 2000) [Ex. 1011], “[p]rogrammable

digital signal processors (DSPs) [were] pervasive in the wireless handset market for digital cellular telephony” (*id.* at p. 84), and a known and increasingly compelling option for implementing a “multimedia processor in the handset.” (*Id.* at p. 87; *see also id.* Fig. 7.)

(4) OFDM

Limitations 1[a], 1[b], 8[a] and 8[e] recite the transmission and receipt of data “by orthogonal frequency-division multiplex [(OFDM)] modulation.” (’870, 32:65-33:7 (Claim 1), 33:44-34:1 & 34:15-18 (Claim 8).) These limitations likewise provide no technological invention. The recitation of orthogonal frequency-division multiplex (OFDM) modulation was simply a drafting technique designed to create an illusion of technological innovation where none exists. As explained below, OFDM refers to a technique for transmitting data that dates back fifty years.

OFDM is a particular type of frequency-division multiplexing (“FDM”), which refers to a technique in which discrete signals can be combined within a shared frequency band of a communications medium. Anyone who has ever tuned into an FM radio station by turning a radio receiver to a particular frequency (e.g., 97.1 MHz) has been exposed to the basic concept of FDM. FDM divides up an available frequency band (characterized by a particular “bandwidth”) into a

number of frequency “sub-bands,” sometimes referred to as “sub-channels.” To reduce interference, these sub-bands usually do not overlap. To use the FM radio example above, FM radio stations use a frequency band that ranges from 87.5 to 108 MHz of the radio spectrum. By dividing the available bandwidth into sub-bands, FDM allows multiple signals to be transmitted simultaneously because each sub-band can carry a distinct signal. This is essentially how “frequency division multiplexing” gets its name. FDM was used with the telegraph more than a century ago and continues to be used in numerous applications including, as noted, radio signals broadcast over the air. (Beckmann Decl. ¶¶ 31, 67.)

OFDM is a more advanced variant of FDM. Because the claims of the ’870 patent specify no technical details about OFDM or any OFDM implementation, only a short summary is warranted. In broad overview, OFDM differs from ordinary FDM in that OFDM uses frequency sub-bands that overlap, but are centered at precise intervals and as such, “orthogonal.” (*Id.*, ¶¶ 32-33.) The basic differences are illustrated in Figure 1.10 of Richard Van Nee et al., *OFDM for Wireless Multimedia Communications* (2000) [Ex. 1012] (“Van Nee”):

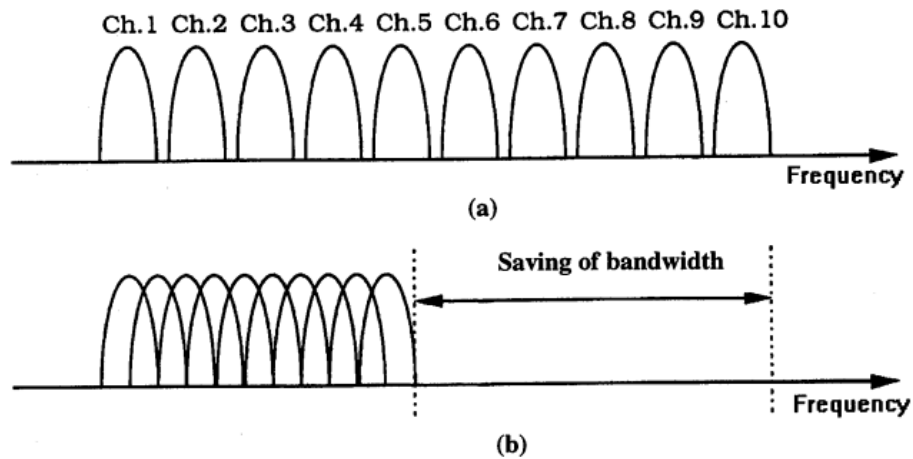


Figure 1.10 Concept of OFDM signal: (a) Conventional multicarrier technique, and (b) orthogonal multicarrier modulation technique.

(Van Nee, Fig. 1.10, at 22.) The top portion (a) of Figure 1.10 shows a conventional FDM arrangement in which each signal channel occupies a distinct frequency sub-band. The sub-bands in this example do not overlap, and each sub-band is separated by what is known as a “guard band,” an unused portion of the bandwidth designed to reduce interference between neighboring channels. (Beckmann Decl. ¶ 32.)

The bottom portion (b) of Figure 1.10 shows an OFDM arrangement. As shown, OFDM eliminates the need for a guard band and allows frequency sub-bands to overlap, thus making for a more efficient use of the available bandwidth. The spacing between the center frequency of each sub-band is precisely chosen such that the sub-bands are “orthogonal” to each other, a characteristic that reduces

interchannel interference notwithstanding the overlapping nature of the sub-bands.
(*Id.*, ¶ 33.)

OFDM was certainly not a technological invention of the '870 patent. Patents on OFDM date back almost 50 years to U.S. Patent No. 3,488,445 entitled “Orthogonal Frequency Multiplex Transmission System,” filed in 1966 and issuing in 1970 [Ex. 1013]. (*See also* Ex. 1031 (technical paper by the inventor).) OFDM was also deployed in a number of known wireless applications before the application for the '870 patent was filed. The ubiquitous wireless LAN technology commercially known as “WiFi” used OFDM, which was specified in 1999 for use in the IEEE 802.11a standard. (IEEE Std 802-11a-1999, *Part 11* [Ex. 1036], at 4 (“PHY services provided to the IEEE 802.11 wireless LAN MAC by the 5 GHz (bands) OFDM system”).) As explained in Ahmad R.S. Bahai et al., *Multi-Carrier Digital Communications* (1999) [Ex. 1014]: “OFDM has been particularly successful in numerous wireless applications, where its superior performance in multi-path environments is desirable.” (*Id.* at 14.) Some of the earlier prior art references describing the use of OFDM to wirelessly transmit information include:

- In 1985, the use of OFDM in cellular systems was proposed by L. Cimini in the paper entitled, *Analysis and Simulation of a Digital Mobile*

- Channel Using Orthogonal Frequency Division Multiplexing*, IEEE Trans. Commun., Vol. 33, No. 7, pp. 665-675 (July 1985) [Ex. 1015].
- In 1991, a similar application of OFDM in a mobile system was proposed by E.F. Casas, *OFDM for Data Communication Over Mobile Radio FM-Channels-Part I: Analysis and Experimental Results*, IEEE Trans. Commun., Vol. 39, No. 5, pp. 783-793 (May 1991) [Ex. 1016].
 - In 1993, another wireless OFDM technique was proposed by William D. Warner in *OFDM/FM Frame Synchronization for Mobile Radio Data Communication*, IEEE Transactions on Vehicular Technology, Vol. 42, No. 3, pp. 302-313 (Aug. 1993) [Ex. 1017]. Warner specifically noted that his OFDM technique was attractive because “it can be implemented simply and inexpensively by retrofitting existing FM communication systems.” (*Id.* at p. 302.)²

² In fact, the Warner reference was relied upon in the Final Decision in *Playboy Enters., Inc. et al. v. Skky, Inc.*, IPR2014-01236, to reject a claim in the parent patent to the '870 patent (U.S. Patent No. 7,548,875) [Ex. 1041] that recited use of OFDM in a method for wirelessly delivering audio and/or visual files. See IPR2014-01236, Paper 45, at 18-22 [Ex. 1040].

- In 1995, the history of research and development of OFDM and coded OFDM (COFDM) was discussed in William Y. Zou and Yiyan Wu, *COFDM: An Overview*, IEEE Transactions on Broadcasting, Vol. 41, pp. 1-8 (Mar. 1995) [Ex. 1018]. The authors specifically noted that “[a]fter more than thirty years of research and development, orthogonal frequency division multiplexing (OFDM) has been widely implemented in high speed digital communications.” (*Id.* at p. 1.)
- In 1998, the use of OFDM was proposed for satellite communications by W.A.C. Fernando and R.M.A.P. Rajatheva in *Performance of COFDM for LEO Satellite Channels in Global Mobile Communications*, Vehicular Technology Conference, 1998. VTC 98. 48th IEEE Vol. 2, 1503-1507 (1998) [Ex. 1019].
- In 1999, Justin Chuang proposed another OFDM wireless technique in *High-Speed Wireless Data Access Based on Combining EDGE with Wideband OFDM*, IEEE Communications, Vol. 37, No. 11, pp. 92-98 (Nov. 1999) [Ex. 1020], describing a technique in which wireless devices could transmit data using existing EDGE technology, but receive data using wideband OFDM (WOFDM). (*Id.* at p. 93-94.)

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By the mid-1990s, cell phone companies such as Ericsson, Nokia and Sony were publishing technologies and filing patent applications on ways to use OFDM to wirelessly send data over cellular networks. For example:

- Ericsson’s U.S. Patent No. 5,726,978, filed in June 1995 and issuing in March 1998 [**Ex. 1021**], describes use of OFDM in a cellular system. It explains that “OFDM offers several advantages that are desirable in a cellular system.” (*Id.*, 2:38-39.)
- Nokia’s U.S. Patent No. 5,828,650, filed in July 1996 and issuing in October 1998 [**Ex. 1022**], similarly describes the use of OFDM in a cellular system. This patent discloses a technique in which “the signal processing principle based upon orthogonal frequency-division multiplexing (OFDM) may be applied to data transfer between the base station and a terminal device in a cellular network.” (*Id.*, 4:27-30.)
- Sony’s EP 0786890 A2, filed in January 1997 and published in July 1997 [**Ex. 1023**], also describes a technique for using OFDM to wirelessly send and receive data. (*Id.* at p. 4:7-9, p. 5:28-29.) Sony called this technique “BDMA” and explained that it could “be applied to cellular phones which will be substituted for conventional GSM, PCS, PHS or the like.” (*Id.* at p. 3:20-21, p. 5:28-29.)

- Telia’s WO 1997030531 A1, filed in January 1997 and published in August 1997 [**Ex. 1024**], describes “[t]he use of variable duration guard spaces in OFDM systems” that “has particular application in mobile telephony, in which a plurality of base stations transmit data to a plurality of mobile stations.” (*Id.* at p. 3:18-19, p. 9:15-17.) Telia specifically noted that “[t]he design and implementation of OFDM systems [were] well known to those skilled in the art of telecommunications.” (*Id.* at p. 9:27-29.)

