

**UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

MOBILEPAY LLC,

Plaintiff

v.

MINDBODY, INC.,

Defendant

Case No. 6:18-cv-00286

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff MobilePay LLC (“Plaintiff” or “MobilePay”) hereby asserts the following claims for patent infringement against Defendant Mindbody, Inc. (“Defendant” or “Mindbody”), and alleges, on information and belief, as follows:

THE PARTIES

1. MobilePay is a limited liability company organized and existing under the laws of the Texas with its principal place of business at 17330 Preston Road, Ste 200, Dallas, Texas 75252.
2. Defendant is a Delaware corporation with its principal place of business located at 4051 Broad Street, Suite 200, San Luis Obispo, CA 93401.

JURISDICTION AND VENUE

3. This action arises under the patent laws of the United States, 35 U.S.C. § 1, *et seq.* This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).
4. Defendant has committed acts of infringement in this judicial district.
5. Defendant has a regular and established place of business in this judicial district at 3300 N. Interstate 35, Ste. 700, Austin, Texas 78705.

6. On information and belief, the Court has personal jurisdiction over Defendant because Defendant has committed, and continues to commit, acts of infringement in the state of Texas, has conducted business in the state of Texas, and/or has engaged in continuous and systematic activities in the state of Texas.

7. On information and belief, Defendant's instrumentalities that are alleged herein to infringe were and continue to be used, imported, offered for sale, and/or sold in the Western District of Texas.

8. Venue is proper in the Western District of Texas pursuant to 28 U.S.C. § 11400(b).

MINDBODY

9. Upon information and belief, Defendant Mindbody makes, uses, imports, sells, and/or offers for sale the Mindbody Mobile Card Swiper. The Mindbody Mobile Card Swiper is described by the Mindbody website (www.mindbodyonline.com) and is exemplified by the following references:

- “Mobile credit card swiper - UNIIMAG II (Android)” (“**Swiper**”), *available at* https://support.mindbodyonline.com/s/article/200499770-Mobile-credit-card-swiper?language=en_US (last accessed September 18, 2018);
- “Payment methods (Business app, Android)” (“**Payment Methods**”), *available at* https://mindbody-online-support.force.com/support/s/article/200499740-Accepting-payment?language=en_US (last accessed September 18, 2018);
- “MSP430FR235x, MSP430FR215x Mixed-Signal Microcontrollers” (“**MSP430FR235x**”), May 2018 – Revised July 2018, *available at* <http://www.ti.com/lit/ds/symlink/msp430fr2353.pdf> (last accessed September 18, 2018);
- “MSP430FR4xx and MSP430FR2xx Family User's Guide” (“**User's Guide**”), October 2014 – Revised May 2018, *available at* <http://www.ti.com/lit/ug/slau445h/slau445h.pdf> (last accessed September 18, 2018);
- “3.5 mm Headset: Accessory Specification | Android Open Source Project” (“**3.5 mm headset**”), <https://source.android.com/devices/accessories/headset/plug-headset-spec> *available at* (last accessed September 18, 2018);

- “Mobile credit card swiper - UNIIMAG II (Android)” (“**Troubleshooting**”), *available at* https://support.mindbodyonline.com/s/article/200499770-Mobile-credit-card-swiper?language=en_US#troubleshooting (last accessed September 18, 2018);
- Mobile Point of Scam: Attacking the Square Reader” (“**Blackhat**”), *available at* <https://www.blackhat.com/docs/us-15/materials/us-15-Mellen-Mobile-Point-Of-Scam-Attacking-The-Square-Reader-wp.pdf> (last accessed September 18, 2018); and
- “MINDBODY: Security Policy” (“**Security Policy**”), *available at* <https://www.mindbodyonline.com/security-policy> (last accessed September 18, 2018).

COUNT I

(Infringement of U.S. Patent No. 9,800,706)

10. Plaintiff incorporates paragraphs 1-9 herein by reference.
11. Plaintiff is the owner, by assignment, of U.S. Patent No. 9,800,706 (the “’706 Patent”), entitled ELECTRONIC DEVICE INPUT/OUTPUT SYSTEM AND METHOD, which issued on October 24, 2017. A copy of the ’706 Patent is attached as **Exhibit A**.
12. The ’706 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.
13. Upon information and belief, Defendant has infringed and continues to infringe one or more claims, including Claim 1, of the ’706 Patent by making, using, importing, selling, and/or, offering for sale the Mindbody Mobile Card Swiper. Defendant has infringed and continues to infringe the ’706 Patent either directly or through the acts of contributory infringement or inducement in violation of 35 U.S.C. § 271. Defendant has been on notice of the ’706 Patent at least as early as the date it received service of this complaint.
14. Defendant sells, offers to sell, and/or uses the Mindbody Mobile Card Swiper, and any similar products, which infringe at least Claim 1 of the ’706 Patent. The Mindbody Mobile Card Swiper is designed to connect to and work with a mobile device. (collectively “**the MCS System**”).
15. Claim 1 of the ’706 Patent recites:

1. A system for coupling a credit card reader to a mobile device, the system comprising:

a hardware component that connects to the mobile device and the credit card reader, the

hardware component including:

a first mechanism configured to receive data provided by the credit card reader;

a communication controller for buffering the data received from the credit card reader prior to conversion by a first circuit;

the first circuit configured to convert the data to an analog audio signal;

a connector to couple the hardware component to an audio input port of the mobile device, wherein:

the connector bridges a microphone pin of the audio input port such that the mobile device detects a presence of the connector in the audio input port; and

the connector provides an audio communication between the hardware component and the mobile device and communicates the analog audio signal from the hardware component to the mobile device;

a second mechanism on the mobile device configured to receive the analog audio signal and convert the analog audio signal into binary data; and

a third mechanism on the mobile device configured to upload the binary data to a cloud service for decoding.

16. The MCS System is a system for coupling a credit card reader to a mobile device. *See, e.g., Swiper*. An example is illustrated below:

Mobile credit card swiper - UNIIMAG II (Android)

Equipped with the most secure encryption key available on the market, the MINDBODY mobile credit card reader keeps your data safe while allowing you to accept payments on the go.