These are just a few examples of prior art references that described use of OFDM for wireless. The claims of the ’870 patent therefore provide no technological invention by merely reciting transmission to a cell phone using OFDM.

(5) Computerized Rights Management

Limitation 1[c] recites “a monitoring server ... configured to record data about every digital media file downloaded from the content server to the cellular phone, wherein the monitor server provides rights management data for determination of royalty payments.” (’870, 33:8-12.) The claim does not require any particular technology or approach to recording data or providing rights management data. As discussed above, server and database techniques were well-known. (*See also* Beckmann Decl., at ¶ 55.) Moreover, rights management (e.g.,

for copyrighted materials) using conventional computer technologies was already a long-standing practice in the industry.

It was a long-standing practice to monitor broadcasting content to facilitate the payment of royalties to copyright owners such as music artists. As explained in the Background section of U.S. Patent No. 4,843,562 to Stephen C. Kenyon et al. (“Kenyon”) [Ex. 1025], published more than 10 years before the alleged invention, “[i]t is known that broadcast stations (television and radio) are regularly monitored to determine when and how often certain information is broadcast. For example, artists may be paid a royalty rate depending upon how often their particular work is broadcast.” (*Id.*, 1:12-16.) Kenyon explains that although such monitoring was traditionally performed manually (*id.*, 1:29-33), by the time of its filing in 1987 “several techniques and systems [had] been developed which electronically monitor broadcast signals and provide information relative to the content and timing of the program monitored.” (*Id.*, 1:47-50.) One well-known computerized service for tracking radio and television broadcasts was called Broadcast Data Systems (BDS). As explained in Tom McCourt et al., *SoundScan and the Consolidation of Control in the Popular Music Industry*, Media, Culture & Society (1997) (“Mccourt”) [Ex. 1026]:

This system scrap[ped] *Billboard’s* traditional method of determining overall airplay by placing weekly calls to selected stations. Instead,

records and commercials are played into the system's computer, which creates a digital 'fingerprint' of each selection. These are downloaded to BDS electronic monitors in each market, which log the 'fingerprint' when the recording or commercial is aired on a monitored station.

(*Id.* at p. 206.) By 1997, the BDS system was used to “monitor[] 800 radio and 515 television stations in 85 markets across the country, as well as 50 radio and music television stations in Great Britain.” (*Id.*) Data recorded by BDS was also being provided to performance-rights organizations such as ASCAP for determination of royalty payments. (How You Get Paid at ASCAP [Ex. 1027], at p. 2 (“ASCAP uses more BDS information than any other performing rights organization”).)

In addition to broadcasts, computer technologies were widely used to track sales of copyrighted materials. McCourt describes one such technology known as “SoundScan,” which “employs computerized point-of-purchase technology that has proved successful for tracking sales in the clothing and grocery industries. Whenever a customer makes a purchase at a store equipped with SoundScan, the sales clerk scans the bar code on the album, CD or cassette. Information about the purchase is entered automatically into a database accessible to SoundScan headquarters.” (Mccourt, at p. 203.) By the time of McCourt's publication in

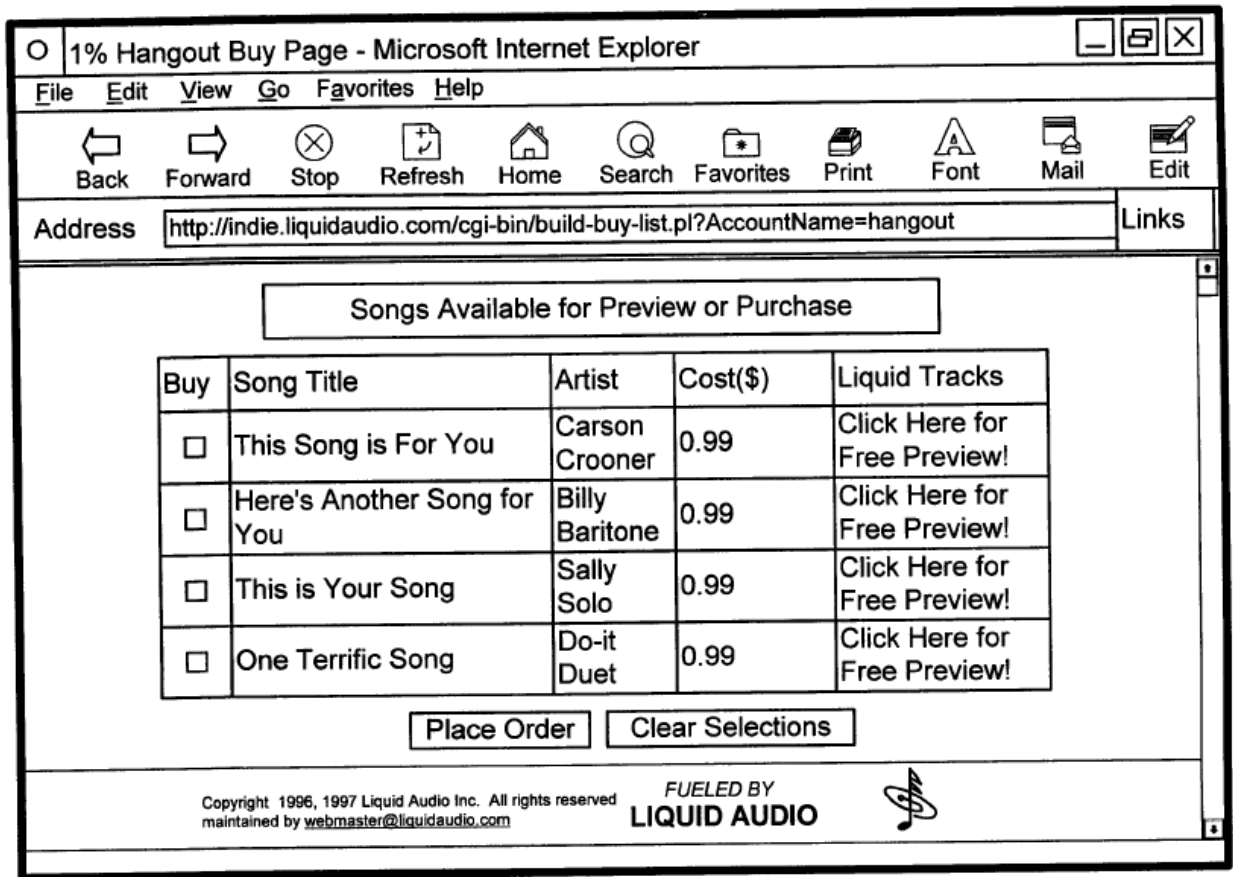
1997, “[c]omputerized point-of-sale information [] account[ted] for all of *Billboard’s* charts, and point-of-sale information [was] used to track both albums and singles in virtually every musical genre.” (*Id.* at p. 208.)

By the time of the alleged invention, the use of computerized tracking techniques by music websites, discussed in **Part III.A.2.b.(5)** above, was also conventional. To take one example, EMusic.com – one of the “top five music content websites as measured by unique visitors in June 2000” – employed a “database management system that indexes, retrieves and manipulates [its] growing multimedia content,” and thus allows EMusic to “track user preferences to enable effective marketing programs and maintain an efficient royalty accounting program.” (EMusic.com, Inc. 10-K Report for the Fiscal Year Ended June 30, 2000 [**Ex. 1028**], at pp. 2, 5.) A similar “sales sub-system” was disclosed in WO 2000/043904 A1 to Bernard Fritsch (“Fritsch”) [**Ex. 1029**], published in July 2000. (*Id.*, p. 8, ln. 21.) Fritsch explains that the sales sub-system “maintains a record on a computer database (or the like) of all the purchases ever made by the user.... The sub-system permits the rights holders to access the web page of the computer system and determine what royalties they have generated.” (*Id.*, p. 8, ll. 21-26.) Accordingly, the recitation of rights management using computer technologies cannot shield the ’870 patent from CBM eligibility.

(6) Content Preview

Claim 8 recites “providing for the transmission of ... a portion of the selected data file ... ; receiving, ... a request for the data file for which the portion was provided ... ; and providing for the transmitting ... of the requested data file.” (’870, 34:7-15 (Claim 8).) In essence, the claim recites providing a preview of the data file ultimately transmitted to the user. But this does not provide any “technological invention.”

It was conventional for websites to provide samples of music to which users can listen before making a purchase. As explained in Fritsch, “[c]onsumers may access the web site via a personal computer or any other wired or wireless Internet access device, such as ... cellular telephone, etc., to obtain a variety of services and products. For instance, a consumer may browse through artists, tracks or albums, pre-listen to a portion of the song and purchase the selected song either by downloading the digital data to her computer hard drive or by placing a mail order for a compact disk (CD).” (Fritsch, Ex. 1029, at p. 3, ll. 13-18.) This is illustrated in WO 2000/062265A1 [**Ex. 1042**], published in October 2000:



(*Id.*, Fig. 8.) Indeed, the '870 patent itself acknowledges the existence of prior art websites that “allow[ed] a user to listen to samples of music for before purchasing compact discs (CD’s) by mail.” (’870, 1:31-33.) One example was the popular EMusic.com website discussed above, which also delivered purchased music via digital download. (Ex. 1028, at p. 5 (“We use a variety of audio compression technologies for our audio samples and downloads,”); see also *The Complete Idiot’s Guide to MP3: Music on the Internet* (2000) [Ex. 1030], at pp. 62-63 (showing the ability to sample tracks as indicated by clickable speaker icons).)

Providing a “portion” of a file before transmitting the entire file therefore provides no “technological invention.”

(7) Technological Invention – Conclusion

As the foregoing discussion illustrates, the “technological” features in the claims of the ’870 patent, individually or in combination, provide no “technological invention” that would remove the ’870 patent from CBM eligibility. The claims instead are a “[m]ere recitation of known technologies,” and “[r]ecit[e] the use of known prior art technology to accomplish a process or method.” 77 Fed. Reg. 48756, 48763-64. As demonstrated above, digital content delivery, cellular phones, receivers, digital signal processors (DSPs), the use of OFDM for wireless data delivery, rights management and content preview techniques were all known and in the prior art well before the date of the earliest application to which the ’870 patent can claim priority (June 27, 2001).