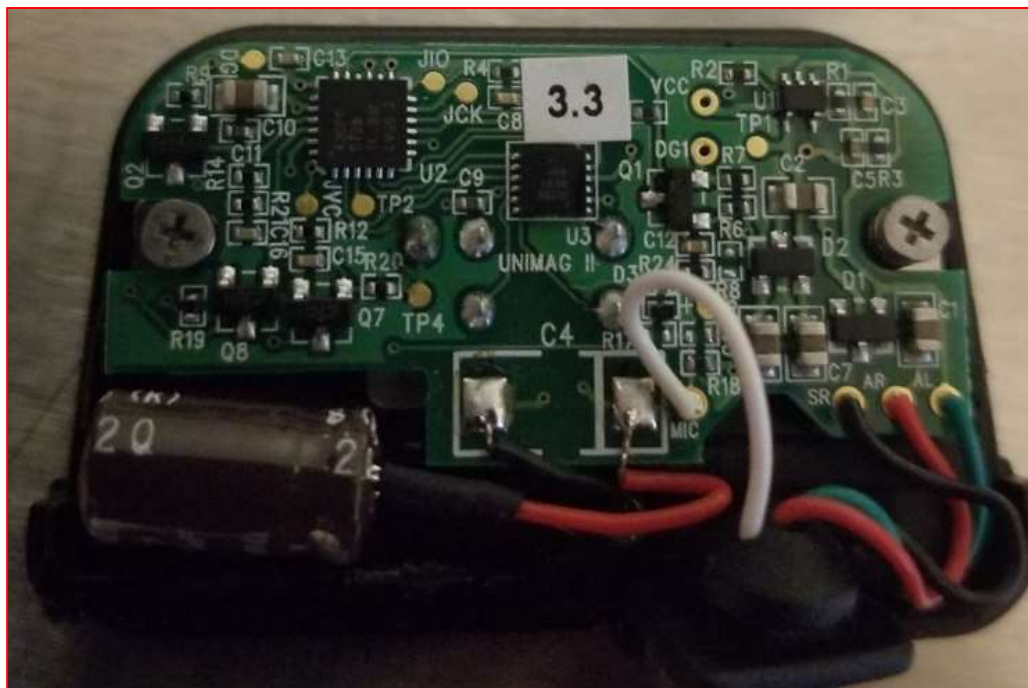


Before you start

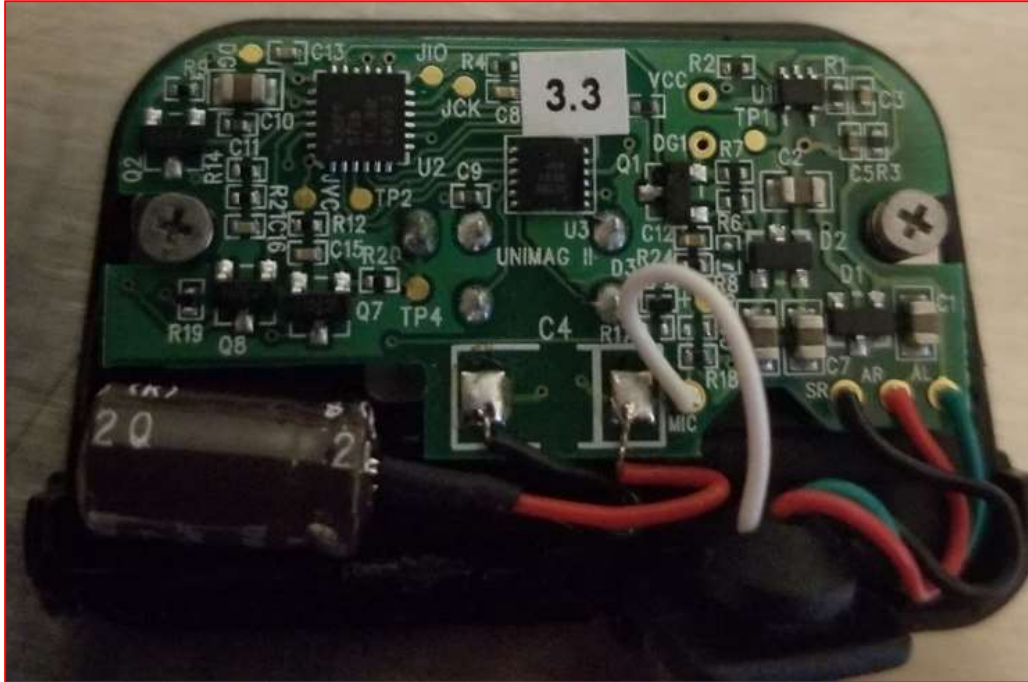
- Requires the MINDBODY business app.
- You must use integrated MINDBODY merchant account processing.
- Third-party mobile credit card readers are not compatible with the MINDBODY business app.
- The mobile credit card reader cannot be used with your desktop software.

Swiper.

17. The MCS System is a hardware component that connects to a mobile device and a credit card reader. An example is illustrated below:



18. The MCS System includes a first mechanism configured to receive data provided by the credit card reader. *See, e.g., Payment Methods*. An example is illustrated below:



3. Wait for the "Please swipe card" message before swiping the payment card.

← Payment methods



Please swipe card

Cardholder's name

Card number

Expiration (MM/Y... CVV

Billing address

City

State Postal code

NEXT

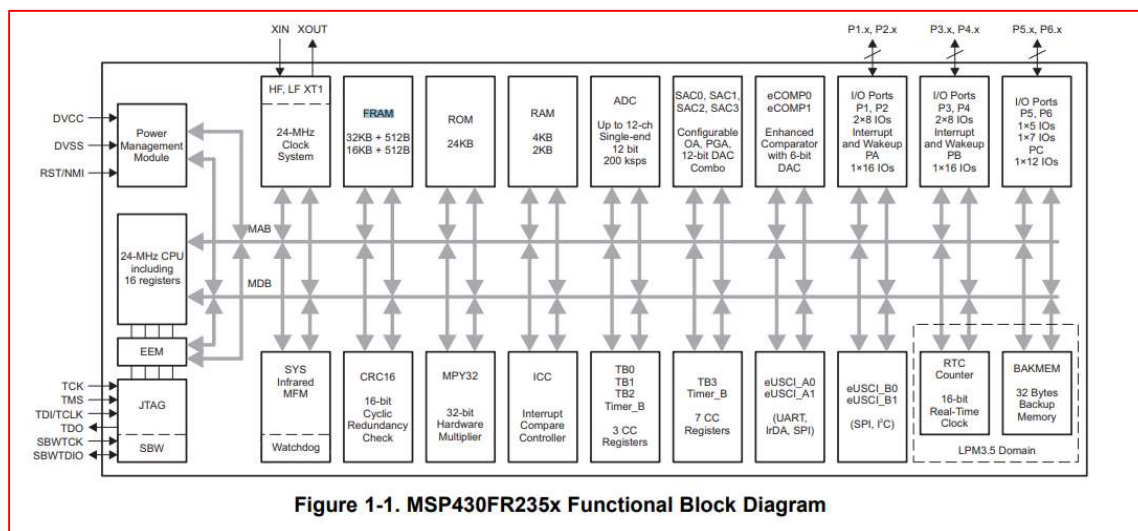
Payment Methods.

19. The MCS System includes a communication controller for buffering the data received from the credit card reader prior to conversion by a first circuit. *See, e.g., MSP430FR235x*. An example is illustrated below:



- Low-Power Ferroelectric RAM (FRAM)
 - Up to 32KB of Nonvolatile Memory
 - Built-In Error Correction Code (ECC)
 - Configurable Write Protection
 - Unified Memory of Program, Constants, and Storage
 - 10^{15} Write Cycle Endurance
 - Radiation Resistant and Nonmagnetic

MSP430FR235x at p. 1.



MSP430FR235x at p. 3.

6.8 FRAM

The FRAM can be programmed using the JTAG port, Spy-Bi-Wire (SBW), the BSL, or in-system by the CPU. Features of the FRAM include:

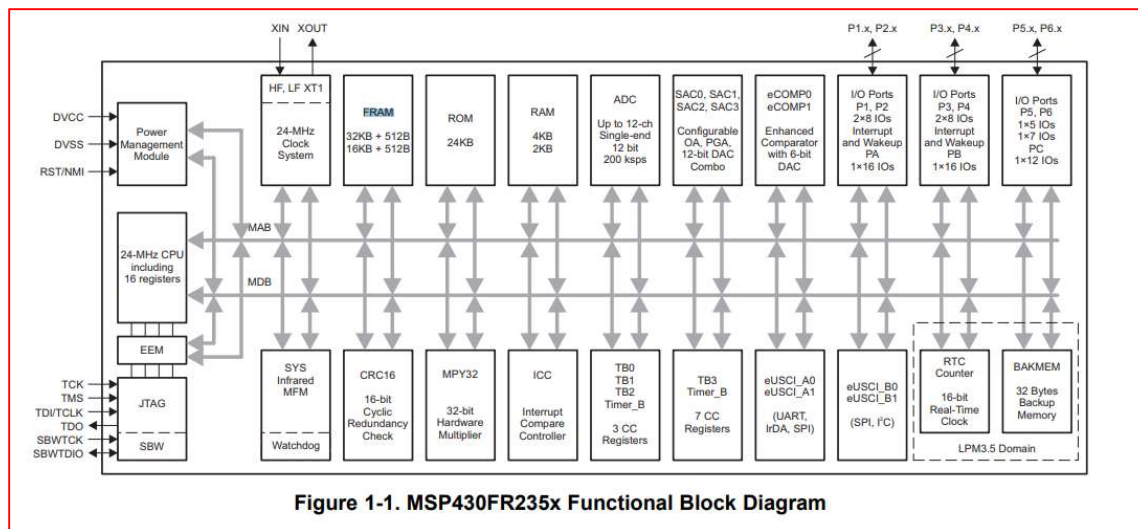
- Byte and word access capability
- Programmable wait state generation
- Error correction coding (ECC)

MSP430FR235x at p. 60.