Each claim, when analyzed as a whole, also provides an example of “[c]ombining prior art structures to achieve the normal, expected, or predictable result of that combination,” 77 Fed. Reg. 48756, 48763-64, which provides a separate basis for demonstrating the lack of any technological invention. It would have been obvious to a person of ordinary skill in the art to combine known cell phone structures (including receivers and DSPs), with digital content delivery,

OFDM modulation, and rights management or content preview techniques, which would have predictably resulted in the system and method recited in claims 1 and 8. (*See* IPR2014-01236, Paper 45 [**Ex. 1040**], at 18-22 (finding a substantially similar claim in the parent to the '870 patent obvious over prior art disclosing a cell phone, MP3 files, and the use of OFDM for data transmission).) As explained previously, the prior art specifically discloses wireless devices that allow a user to select and wirelessly download digital files such as music. It would have been obvious to add OFDM techniques to these devices, as evidenced by the at least four references (from Ericsson, Nokia, Sony, and Telia) that expressly described using OFDM for wireless transmission and receipt of digital data using wireless devices such as cellular phones. (Beckmann Decl. ¶ 71.) Adding rights management or content preview capabilities, such as those commonly found in then-existing music websites, would likewise have been obvious – even trivially so. (*Id.*)

The lack of any “technological invention” is further demonstrated by the superficial and insubstantial way in which the claims recite these “technological” features. Limitation 1[b] recites that the claimed cellular phone “includ[es] a digital signal processor and a receiver” ('870, 33:3-4), but the claim does not refer

to those components again and does not require that they actually do anything.³ As noted previously, both of these components were well-known and standard components of wireless devices.

The recitation of OFDM in the claims presents a textbook example of a clever claim drafting technique for creating an illusion of technical specificity and innovation where none exists. Limitations 1[a], 1[b], 8[a] and 8[e] recite the transmission and receipt of data by “orthogonal frequency-division multiplex [(OFDM)] modulation.” (’870, 32:65-33:7 (Claim 1), 33:44-34:1, 34:15-18 (Claim 8)), but do not provide any details or limitations about how OFDM should be implemented. These claim limitations are substantially similar to the claim in the ’870 patent’s parent that the Board invalidated in *Playboy Enters., Inc. et al. v. Skky, Inc.*, IPR2014-01236, based on prior art. See IPR2014-01236, Paper 45, at 18-22 [Ex. 1040]. There can be no dispute that use of OFDM, including for

³ Claim 1[b] states “said cellular phone including a digital signal processor and a receiver *configured to* request the digital media file from the content server.” (’870, 33:3-5.) The phrase “configured to” modifies the “cellular phone,” and thus, the claim does not require that the receiver or DSP perform the “requesting” step. Indeed, it would be odd to require the “receiver” to request the digital media file.

wireless data transmission, was known long before the alleged invention of the '870 patent.

Claims 1 and 8 do not purport to cover any improvement in OFDM or any other aspect of wireless data transmission. The claims under their broadest reasonable construction are not limited to any particular type of cell phone, cell phone hardware, or OFDM method, and thus, could read on the prior art techniques described above. The claims simply recite use of these prior art cell phone and OFDM techniques to facilitate digital content delivery. These limitations accordingly provide no technological invention.

Techniques for storage and transmission of digital media files similarly provide no technological invention. As demonstrated above, storing and downloading files including MP3s was well-known. The claims under their broadest reasonable construction do not require that the delivered digital files contain high quality (e.g., "CD quality") content, nor do they require that the files be large. The claims under their broadest reasonable construction would cover small and highly-compressed digital files, such as the "ring tones" of the prior art. ('870, 1:36-40.) The claims accordingly do not recite any technological invention relating to the storage or delivery of high-quality or rich multimedia digital content. Moreover, rights management and content preview techniques were well-

known. In fact, as explained above, they were conventional features of music websites that provided copyrighted music for purchase and download.

The dependent claims discussed previously add no technological features, let alone provide any “technological invention.” Dependent claim 4 recites that the data recorded by the monitoring server includes “a song title, an artist name, a purchase price, a user name, or a time of delivery,” but gathering and reporting particular types of data is not a technological feature, and in any event, this was already conventional. Dependent claim 2 merely recites a list of what the digital media files provided by the system could be, such as a “song,” “movie,” or “image.” It cannot be disputed that the types of files recited were well-known.

Dependent claim 9 recites “debiting” and “crediting” the accounts of the user and copyright owner by the “computer system,” but this amounts to no more than “[r]eciting the use of known prior art technology [i.e., computers] to accomplish a process or method.” 77 Fed. Reg. 48756, 48763-64. Notably, claim 9 says nothing about *how* these financial transactions are to be performed by computers, and thus provides no technological invention. Claims 10 and 11 recite “tracking” the user receiving the data file, and claim 11 further specifies that the tracked data is “report[ed]” to the copyright owner. But as discussed above in **Part**

III.A.2.b.(5), techniques for tracking and reporting rights management data (e.g., for determining royalties) were well-known.

Dependent claim 14 recites that each data file includes “an identifier associated with the copyright owner.” The ’870 patent explains that using files “coded internally with identification to a copyright owner” facilitates payment of royalties. (’870, 31:37-65.) However, as noted above in **Part III.A.2.b.(5)**, such digital “fingerprinting” techniques were commonly used in prior art BDS systems (McCourt, Ex. 1026 at p. 206), which provided the data recorded (on copyrighted content) to performance-rights organizations such as ASCAP for determination of royalties. (ASCAP, Ex. 1027, at 2.) Similar “digital watermarking” technologies were also well-known, as described in the “Background” section of U.S. App. Pub. No. 2002/0168082 [**Ex. 1032**] (filed March 7, 2001):

Digital watermarking is one of the enabling technologies in the digital rights management framework. Digital watermarking makes possible to identify the source, author, creator, owner, distributor or authorized consumer of digitized images, video recordings or audio recordings....

Generally, digital watermarking is achieved when a pattern of bits is inserted into a digital image, audio or video file that identifies the file's copyright information (author, rights, etc.). The watermarks can also provide an audit trail allowing for each copyright owner,

distributor and retailer in the value chain to insert information regarding the particular transaction, addresses, billing and pricing information.

(*Id.*, ¶¶ 0006-0007.) Claim 14 thus provides no “technological invention.”

In sum, the claims of the ’870 patent merely repackage previously existing technology. Even when considered as whole, the claims lack any synergistic element that would make the whole greater than the sum of its parts. Instead, the collection and application of these purported “technologies” is conventional and leads to precisely the result that one of ordinary skill would expect. (*See* IPR2014-01236, Paper 45 [**Ex. 1040**], at 18-22 (finding a similar claim in the parent to the ’870 patent obvious over the prior art).) And as such, the claims fail to qualify as technological inventions. (*See* Office Patent Trial Practice Guide, 77 Fed. Reg. at 48763-64.)

Accordingly, the Board should find that the ’870 patent fails to claim any “technological invention,” and thus, the patent qualifies as a “covered business method patent” under Section 18 and 37 C.F.R. § 42.301.

B. Identification of Challenge Under 37 C.F.R. § 42.304(b) and Statement of Precise Relief Requested

The Petitioners respectfully request that the Board initiate CBM review of claims 1-14, and find those claims unpatentable on the following grounds:

Petition for Covered Business Method (CBM)
Review of U.S. Patent No. 9,203,870

#	Claim(s)	Basis for Challenge and Applicable Statutory Ground
1	1-14	Unpatentable because the claims fail to recite patent-eligible subject matter under 35 U.S.C. § 101
2	1-14	Unpatentable because the claims fail to correspond in scope with that which the inventor regards as the invention under 35 U.S.C. § 112(b) (pre-AIA 35 U.S.C. § 112 ¶ 2)
3	1-14	Unpatentable because the written description fails to show that the inventor was in possession of the invention claimed under 35 U.S.C. § 112(a) (pre-AIA 35 U.S.C. § 112 ¶ 1)

Part V below provides a detailed explanation as to why each challenged claim is unpatentable based on the ground identified above.

With respect to Ground No. 1, the Petitioners note that, during the original prosecution of the '870 patent, the applicants first raised the issue of § 101 eligibility in the absence of any previous rejection under § 101. (08/22/2014 Amendment [**Ex. 1043**], at pp. 11-12.) The Examiner rejected the claims under § 101 in the ensuing office action. (11/28/2014 Non-Final Rejection [**Ex. 1044**], at pp. 4-7.)

Applicants responded by amending the independent claims, including replacing the term “electronic device” with “cellular phone” and adding a recitation of OFDM. (05/28/2015 Amendment [**Ex. 1045**], at pp. 3 (Claim 1), 4-5 (Claim 10), 6-7 (Claim 18).) Applicants argued that the limitations regarding the cell phone “clearly warrant removal of the 101 rejection.” (*Id.* at p. 8.) Applicants

further argued that the amended claims “recite the inventive results of an engineering solution to the problem of the existing state of wireless delivery of rich media files,” and as a result, they “provide an improvement to wireless delivery of rich media technology [sic].” (*Id.* at pp. 8-9.)

A Notice of Allowance subsequently issued. (09/11/2015 Notice of Allowance [Ex. 1046].) The Examiner did not formally respond to the applicants’ arguments or formally withdraw the § 101 rejection, and the § 101 issue was not otherwise discussed in writing during the prosecution of the ’870 patent. It is not clear why the Examiner ultimately allowed the claims to issue over § 101.

Nevertheless, the § 101 issue presented here is in no way duplicative or redundant of the one briefly discussed during the original prosecution. For example, the applicants’ response to the Examiner asserted that the claims recited an “engineering solution to the problem of the existing state of wireless delivery of rich media files,” resulting in “an improvement to wireless delivery of rich media technology [sic].” (05/28/2015 Amendment, Ex. 1045, at pp. 8-9.) But the Examiner did not have the benefit of the extensive analysis provided in this Petition and the accompanying declaration (Ex. 1002) that explain that applicants’ supposed “engineering solution,” *i.e.*, wirelessly transmitting digital content using OFDM, was already well-known. The claims of the ’870 patent, under the more

complete picture of existing technologies provided in this Petition, recites an abstract idea and no “inventive concept” under § 101 and *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014).

C. Claim Construction Under 37 C.F.R. § 42.304(b)(3)

An identification and discussion of the claim terms for construction is below.

IV. CLAIM CONSTRUCTION

In a covered business method patent review, “[a] claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.300(b). The “broadest reasonable construction” standard is different from the manner in which the scope of a claim is determined in litigation. *See In re Swanson*, 540 F.3d 1368, 1377-78 (Fed. Cir. 2008).