20. The first circuit in the MCS System is configured to convert the data to an analog audio signal. *See, e.g., MSP430FR235x and User's Guide.* An example is illustrated below:

- Two Enhanced Comparators (eCOMP)
- Integrated 6-Bit Digital-to-Analog Converter (DAC) as Reference Voltage
- Programmable Hysteresis
- Configurable High-Power and Low-Power Modes
- One With Fast 100-ns Response Time
- One With 1- μ s Response Time With 1.5- μ A Low Power

MSP430FR235x at p. 1.



MSP430FR235x at p. 3.

20.2.3 SAC DAC

SAC DAC module is a 12-bit digital-to-analog converter. The DAC can be configured in 12-bit mode. It can be used as the reference voltage and also can work with the OA and PGA to drive the output pad directly. The setting and operation is discussed in the following sections.

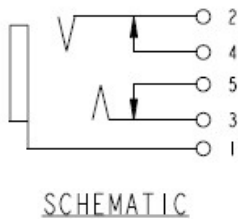
User's Guide at p. 528.

21. The MCS System includes a 3.5 mm headphone connector to couple the hardware component to an audio input port of the mobile device. An example is illustrated below:



22. The connector in the MCS System bridges a microphone pin of the audio input port such that the mobile device detects a presence of the connector in the audio input port. *See, e.g., 3.5 mm jack circuit.* An example is illustrated below:

Headphone jacks have extra contacts inside, which act as switches. The the drawing below, pins 4 and 5 are intended for sensing that the plug was inserted. They are not intended for audio signal. When the plug is not present, the switche, which are formed by 2 & 4 and 3 & 5, are closed. When the plug is inserted, these switches are open. The plug flexes 2 and 3 slightly, and they break contact with 4 and 5. You could insert a 3.5mm plastic rod [a dummy] into the jack, which will open the contacts, and the phone might think that earphones are plugged in.



3.5 mm jack circuit.

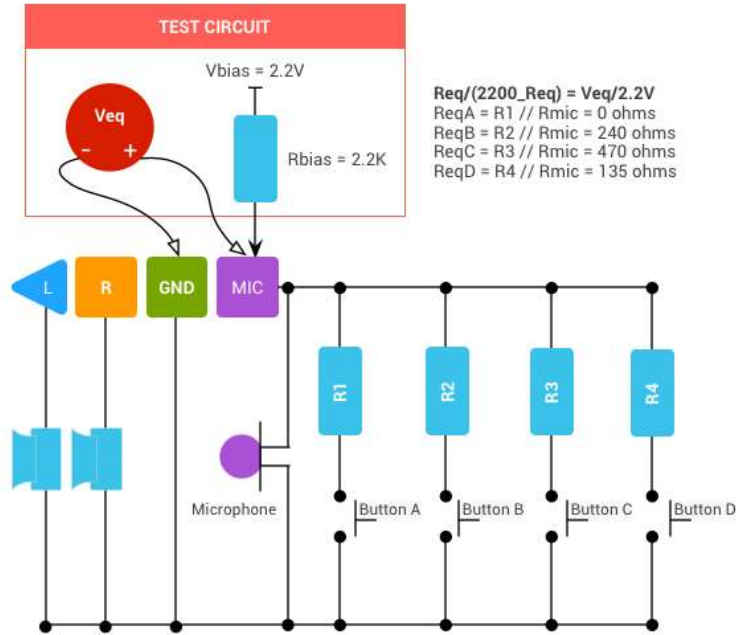
23. The connector in the MCS System provides an audio communication between the hardware component and the mobile device and communicates the analog audio signal from the hardware

component to the mobile device. *See, e.g., 3.5 mm headset and Troubleshooting.* An example is illustrated below:

Mechanical		
Function	Accessory Support	Notes
4 conductor 3.5 mm plug	Required	Ref: EIAJ-RC5325A standard
CTIA pinout order (LRGM)	Required	Except in regions with legal requirements for OMTP pinout
OMTP pinout order (LRMG)	Optional	
Microphone	Required	Must not be obstructed when operating headset controls

3.5 mm headset.