The Petitioners respectfully submit that, for purposes of addressing the grounds presented in this CBM petition, the only claim construction issue the Board should address concerns the OFDM limitation in claims 1 and 8. The Board should address whether, under its broadest reasonable construction, claims 1 and 8 and their dependent claims cover use of OFDM for cellular data channels. The Petitioners respectfully submit that the Board should answer that question in the affirmative.

Claim 1 recites “a content server ... configured to ... provide for the transmission of the digital media files over the cellular network by orthogonal frequency-division multiplex modulation to the cellular phone,” and that the cell phone is “configured to ... receive the transmission of the digital media files by orthogonal frequency-division multiplex modulation.” Claim 8 similarly recites “providing for the transmission to the cellular phone by orthogonal frequency-division multiplex (OFDM) modulation of a database of electronically accessible data files,” and a cellular phone “configured to receive the data file over a cellular network by orthogonal frequency-division multiplex (OFDM) modulation.”

Neither claim 1 nor claim 8 provides any specific limitations about how OFDM is applied. The written description describes OFDM as a technique for dividing up the voice band of an audio channel of a telephone into multiple sub-channels ('870, 17:1-2, 17:14-16), such that data can be transmitted in the form of sound. (*Id.*, 16:23-18:58.) The disclosed OFDM technique, in other words, is employed to convert digital data into a “special sequence of sounds modulates” (*id.*, 18:29-30) used to generate “actual sounds” (*id.*, 18:29-32), which are sent over the cell phone’s audio channel. (*Id.*, 16:23-25 (“In order to transfer digitally compressed sound clip data through the analogue channel a special method and algorithm to map digits to sounds is used.”), 17:1-9, 18:28-44 (“... [T]he sounds go

to a cellular provider **208** through to a radio channel, and to the cellular phone **202** itself (much like voice sounds are transferred during a normal phone conversation)....”).) But characteristics of the voice band supported by audio channels are very different from those of bandwidth allocated to data channels in a digital cellular environment. (*See Beckmann Decl.* ¶¶ 36-39.)

The written description therefore describes only OFDM for audio channels. It does not describe OFDM techniques used in any form for data channels in a digital cellular environment. In fact, the written description confirms that OFDM modulation is not used in this situation. (’870, 19:54-58 (“[I]n the context of digital (capable of providing a dedicated data transmission channel) cellular network. Since in this case a digital channel is used for sound clip data transmission, no modulation [sic]⁴ is required on the mobile phone side.”).)

⁴ As explained below, one of ordinary skill in the art would have understood that “modulation” on the mobile phone side is a typo for “demodulation,” described in the ’870 patent as processing at the receiver for recovering the original digital data from the signal “modulated” using OFDM in the audio channel embodiment. (Beckmann Decl. ¶ 44 n. 3; *see also, e.g.*, ’870, 18:38-42; CBM2016-00091, Paper 6 (Patent Owner’s Preliminary Response), Ex. 1053, at 40; IPR2014-01236, Paper 21 (Patent Owner’s Response), Ex. 1052, at 12-13.)

Notwithstanding the limited disclosure of OFDM in the specification, the Board is required to interpret the claims in accordance with their broadest reasonable construction. *See In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1276-78 (Fed. Cir. 2015), *aff'd sub nom. Cuozzo Speed Techs., LLC v. Lee*, 579 U.S. --, 136 S. Ct. 2131 (2016). Claims 1-14 under their broadest reasonable construction are not limited to use of OFDM for transmission over an audio channel. *See SuperGuide Corp. v. DirectTV Enters, Inc.*, 358 F.3d 870, 877-80 (Fed. Cir. 2004) (holding that claim covered digital television signals and was not limited to analog signals, notwithstanding that specification described only use of analog television signals, where claim recited no analog limitation).

This is also consistent with the way in which Patent Owner has applied the '870 patent in its infringement case against the Petitioners. In that case, Patent Owner has taken the position that the OFDM limitation covers transmission of files over data channels of modern digital cellular networks that employ OFDM, such as Long-Term Evolution (LTE). (Ex. 1003, ¶¶ 110, 112.)⁵ The correctness of this

⁵ To be clear, the Petitioners believe that the '870 patent, under narrower claim construction principles that govern infringement suits, should be limited to use of OFDM to transmit over an audio channel. Nevertheless, Patent Owner's broader

“broadest reasonable construction” is further confirmed by related patents sharing the same specification that include claims specifically reciting “orthogonal frequency-division multiplex (OFDM) modulation over a cellular *data* connection” and “transmission ... by orthogonal frequency-division multiplex modulation ... , wherein the transmission ... is by a cellular *data* channel.” (U.S. Patent No. 9,124,717 [Ex. 1047], 33:2-28; U.S. Patent No. 9,124,718 [Ex. 1042], 33:2-17.)

V. CLAIMS 1-14 ARE UNPATENTABLE.

A. Ground 1 – § 101

Claims 1-14 are unpatentable under 35 U.S.C. § 101 and *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014), because they purport to claim the abstract idea of selecting and obtaining content (e.g., copyrighted music) upon request. This abstract idea is familiar to anyone who has visited a brick-and-mortar record store to purchase music subject to copyright.

As the Supreme Court emphasized, “the primary object of the patent laws” is to “promote,” “not inhibit further discovery.” *Id.* at 2355. To this end, *Alice* made clear that claims directed to “abstract ideas” are invalid under § 101 unless they

reading of the OFDM limitation is consistent with the broadest reasonable construction position articulated in the text.

contain an “inventive concept” that “transforms” the idea into something patentable. *Id.*

A two-part test governs the patentability of claims covering an “abstract idea.” First, the Board must determine whether the claims “are directed to a patent-ineligible concept,” such as an abstract idea. *Alice*, 134 S. Ct. at 2355. If so, the Board proceeds in the second step to “search for an inventive concept – i.e., an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.” *Id.* (quotation marks and brackets omitted). Claims 1-14 fail both prongs of the *Alice* test, as explained below.

1. The Claims Are Directed to an Abstract Idea

Claim 1 is directed to the abstract idea of delivering selected content to a user. As this Petition will explain in **Part V.A.2** discussing the second step of the *Alice* analysis, the limitations of claims 1 and 8 implement this abstract idea using known technologies such as a “cellular phone” and OFDM. But cutting through these known technologies leaves only the long-standing abstract idea of delivering selected content to a user.

The idea of delivering content such as copyrighted music based on user requests is a longstanding practice not limited to any particular type of technology.



Perhaps the easiest way to understand the abstract nature of claim 1 is to analogize it to “real-world” services. For example, long before the ’870 patent, a person could visit his or her local record store to

purchase music. (See, e.g., Jim Gladstone, *Listening Booths are Back Now that CDs are ‘In’*, The Orlando Sentinel, October 30, 1988 (“1998 Orlando Sentinel”) [Ex. 1049], at p. 5 (“At the mammoth Tower Records in Philadelphia, LP, cassette and CD shoppers”).) In fact, record stores date back as far as the 1950s. (See Walter Hurst et al., *The U.S. Master Producers & British Music Scene Book* (1973) (“Hurst”) [Ex. 1050], at p. 84 (“The total number of retail outlets of all types selling records to consumers has mushroomed. Since 1955 there has been a ten-fold increase in the number of such outlets – from approximately 15,000 to 150,000.”).)

A brick-and-mortar record store mirrors the abstract idea embodied in claims 1 and 8. With respect to claim 1, a brick-and-mortar record store stores a collection of music products (e.g., CDs) and provides for their sale to customers

(claim 1[a]). It also allows customers to search for a particular music recording (e.g., a particular album) for purchase (claim 1[b]). When a music product is sold, data about the sale is recorded and used to determine royalty payments (e.g., for the album artist) (claim 1[c]). (See Hurst, at p. 133 (showing an exemplary “Exclusive Artist’s Recording Agreement,” under which “COMPANY shall pay ARTIST a royalty of Three (3%) percent of ninety percent (90%) of the suggested retail list price ... on all net retail sales of such records sold within the United States”); see also Ernest S. Meyers, *Sound Recordings and the New Copyright Act*, 22 N. Y. L. Sch. L. Rev. 573 1976-1977 (“Meyers”) [Ex. 1051], at p. 584 (explaining royalty payments under a statutory license).)

Similarly, with respect to claim 8, a brick-and-mortar record store provides for the sale of a collection of music products (e.g., CDs) to customers, the music products being subject to copyright owners (claim 8[a]). (See Meyers, at p. 573



(“The Copyright Law of 1909 was amended on October 15, 1971, to provide for the creation of a copyright in a sound recording.”).) The brick-and-mortar record store can include “listening booths” that

allow customers to select a particular album (e.g., CD) and listen to excerpts of the selected album prior to purchase (claim 8**[b]**-**[c]**). (Ex. 1049, at p. 5 (“Well, step right up for your free samples of music, folks – the listening booth is back.”); *id.* (“At the mammoth Tower Records in Philadelphia, LP, cassette and CD shoppers are all aided by the Music Sampler, a seven-foot space-age jukebox that allows two customers at a time to don headphones and listen to 30-second excerpts from up to 125 albums.”).) Having listened to an excerpt of the album, the user can choose to purchase the entire album (claim 8**[d]**-**[e]**).

As the above analysis demonstrates, claims 1 and 8 are directed to the abstract idea of delivering selected content to a user. Storage, retrieval and delivery of selected content is a longstanding practice similar to claims the Federal Circuit has recently found invalid under § 101. *See Affinity Labs of Texas, LLC v. DirecTV, LLC*, No. 2015-1845-48, 2016 WL 5335501, at *2-10 (Fed. Cir. Sept. 23, 2016) (holding that patent claim directed to streaming broadcasts to cell phones was patent ineligible); *see also, e.g., In re TLI Comms. LLC Patent Litig.*, No. 823 F.3d 607, 612-614 (Fed. Cir. 2016) (holding that patent claim directed to recording and organizing digital images was patent ineligible); *Content Extraction and Transmission, LLC v. Wells Fargo Bank, NA*, 776 F.3d 1343, 1347-48 (Fed. Cir.

2014) (holding that patent claim directed to collecting, recognizing, and storing data in memory was patent ineligible).

Claims 1 and 8 are not directed to any improvement in computer functionality; they instead merely use previously existing computer functionality to carry out an abstract idea. As explained in the analysis of the second step of *Alice* below, the claims merely apply known technologies to provide what is essentially a wireless electronic record store.

Moreover, contrary to what Patent Owner may argue, the recitation of OFDM and a cell phone having a digital signal processor does not distinguish the claims from the abstract idea discussed above. Cell phones with DSPs were conventional. (See **Parts III.A.2.b.(2) and (3).**) Thus, as the Federal Circuit has found, “[a]ll that limitation does is to confine the abstract idea to a particular technological environment—in this case, cellular telephones.” *Affinity Labs*, 2016 WL 5335501, at *4. Likewise, OFDM was a well-known technique commonly used in the transmission of data, whose benefits in wireless environments were well-known and widely acknowledged. (See **Part III.A.2.b.(4)**; see also Bahai, Ex. 1014, at p. 14 (“OFDM has been particularly successful in numerous wireless applications, where its superior performance in multi-path environments is desirable.”).) As such, OFDM is no more directed to an “improvement” in

technology, *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1265 (Fed. Cir. 2014), than the cell phone rejected in *Affinity Labs* or even use of a computer as recited in the claims in *Alice*. This is confirmed by the fact that OFDM, which has been in the public domain since at least 1970, far predates cell phones and the Internet. (See, e.g., U.S. Patent No. 3,488,445 (filed in 1966 and published in 1970), Ex. 1013; Ex. 1031 (technical paper by inventor).) Hence, although the cell phone and OFDM may be “concrete, tangible components,” that is irrelevant to the analysis under *Alice* step one. *Affinity Labs*, 2016 WL 5335501, at *5. They “merely provide a generic environment in which to carry out the abstract idea” of delivering selected content to users. *Id.* (quoting *TLI*, 823 F.3d at 611).

As the Federal Circuit has explained, “merely limiting the field of use of the abstract idea to a particular existing technological environment does not render the claims any less abstract.” *Id.* at *4; see also *id.* at *5 (“The claims in *TLI* were not directed to an improvement in computer functionality, but were directed to the use of conventional or generic technology in a nascent but well-known environment.”) (quoting *TLI*, 823 F.3d 607 at 612) (quotation marks omitted). In short, “the claims are directed not to an improvement in cellular telephones but simply to the use of cellular telephones as tools in the aid of a process focused on an abstract

idea. That is not enough to constitute patentable subject matter.” *Id.* at *6. The analysis of *Affinity Labs* and *TLI* applies with full force here.

The dependent claims do not change the abstract idea analysis. Dependent claim 2 recites a list of various types of content that could be delivered (e.g., “a song, a musical score, ... a movie, a film, ... a photograph, a television show, ...”), but each item on the list could be purchased from a brick-and-mortar record store or other similar retail establishment, such as a video store or art gallery. The list of content recited in claim 2 also includes “an audio advertisement, a visual advertisement,” but these are often included as part of the content being purchased (e.g., trailers included in a movie video).

Claim 3 recites “count[ing] every digital media file downloaded. Claim 4 recites that data monitored includes “at least one of a song title, an artist name, a purchase price, a user name, or a time of delivery.” Claim 5 recites “aggregat[ing] the recorded data and transmit[ing] the aggregated data to a third-party device.” However, these are routine data gathering steps that do not alter the abstract idea analysis. *See Ultramercial, Inc.*, 772 F.3d at 716. Indeed, the steps recited in claims 3-5 can be – and traditionally were – performed manually by humans (e.g., to facilitate payment of royalties on content purchased).

Claim 6 recites an “interface” enabling selection of content to be downloaded, and claim 7 further specifies that the interface organizes the files by “at least one of: a type of media file, a title, a subject, an actor, an artist, a description of the media file, an alphabetical ordering, or a chronological ordering.” Yet it is a longstanding practice to provide a physical interface, such as a shelf or rack housing products for sale, so that customers can select a particular product for purchase. It was a routine practice, moreover, to organize media products (e.g., music and movies) on a shelf or rack according to various criteria including media type, title and artist. Dependent claims 2-7 are therefore directed to the same underlying abstract idea as claim 1.

Claim 9 recites that the method of independent claim 8 includes the step of “debiting” and “crediting” the accounts of the user and copyright owner based on content downloaded. But these are purely financial transactions that mirror the real-world practices of payment for copyrighted content by the user and receipt of royalties by the copyright owner.

Claims 10 and 11 recite “tracking” the user receiving the data file, and claim 11 further specifies that the tracked data is “report[ed]” to the copyright owner. But these limitations can be performed manually by a human and are routine data

gathering steps that do not alter the abstract idea analysis. *See Ultramercial, Inc.*, 772 F.3d at 716.

Claims 12 and 13 are substantially similar to the “interface” claims 6 and 7, previously discussed, and thus do not change the underlying abstract idea for the same reasons. Finally, claim 14 recites that each data file includes “an identifier associated with the copyright owner.” But physical content traditionally purchased at brick-and-mortar record stores (e.g., CDs) often included similar identifiers, such as the name of the recording artist or record label. Dependent claims 9-14 therefore do not change the abstract idea analysis discussed above with respect to independent claim 8.

2. The Claims Lack an “Inventive Concept”

As explained by the Federal Circuit, “[t]he second step in the analysis requires us to determine whether the claims do significantly more than simply describe th[e] abstract method.” *Ultramercial, Inc.*, 772 F.3d at 715. Claims 1-14 contain no inventive concept or meaningful limitation sufficient to transform them into something more than the abstract idea of delivering copyrighted content requested by a user.

The law is clear that “adding a computer to otherwise conventional steps does not make an invention patent-eligible.” *Id.* at 717 (citing *Alice*, 134 S.Ct. at

2357). Here, the claims at best describe using known technologies to carry out the abstract idea of delivering selected content to users. In fact, the '870 patent is closely analogous to *Affinity Labs of Texas, LLC v. DirecTV, LLC*, No. 2015-1845-48, 2016 WL 5335501 (Fed. Cir. Sept. 23, 2016), and *In re TLI Comms. LLC Patent Litig.*, 823 F.3d 607 (Fed. Cir. 2016), in which the Federal Circuit invalidated techniques for data communication using cell phones under § 101. In analyzing the second step of *Alice*, the court in *TLI* explained that the claimed telephone was “merely a conduit for the abstract idea of classifying an image and storing the image based on its classification.” 823 F.3d at 612.

In the present case, the claims recite the following known “technological” features that merely act as a conduit for carrying out the abstract idea: (a) storing and providing for the transmission of files (e.g., “digital media files”) upon request, (b) a “cellular phone” having the off-the-shelf components of a “digital signal processor” and/or “receiver,” and (c) use of orthogonal frequency-division multiplexing (OFDM), a signal multiplexing technique that predates the '870 patent by several decades. Independent claim 1 also recites a “monitoring server” that “provides rights management data for determination of royalty payments” based on files requested for download. None of these limitations provides any “inventive concept.”

The analysis of the “inventive concept” here mirrors the analysis performed above with respect to whether the ’870 patent claims a “technological invention” for purposes of CBM eligibility. For the convenience of the reader, this Petition will reproduce some of that discussion as relevant below.

a. Storage and Transmission of Media Files

Claim 1 recites “stor[ing] a plurality of digital media files and provid[ing] for the transmission of the digital media files.” (’870, 33:66-67.) Claim 8 similarly recites “providing for the transmission ... of a database of electronically accessible data files,” and “providing for the transmitting, by the computer system, of the requested data file.” (’870, 33:43-34:15.) But as explained in **Part III.A.2.b.(1)** above, computer technologies for the storage and transmission of digital files (e.g., over a network) were well-known. Indeed, the Background Art section of the patent itself concedes that “[t]he general concept for delivery of sound recordings or clips and visual recordings or clips by way of the Internet is known and described in various U.S. patent applications.” (’870, 1:25-27.)

Claim 1 additionally recites that the digital media files are stored in and transmitted from a “content server.” (’870, 32:65.) Claim 8 likewise recites “server hardware” and a “database” of electronically accessible data files. (’870, 33:42-43, 34:1.) However, as discussed in **Part III.A.2.b.(1)**, server and database

techniques used in the storage and transmission of digital files were well-known. Accordingly, storage and transmission of digital files, and the use of servers and databases, provides no inventive concept or meaningful limitation sufficient to transform the claims into something more than the abstract idea of delivering selected content to a user.

b. Cellular Phones and Digital Content Delivery

The preamble of claim 1 recites “[a] system for providing digital media files over a cellular network to a user operating a cellular phone,” and limitations 1[a] and [b] are directed to requesting digital media files from a cell phone and delivery of the requested digital media files to the cell phone. (’870, 32:62-33:7.) Similarly, the preamble of claim 8 recites “[a] method for distributing electronic content over a cellular network to a user operating a cellular phone,” and limitations 8[a]-[e] are directed to selecting and transmitting data files to a cell phone. (*Id.*, 33:40-34:18.) These limitations recite no inventive concept.

As explained in **Part III.A.2.b.(1)** above, by 1999 there were “hundreds of MP3 web sites in existence that distribute MP3 files” (Hedtke, Ex. 1004, at p. 37), so delivery of data files and digital media files over the Internet was already well-known. Moreover, as explained in **Part III.A.2.b.(2)**, allowing the selection and delivery to occur using a “cellular phone” does not provide any inventive concept.

The Background Art section of the '870 patent itself acknowledges the existence of cellular phones that can play music in a digital format such as MP3. ('870, 1:36-40.) Numerous prior art references further demonstrate that delivering digital content to cellular phones was well-known. (Ex. 1005; Ex. 1007; Ex. 1009; Ex. 1010.) Accordingly, the limitations of requesting or selecting digital content from a cellular phone, and having the digital content transmitted to the cell phone, recite no inventive concept.

c. Cell Phone Processors and Receivers

Limitation 1[b] recites that the claimed cellular phone “includ[es] a digital signal processor and a receiver.” ('870, 33:3-7.) Limitation 8[e] similarly recites that the “cellular phone includ[es] a digital signal processor.” (*Id.*, 34:14-17.) The claims do not require that the “digital signal processor” and “receiver” components comply with any particular architecture or technology, and as such, these components provide no inventive concept because they were standard components of prior art cell phones. (Beckmann Decl. ¶¶ 63-64.) Saito, for example, discloses a receiver (“receiving circuit 10”) for receiving the digital music downloaded from the server and delivering it to other components of the phone. (Saito, Ex. 1007, ¶¶ 0019, 0022.)