The following diagram for Reference Headset Test Circuit 1 shows the CTIA pinout for a 4-segment plug. For the OMTP pinout, switch the positions of the MIC and GND segments.



3.5 mm headset.

Troubleshooting

Our mobile credit card reader uses the headphone jack on your smartphone, meaning microphone access and volume control are necessary to swipe a card. You'll want to check that the swiper is fully plugged in, the volume on your device is turned all the way up, and that you have granted the MINDBODY business app access to your smartphone through the device settings.

For detailed troubleshooting assistance, please follow the steps listed here:

Troubleshooting.

24. The MCS System includes a second mechanism on the mobile device configured to receive the analog audio signal and convert the analog audio signal into binary data. *See, e.g., Swiper and Blackhat*. An example is illustrated below:

Mobile credit card swiper - UNIIMAG II (Android)

Equipped with the most secure encryption key available on the market, the MINDBODY mobile credit card reader keeps your data safe while allowing you to accept payments on the go.

Swiper.

The initial models of the Square Reader, models S1 and S2, are quite simple and do not contain any integrated circuitry. The devices consist of a magnetic head connected to a headphone jack with a microphone output, which is sufficient to read a magnetic stripe. By sampling a phone's microphone input fast enough, an application is able to read the small voltages produced by the magnetic head and, by examining the zero-crossings in the signal, decode them into unencrypted credit card information.

Later models of the Square Reader, models S3 and S4, contain integrated circuitry that can read and modify the signal before transmitting it to the phone in order to provide encryption and amplification. However, the signal is still transmitted as a varying voltage, recorded by an app, and decoded into binary digits that represent encrypted or unencrypted data. In the case of encrypted data, the encrypted bits can then be sent to external servers for decryption.

Blackhat at p. 2.

We have examined the security of the Square Reader, one of many mobile card-reading devices designed to allow merchants to more easily enter the market of processing transactions. In our analysis, we have demonstrated a number of vulnerabilities in the Square Reader, including unenforced deprecation of old hardware, allowance of out-of-order transactions, and insufficient tamper-proof hardware features. We suggest that similar attacks could possibly be performed on other mobile point-of-sale competing systems such as Intuit GoPayments and PayPal Here, which utilize similar end-to-end encryption [2][26]. We emphasize that mobile card-reading devices face additional challenges beyond traditional point-of-sale hardware, given that they are smaller, cheaper, and compatible with commodity hardware. These challenges are manifest in the vulnerabilities that we have identified and in the responses we received to our disclosure reports outlined in Section VII.

Blackhat at p. 7.

25. The MCS System includes a third mechanism on the mobile device configured to upload the binary data to a cloud service for decoding. *See, e.g., Security Policy.* An example is illustrated below:

1.1.2 Disclaimer of Responsibility for Cardholder Data.

If You use the optional Integrated Merchant Account service to process payments, MINDBODY is responsible for protecting Cardholder Data only after such Cardholder Data is encrypted and received by MINDBODY's server(s). You remain responsible for the proper handling and protection of Cardholder Data until such Cardholder Data is encrypted and received by MINDBODY's server(s).

Security Policy.

26. Plaintiff has been damaged by Defendant's infringement of the '706 Patent.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests the Court enter judgment against

Defendant:

1. declaring that the Defendant has infringed the '706 Patent;
2. awarding Plaintiff its damages suffered as a result of Defendant's infringement of the '706 Patent;
3. awarding Plaintiff its costs, attorneys' fees, expenses, and interest; and
4. granting Plaintiff such further relief as the Court finds appropriate.

JURY DEMAND

Plaintiff demands trial by jury, Under Fed. R. Civ. P. 38.

Dated: September 28, 2018

Respectfully Submitted

/s/ Raymond W. Mort, III

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