As explained in **Part III.A.2.b.(3)** above, digital signal processors (DSPs) were standard components of prior art cell phones, and off-the-shelf DSPs suitable for cellular phones were available from a number of manufacturers such as Texas Instruments. (Beckmann Decl. ¶ 64.) In the embodiment disclosed in the specification, the digital signal processor (DSP) **300** shown in Figure 3 is the same processor **300** that performs a number of other functions including monitoring keypresses by the user, receiving sound clips, unpacking and playing back sound clips through a built-in speaker, controlling a voice-driven user interface, and “other auxiliary functions.” (’870, 14:51-63.) Moreover, as noted previously, “[p]rogrammable digital signal processors (DSPs) [were] pervasive in the wireless handset market for digital cellular telephony” (Gatherer, Ex. 1011, at p. 84), and a known and increasingly compelling option for implementing a “multimedia processor in the handset.” (*Id.* at p. 87; *see also id.*, Fig. 7.)

d. OFDM

Limitations 1[a], 1[b], 8[a] and 8[e] recite the transmission and receipt of data by orthogonal frequency-division multiplex [(OFDM)] modulation.” (’870, 32:65-33:7 (Claim 1), 33:44-34:1 & 34:15-18 (Claim 8).) But the recitation of OFDM modulation was simply a drafting technique designed to create an illusion of technological invention where none exists. As discussed in **Part III.A.2.b.(4)**

above, OFDM refers to a technique for transmitting data that dates back fifty years. And as noted, “OFDM ha[d] been particularly successful in numerous wireless applications, where its superior performance in multi-path environments is desirable.” (Bahai, Ex. 1014, at p. 14.)

Numerous prior art references describing the use of OFDM to wirelessly transmit information have been discussed in **Part III.A.2.b.(4)** above. By the mid-1990s, as explained previously, cell phone companies such as Ericsson, Nokia and Sony were publishing technologies and filing patent applications on ways to use OFDM to wirelessly send data over cellular networks.

Petitioners anticipate that Patent Owner may argue that the claims improve upon the delivery of files from a server to a cell phone by using OFDM as the transmission means. However, as explained in the *Alice* step one analysis above, OFDM is no more directed to an “improvement” in technology than the cell phone rejected in *Affinity Labs*, or even use of a computer as recited in the claims in *Alice*. This is confirmed by the fact that OFDM, which has been in the public domain since at least 1970, far predates cell phones and the Internet. The recitation of OFDM is therefore “not inventive but simply constitute[s] [a] particular choice[] from within the range of existing” transmission techniques. *Affinity Labs*, 2016 WL 5335501, at *8.

Any reliance on *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016), is misplaced. As the court explained in *Affinity Labs*, the claims in *BASCOM* provided a technical solution with a “specificity,” 2016 WL 5335501, at *9 (citing *BASCOM*, 827 F.3d at 1349-50), that stands in sharp contrast to the generic recitation of OFDM in the claims of the ’870 patent. The claims here do not limit themselves, for example, to the application of OFDM as a technique for dividing up the voice band of an audio channel of a telephone, as described in the specification. (’870, 17:1-2, 17:14-16.) They instead cover “well-understood” OFDM techniques “previously known in the industry.” *Alice*, 134 S. Ct. at 2359 (quotation marks omitted). As explained previously, limiting the abstract idea of content delivery to wireless transmissions using OFDM – a “particular technological environment” – cannot save the claims from invalidity under § 101. *See Versata*, 793 F.3d at 1332. The generic recitation of OFDM, in other words, does not “meaningfully limit the scope of the claims” from the abstract idea itself. *Affinity Labs*, 2016 WL 5335501, at *10.

For all of these reasons, therefore, the claims of the ’870 patent provide no inventive concept by merely reciting transmission to a cell phone using OFDM.

e. Computerized Rights Management

Limitation 1[c] recites “a monitoring server ... configured to record data about every digital media file downloaded from the content server to the cellular phone, wherein the monitor server provides rights management data for determination of royalty payments.” (’870, 33:8-12.) The claim does not require any particular technology or approach to recording data or providing rights management data. As discussed above, server and database techniques were well-known. (*See also* Beckmann Decl., at ¶¶ 55, 59-60.) Moreover, as explained in **Part III.A.2.b.(5)** above, rights management (e.g., for copyrighted materials) using conventional computer technologies was already a long-standing practice in the industry. Thus, the steps related to rights management are no more than “routine data-gathering steps” that do not transform the claimed abstract idea into something patent-eligible. *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015).

f. Inventive Concept – Conclusion

As the foregoing discussion illustrates, none of the claimed features, individually or in combination, provides any “inventive concept” that would save the ’870 patent in step two of *Alice* analysis. The claims as a whole instead “simply instruct the practitioner to implement the abstract idea,” *Ulramercial*, 772

F.3d at 715, in this case, a method of performing digital content delivery, using “well-understood, routine, conventional activity” or technology, *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1294 (2012). As demonstrated above, digital content delivery, cellular phones, receivers, digital signal processors (DSPs), computerized rights management, and the use of OFDM for wireless data delivery, were all known and in the prior art well before the date of the alleged invention.

The lack of any “inventive concept” is further demonstrated by the superficial and insubstantial way in which the claims recite these supposedly “inventive” features. For instance, limitation 1[b] recites that the claimed cellular phone “includ[es] a digital signal processor and a receiver” (’870, 33:3-4), but the claim does not refer to those components again and does not require that they actually do anything. As noted previously, both of these components were well-known and standard components of wireless devices.

The recitation of OFDM in the claims presents a textbook example of a clever claim drafting technique for creating an illusion of technical specificity and innovation where none exists. Limitations 1[a], 1[b], 8[a] and 8[e] recite the transmission and receipt of data by orthogonal frequency-division multiplex [(OFDM)] modulation.” (’870, 32:65-33:7 (Claim 1), 33:44-34:1, 34:15-18 (Claim

8)), but does not provide any details or limitations about how OFDM should be implemented. These claim limitations are substantially similar to the claim in the '870 patent's parent that the Board invalidated in *Playboy Enters., Inc. et al. v. Skky, Inc.*, IPR2014-01236, based on prior art. See IPR2014-01236, Paper 45, at 18-22 (Ex. 1040). There can be no dispute that use of OFDM, including for wireless data transmission, was understood long before the alleged invention of the '870 patent.

Claims 1 and 8 do not purport to cover any improvement in OFDM or any other aspect of wireless data transmission. The claims under their broadest reasonable construction are not limited to any particular type of cell phone, cell phone hardware, or OFDM method, and thus, could read on the prior art techniques described above. The claims simply recite use of these prior art cell phone and OFDM techniques to facilitate digital content delivery. These limitations accordingly provide no inventive concept.

Techniques for storage and transmission of digital media files similarly provide no inventive concept. As demonstrated above, storing and downloading MP3 audio files was well-known. The claims under their broadest reasonable construction do not require that the delivered digital files contain high quality (e.g., "CD quality") content, nor do they require that the files be large. The claims under

their broadest reasonable construction would cover small and highly-compressed digital audio files, such as the “ring tones” of the prior art. (’870, 1:36-40.) The claims accordingly do not recite any inventive concept relating to the storage or delivery of high-quality or rich multimedia digital content.

The dependent claims discussed previously add no technological features, let alone provide any “inventive concept.” Dependent claim 2 merely recites a list of various content types that existed in traditional retail scenarios. Dependent claims 3-5 and 10-11 recite further data to be collected and reported as part of rights management, but these are “routine data-gathering steps.” *OIP Techs.*, 788 F.3d at 1363. Dependent claims 6-7 and 12-13 recite providing an “interface” that can be organized by various criteria (such as type of media file, title, subject, actor, artist, description). However, a graphical user interface is a “generic feature of cellular telephones” that does not confer patent eligibility. *Affinity Labs*, 2016 WL 5335501, at *7.

Dependent claim 9 recites “debiting” and “crediting” the accounts of the user and copyright owner by the “computer system,” but this merely requires traditional financial transactions to be performed by a generic computer. Dependent claim 14 recites that the electronic files include an “identifier associated with the copyright owner, but this could be performed manually.

Accordingly, the Board should find that the claims of the '870 patent fail to recite any "inventive concept," and thus, the claims are invalid under § 101.

B. Grounds 2 and 3 – § 112

The '870 patent is also invalid because its claims do not correspond in scope with that which the inventor regards as the invention and because the written description fails to demonstrate that the inventor had possession of what is claimed. Claims 1 and 8, the sole independent claims, recite the transmission and receipt of data "by orthogonal frequency-division multiplex [(OFDM)] modulation."

As discussed in detail below, the written description discloses the use of OFDM for transmission only over an audio channel of a wireless phone, not for a data channel in a digital cellular environment. ('870, 16:23-18:58.) This was confirmed by the inventor in a sworn declaration submitted during the prosecution of a parent application.

But claim 1 under its broadest reasonable construction is not limited to the use of OFDM for transmission over an audio channel. As explained in **Part IV** above, the broadest reasonable construction of claim 1 covers OFDM used with an audio channel or a data channel.

And therein lies the problem. By overreaching to cover use of OFDM for cellular data channels, a scenario rejected by the written description and the

prosecution history, the claims are rendered invalid under § 112. The two separate grounds for invalidity are described below.

1. Ground 2 – Failure to Comply with “Regards” Clause

Section 112 requires that a patent specification “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor ... regards as the invention.” 35 U.S.C. § 112(b) (formerly § 112 ¶ 2). As explained by the Federal Circuit: “Where it would be apparent to one of skill in the art, based on the specification, that the invention set forth in a claim is not what the patentee regarded as his invention, we must hold that claim invalid under § 112, paragraph 2.” *Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1349 (Fed. Cir. 2002) (citing *Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1378-79 (Fed. Cir. 2000)). The “regards” clause of § 112(b) imposes a legal requirement that is separate and distinct from the definiteness requirement under § 112(b). *See Solomon*, 216 F.3d at 1377.

In assessing whether a claim complies with the “regards” clause of § 112(b), the Board may rely on evidence from a variety of sources, including the patent specification itself. *See Allen Eng’g Corp.*, 299 F.3d 1349 (finding claims invalid under the “regards” clause based on “a simple comparison of the claims with the specification”). The Board may also rely on statements made by the applicants during prosecution of the patent. *See* MPEP § 2172 (internal citations omitted); *In*

re Cormany, 476 F.2d 998, 1001-02 (C.C.P.A. 1973) (rejecting claims based on inventor affidavits filed during prosecution showing that claims did not reflect what the inventor regarded as his invention).⁶

The '870 patent presents a textbook case of claims that fail to cover what the applicants regarded as their invention. *See Cormany*, 476 F.2d at 1001-02. As explained in **Part IV** above, the claims of the '870 patent under their broadest reasonable construction cover the use of OFDM over a cellular data channel. But during the prosecution of a parent application, inventor Robert Freidson submitted a declaration under 37 C.F.R. § 1.132 ("Freidson Declaration") [**Ex. 1033**] explaining why he believed his alleged invention to be patentable over the prior art.⁷ In that Declaration, Mr. Freidson made clear what he regarded as his alleged invention:

⁶ Accordingly, comments filed by an inventor during prosecution are relevant to assessing whether the claims comply with the "regards" clause. This should not be confused with relying on inventor testimony obtained in the course of litigation, which the Federal Circuit cautioned against. *See Solomon*, 216 F.3d at 1380 n.5.

⁷ The Freidson Declaration was also expressly cited and discussed by the applicants during prosecution of the '870 patent in an attempt to overcome a rejection over the prior art. (08/22/2014 Amendment [**Ex. 1043**], at 9 ("referring

In one aspect, my inventive method employed OFDM teachings as a method for data transmission over an **audio channel of a wireless cell phone**. In another aspect, I have developed a method for rich media delivery over a **data channel of a wireless phone that doesn't employ OFDM**.

(Freidson Decl. ¶ 7; *see also* 08/05/2008 Amendment and Response [Ex. 1034], at 5 (applicants' remarks mirroring Freidson's declaration).) Mr. Freidson's declaration goes on to describe efforts to develop OFDM for wireless delivery over an *audio* channel, but never suggests that those techniques were intended for use with a *data* channel or a digital cellular connection. (Freidson Decl. ¶¶ 8-14.) The applicants clearly regarded their invention as using OFDM for conversion of data

to the Freidson declaration ('Freidson declaration') submitted August 5, 2008, in a parent case to the instant case (U.S. Application No. 10/183,756; now US 7,548,875)).) The Petitioners note that this declaration is particularly probative of what the inventor regarded as his invention because it was submitted well before the commencement of any litigation. *See Solomon*, 216 F.3d at 1379 ("It is particularly inappropriate to consider inventor testimony obtained in the context of litigation in assessing validity under section 112, paragraph 2, in view of the absence of probative value of such testimony."); *see also* Complaint in *Skky, Inc. v. Playboy Enterprises, Inc.*, filed July 31, 2013 [Ex. 1054].

into audio signals for transmission over an audio channel, *i.e.*, not a cellular data channel.

The clear dichotomy between the “audio channel” and “data channel” of a wireless phone, and the use of OFDM only with the audio channel, is also reflected in the written description. The discussion of OFDM appears entirely in a section entitled, “Method for Data Transmission Over an Audio Channel

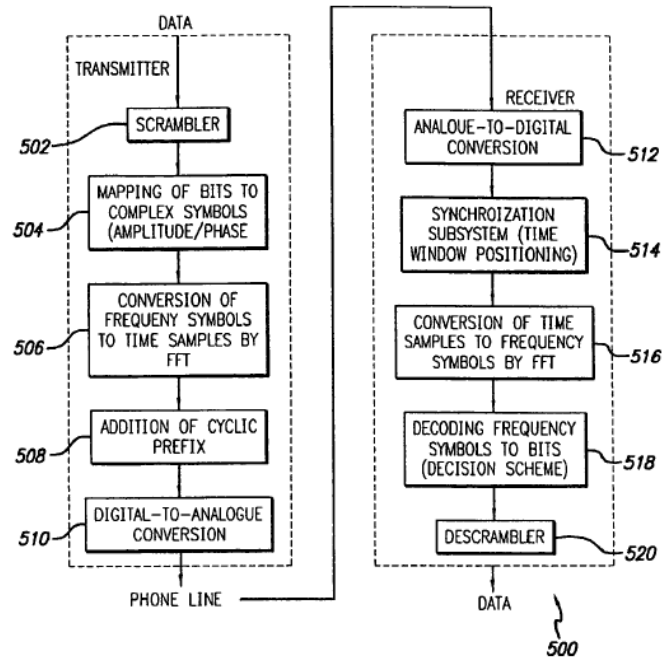


FIG. 5

of a Wireless Telephone.” (’870, 16:29-30.) That section describes a “data transmission method **500**” using OFDM. (’870, 16:31-34, 16:57-58; *see also* Beckmann Decl. ¶ 92.) As shown in Fig. 5 (reproduced to the right), the OFDM signal is transmitted over a phone line to the receiving telephone, which processes the signal to recover the original data (beginning at step **512**). (’870, 16:37-46.) The ’870 patent refers to the recovery of original data (e.g., music encoded in MP3) from the OFDM signal as “demodulation,” and teaches a digital signal processor (DSP) **300** for performing this task. (’870, 18:38-42; *see also* IPR2014-

01236, Paper 21 (Patent Owner's Response) [Ex. 1052], at 12-13 (“[D]igital signal processors are well-suited for mathematical-specific functions like the computation of Fast Fourier-Transforms as exemplified in a preferred embodiment of the invention to process OFDM modulated signals.”) (citing U.S. Patent No. 7,548,875 [Ex. 1041], at 17:22-24).)

But the specification also makes clear that this method of using OFDM (500) is for transferring data “based on a voice mode connection,” which is explicitly distinguished from a “data mode.” (’870, 16:31-33.) In fact, the specification prefaces the discussion of OFDM by calling it a “special method and algorithm to map digits to sounds.” (’870, 16:23-25.) The disclosed OFDM technique, in other words, is employed to convert digital data into a “special sequence of sounds modulates” (’870, 18:28-30) used to generate “actual sounds” (’870, 18:30-33), which are sent over the cell phone’s audio channel “much like voice sounds are transferred during a normal phone conversation.” (’870, 18:33-36.) Because a voice channel is used, the patent expressly recognizes that the disclosed OFDM method (500) could also be implemented using an ordinary landline. (’870, 16:34-36; *see also id.*, 16:25-28.)

In stark contrast, the specification nowhere describes the use of OFDM with data channels. For example, the specification explains in detail how the supported

voice bandwidth of an audio channel can be divided into multiple sub-channels according to OFDM techniques ('870, 17:1-16), but fails to mention how such techniques can be applied to a different bandwidth allocated to data channels in a cellular system. (Beckmann Decl. ¶ 94.) The specification also never suggests that OFDM can be used as a multiple-access scheme, an essential feature of modern digital cellular networks, including LTE, that allows bandwidth allocated to data channels to be shared among multiple users. (*Id.*) For example, the specification does not explain the minimum or maximum bandwidth assigned to each user and how to allocate particular sub-channels to individual users. (*Id.*) More fundamentally, the specification does not describe a cellular system capable of determining how and when a cell phone is allowed access to the shared data bandwidth. (*Id.*) This is because the disclosed OFDM techniques divide up the *voice band of an audio channel* established by existing cellular and wireline networks for connecting a single user to the media source. (*Id.*) Based on the lack of explanation for how OFDM is to be applied in the context of cellular data channels notwithstanding the technical differences between data channels and audio channels, it would have been apparent to one of ordinary skill in the art that the inventors did not regard the use of OFDM with cellular data channels as their invention. (*Id.*)

Indeed, a later section of the patent, entitled “Example Using Digital Cellular Network and Cellular Telephone,” makes clear that the disclosed OFDM technique is not used with cellular data channels. Specifically, when describing data transmission “in the context of digital (capable of providing a dedicated data transmission channel) cellular network,” the specification states: “Since in this case a digital channel is used for sound clip data transmission, no modulation [sic] is required on the mobile phone side.” (’870, 19:51-58.) One of ordinary skill in the art would have understood the “modulation” on the mobile phone side to be a typo for “demodulation,” which, as discussed above, is used in the patent to describe recovery of original data from an OFDM signal at the receiver. (Beckmann Decl. ¶¶ 44 n.3, 95; *see also* ’870, 18:36-42; IPR2014-01236, Paper 21 (Patent Owner’s Response), Ex. 1052, at 12-13.) In any event, because OFDM demodulation is not used for receiving data signals sent over a cellular data channel, it follows that those signals were never “modulated” using OFDM in the first instance. (Beckmann Decl. ¶ 95.) Patent Owner does not dispute this. (CBM2016-00091, Paper 6 (Patent Owner’s Preliminary Response), Ex. 1053, at 40 (“Another example describes transmission by way of the data channel. *Id.*, 19:55-65. This example also notes that the use of OFDM is not ‘required’ for this particular implementation. *Id.*, 19:61.”).)

In fact, a person of ordinary skill in the art would have understood that it makes no sense whatsoever to apply the OFDM technique as used to “map digits to sounds” in the patent to a *data* channel. (’870, 16:23-25, 19:55-58.) Because a wireless data channel can transmit and receive data in digital form, employing OFDM in converting digital information into audio (analog) signals as described in the patent serves no purpose. (Beckmann Decl. ¶ 96.)

Petitioners anticipate that Patent Owner may attempt to explain away the statements from the specification and Freidson Declaration that, on their face, expressly reject the use of OFDM with a cellular data channel. (’870, 19:51-58; Freidson Decl. ¶ 7.) For example, Patent Owner may argue that these statements were not intended to be limiting with respect to the scope of the invention, and accordingly, would not demonstrate to persons of ordinary skill in the art that the inventors regarded the use of OFDM with a cellular data channel to be categorically outside the scope of their invention. But this relies on a strained interpretation of those statements. (Beckmann Decl. ¶ 97.) It would be odd, to say the least, that an inventor would declare “employ[ing] OFDM teachings as a method for data transmission over an *audio channel* of a wireless cell phone,” and in the very next sentence, specifically call out “delivery over a *data channel* of a wireless phone that doesn’t employ OFDM” as aspects of his invention if the

inventor regarded the use of OFDM with a cellular data channel to be a part of the overall invention. (Freidson Decl. ¶ 7; *see also* Beckmann Decl. ¶ 97) This also cannot be squared with the specification stating that OFDM modulation is not required “since” transmission occurs over a data channel, and instead teaching the use of “a modulation protocol compatible with the protocol supported by the cellular network provider” (’870, 19:51-60), when, as previously alleged by Patent Owner’s own expert, “OFDM was not implemented in a mobile cellular network until December 2008—7 years after the [’870] invention” (Ex. 1035, ¶ 105; Beckmann Decl. ¶ 97.) Accordingly, these statements from the specification and Freidman Declaration, viewed in light of the technical differences between OFDM used with audio channels and OFDM used with data channels, would have left no doubt in the mind of a person of ordinary skill in the art that the inventors regarded as their invention the use of OFDM with an audio channel, and not using it with a cellular data channel. (*Id.*, ¶ 97.)

Because claims 1-14 do not correspond in scope with what the inventors regarded as their invention, they are unpatentable under 35 U.S.C. § 112(b).

2. Ground 3 – Inadequate Written Description

Section 112 also includes a “written description” requirement, under which “the specification must sufficiently describe an invention understandable to a

person of ordinary skill in the art and ‘show that the inventor actually invented the invention claimed.’” *Bamberg v. Dalvey*, 815 F.3d 793, 797 (Fed. Cir. 2016) (quoting *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc)). As explained below, the ’870 specification runs afoul of this requirement because it does not show that the inventor actually invented the broadly claimed use of OFDM.

The Federal Circuit has explained that “the purpose of the written description requirement is to ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor’s contribution to the field of art as described in the patent specification. This requirement protects the *quid pro quo* between inventors and the public, whereby the public receives meaningful disclosure in exchange for being excluded from practicing the invention for a limited period of time.” *ICU Medical, Inc. v. Alaris Medical Systems, Inc.*, 558 F.3d 1368, 1377-78 (Fed. Cir. 2009) (citations and internal quotation marks omitted). Accordingly, the Federal Circuit has expressly cautioned that “a patentee cannot always satisfy the requirements of section 112, in supporting expansive claim language, merely by clearly describing one embodiment of the thing claimed.” *LizardTech, Inc v. Earth Resource Mapping, Inc.*, 424 F.3d 1336, 1346 (Fed. Cir. 2005). Thus, while “[a] claim will not be

invalidated on section 112 grounds simply because the embodiments of the specification do not contain examples explicitly covering the full scope of the claim language,” *id.* at 1345, “neither is a patentee presumed to support variants that are not described,” *Anascape, Ltd. v. Nintendo of America, Inc.*, 601 F.3d 1333, 1339 (Fed. Cir. 2010). This is explained in *LizardTech*:

By analogy, suppose that an inventor created a particular fuel-efficient automobile engine and described the engine in such detail in the specification that a person of ordinary skill in the art would be able to build the engine. Although the specification would meet the requirements of section 112 with respect to a claim directed to that particular engine, it would not necessarily support a broad claim to every possible type of fuel-efficient engine, no matter how different in structure or operation from the inventor’s engine. The single embodiment would support such a generic claim only if the specification would reasonably convey to a person skilled in the art that the inventor had possession of the claimed subject matter at the time of filing

Id. at 1346 (internal brackets and quotation marks omitted). The PTAB has similarly recognized that disclosure of a particular embodiment may be “insufficient, by itself, to demonstrate possession of the full scope” of a claim. *Corning Inc. v. DSM IP Assets. B.V.*, IPR2013-00050, Paper 77 (Final Written Decision), at 48 (May 1, 2014) (citing *Ariad*, 598 F.3d at 1349); *see also id.* at 46 (“At best, Examples 1, 2, and 3 might support a limitation of 0.9 MPa to 1.4 MPa (though we do not make such a determination), but not the full scope of the proposed modulus limitation set out in the substitute claims.”).

The Federal Circuit has on multiple occasions found disclosure of a particular embodiment inadequate to support the full scope of a claim. In *ICU Medical*, 558 F.3d 1368, the court invalidated claims directed to medical valves used in the transmission of fluids to a medical patient, such as when using an IV. *Id.* at 1372. The claims at issue covered “spikeless” valves because they “do not include a spike limitation – i.e., they do not require a spike.” *Id.* at 1377. As the court explained:

[T]hese spikeless claims thus refer to medical valves generically – covering those valves that operate with a spike and those that operate without a spike. But the specification describes only medical valves with spikes. We reject ICU’s contention that the figures and descriptions that include spikes somehow demonstrate that the inventor possessed a medical valve that operated without a spike. Based on this disclosure, a person of skill in the art would not understand the inventor ... to have invented a spikeless medical valve.

Id. at 1378 (internal citation omitted). The court specifically rejected an attempt to characterize these claims as “neutral” with respect to spikes, *i.e.*, “spike-optional” and therefore supported by the disclosure of valves with a spike. *Id.* at 1377.

The ’870 patent presents the same scenario. As detailed in **Parts IV** and **V.B.1** above, the claims under their broadest reasonable construction refer to OFDM generically and cover its use with or without an audio channel,

notwithstanding that the specification describes only the use of OFDM with an audio channel. As discussed in **Part V.B.1**, the specification never mentions applying OFDM techniques to bandwidth allocated to cellular data channels or using OFDM as a multiple-access scheme. (Beckmann Decl. ¶ 101; *see also id.*, ¶¶ 36-39 (describing technical differences between audio channels and data channels.) In fact, the specification affirmatively states that OFDM modulation is not used where transmission occurs over a data channel rather than an audio channel. ('870, 19:54-58 (“[I]n the context of digital (capable of providing a dedicated data transmission channel) cellular network. Since in this case a digital channel is used for sound clip data transmission, no modulation [sic] is required on the mobile phone side.”).) Under these circumstances, “the description in the ['870] specification is not reasonably read as describing a larger invention, of which the [use of OFDM with an audio channel] was only a preferred embodiment.” *Anascape*, 601 F.3d at 1340. And one of ordinary skill in the art would not understand that the inventor had possession of the full scope of the claimed subject matter at the time of filing. (Beckmann Decl. ¶¶ 99-102; *see also Synthes USA, LLC v. Spinal Kinetics, Inc.*, 734 F.3d 1332, 1342 (summarizing expert testimony that supported a finding of lack of written description).)

The Federal Circuit’s holding in *ICU Medical* controls here. If anything, the ’870 patent presents an even stronger case than *ICU Medical* because this is not simply a case of a written description disclosing only a particular embodiment – the written description here affirmatively rejects as unnecessary the use of OFDM with cellular data channels (’870, 19:54-58), and the inventor himself expressly declared that, in his invention, transmission over a data channel “doesn’t employ OFDM” (Freidson Decl. ¶ 7).⁸

The recent Federal Circuit opinion in *Bamberg*, 815 F.3d 793, is instructive.⁹ The claims in *Bamberg* were directed to the transfer of printed images onto textiles by ironing over a specialty transfer paper. *Id.* at 795. The transfer paper generally contains a white layer that adheres to the dark textile when heat is applied to the transfer paper using an iron. *Id.* Because the claims at issue recited a “white layer” and did not expressly limit its melting temperature, the court found that it could melt at temperatures above or below 220°C. *Id.* at 795-97. The court went

⁸ As explained in **Part V.B.1** above, any attempt to explain away these statements would rely on strained interpretations that should be rejected.

⁹ *Bamberg* arose out of an interference proceeding at the PTAB in which the Board found a lack written description support after applying the broadest reasonable construction standard. 815 F.3d at 795-97.

on to find the claims invalid for lack of written description because, as here, the applicants emphasized that the white layer in the invention melts at temperatures above 220°C:

[W]e find that Bamberg does not possess a white layer that melts below 220°C because it specifically distinguished white layers that melt below 220°C as producing an “undesired” result. Even Mr. Bamberg’s testimony confirms that his invention did not include a white layer that melted below a threshold of 220°C so as to not decrease the clarity and resolution of the final image.

Id. at 798.

Bamberg mirrors the scenario presented in this Petition and confirms that the instant claims should be found invalid for lack of written description. Like Bamberg, the written description here makes clear that the invention uses OFDM only with audio channels. By overreaching to recite a claim that also covers (under broadest reasonable construction) use of OFDM with data channels, the applicants rendered their claims invalid.

Any alleged “predictability” of the art cannot bring about a different outcome. The technological field of the ’870 patent can hardly be said to be more predictable or less complex than the fields implicated in *ICU Medical* and *Bamberg*. (See Beckmann Decl. ¶¶ 17-20 (describing the level of education and

experience possessed by a person of ordinary skill in the art).) In any event, the Federal Circuit has expressly noted that even fields that may be characterized as predictable impart “no higher burden” for proving lack of written description. *Synthes*, 734 F.3d at 1345 (Fed. Cir. 2013).

Finally, the claims here demonstrate the fundamentally important public policy behind the written description requirement – to prevent applicants from obtaining claims that cover more than what was actually invented. *See, e.g., LizardTech, Inc.*, 424 F.3d at 1346; *ICU Medical*, 558 F.3d at 1377-78. Patent Owner here is attempting to claim that it invented the fourth generation Long-Term Evolution (LTE) digital cellular standard used in millions of smartphones. (*See* Second Amended Complaint, Ex. 1003, ¶ 110.) Patent Owner further claims that its patent “cover[s] the use of OFDM in conjunction with the transmission of media data to mobile devices and did so almost seven years before the finalization of the LTE standard.” (*Id.*) But as explained above, the applicants affirmatively dismissed the idea of using OFDM with data channels in a digital cellular environment, and thus, cannot fairly claim to have invented LTE. Applying the written description requirement here will ensure that the claims do not extend beyond what the applicants actually invented.

VI. CONCLUSION

The Petitioners respectfully request institution of review of claims 1-14 and a finding that those claims are unpatentable.

Dated: October 13, 2016

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), I certify that this petition complies with the type-volume limits of 37 C.F.R. § 42.24(a)(1)(iii) because it contains 18,672 words, according to the word-processing system used to prepare this petition, excluding the parts of this petition that are exempted by 37 C.F.R. § 42.24(a).

DATED: OCTOBER 13, 2016

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CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. Sections 42.6 and 42.205, that a complete copy of the attached **PETITION FOR COVERED BUSINESS METHOD (CBM) PATENT REVIEW OF U.S. PATENT NO. 9,203,870**, including all exhibits (**Nos. 1001-1087**) and related documents, are being served via Federal Express on the 13th day of October, 2016, the same day as the filing of the above-identified document in the United States Patent and Trademark Office/Patent Trial and Appeal Board, upon the Patent Owner by serving the correspondence address of record with the USPTO as follows:

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and upon counsel of record for the Patent Owner in the litigation pending before the U.S. District Court for the District of Minnesota entitled *Skky, Inc. v. Facebook, Inc. and Instagram, LLC*, Case No. 0:16-cv-00094-WMW-FLN as follows:

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