

APPLE INC. AND FITBIT, INC.
PETITIONERS
V.
VALENCELL, INC.
PATENT OWNER

CASE IPR2017-00318
U.S. PATENT NO. 8,886,269

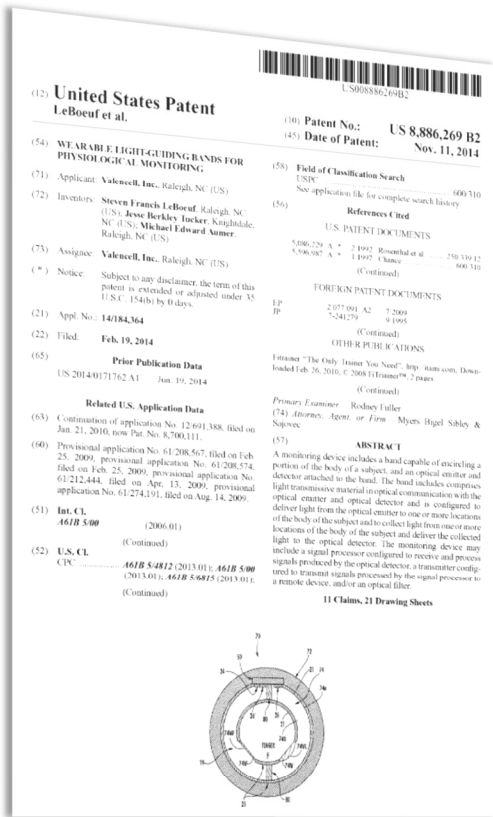
**PATENT OWNER'S DEMONSTRATIVE EXHIBITS
IN SUPPORT OF ITS CONDITIONAL MOTION TO AMEND**

ORAL HEARING, FEBRUARY 27, 2018

R. SCOTT RHOADES

U.S. PATENT No. 8,886,269 SUBSTITUTE CLAIM 12

CLAIM 12 – SUBSTITUTE FOR CLAIM 1



A MONITORING DEVICE, COMPRISING:

A BAND AND LIGHT-GUIDING STRUCTURE CONFIGURED TO AT LEAST PARTIALLY ENCIRCLE ~~A~~ PORTION OF THE BODY LIMB OF A SUBJECT, THE BAND AND LIGHT-GUIDING STRUCTURE COMPRISING:

A GENERALLY CYLINDRICAL OUTER BODY PORTION AND A GENERALLY CYLINDRICAL INNER BODY PORTION SECURED TOGETHER IN CONCENTRIC RELATIONSHIP, THE INNER BODY PORTION COMPRISING LIGHT TRANSMISSIVE MATERIAL, AND HAVING OUTER INNER SURFACE;

A LAYER OF CLADDING MATERIAL NEAR THE INNER BODY PORTION INNER SURFACE; ~~AND~~

AT LEAST ONE WINDOW FORMED IN THE CLADDING MATERIAL THAT SERVES AS A LIGHT-GUIDING INTERFACE TO THE BODY OF THE SUBJECT; AND

A BASE COMPRISING AT LEAST ONE OPTICAL EMITTER AND AT LEAST ONE OPTICAL DETECTOR ATTACHED TO THE BAND AND LIGHT-GUIDING STRUCTURE;

A SIGNAL PROCESSOR CONFIGURED TO (I) RECEIVE AND PROCESS SIGNALS PRODUCED BY THE AT LEAST ONE OPTICAL DETECTOR AND A MOTION SENSOR TO EXTRACT PHYSIOLOGICAL AND MOTION-RELATED INFORMATION, (II) REDUCE MOTION ARTIFACTS BY REMOVING FREQUENCY BANDS FROM THE SIGNALS THAT ARE OUTSIDE OF A RANGE OF INTEREST USING AT LEAST ONE BAND-PASS FILTER TO PRODUCE PRECONDITIONED SIGNALS AND (III) GENERATE PARSED OUTPUT DATA BY EXECUTING ONE OR MORE PROCESSING METHODS TO PROVIDE INFORMATION THAT IS FED INTO A MULTIPLEXED OUTPUT SERIAL DATA STRING COMPRISING MOTION-RELATED AND PHYSIOLOGICAL INFORMATION;

WHEREIN THE LIGHT TRANSMISSIVE MATERIAL IS IN OPTICAL COMMUNICATION WITH THE AT LEAST ONE OPTICAL EMITTER AND THE AT LEAST ONE OPTICAL DETECTOR AND IS CONFIGURED TO DELIVER LIGHT FROM THE AT LEAST ONE OPTICAL EMITTER TO ONE OR MORE LOCATIONS OF THE BODY OF THE SUBJECT VIA THE AT LEAST ONE WINDOW AND TO COLLECT LIGHT FROM ONE OR MORE LOCATIONS OF THE BODY OF THE SUBJECT VIA THE AT LEAST ONE WINDOW AND DELIVER THE COLLECTED LIGHT TO THE AT LEAST ONE OPTICAL DETECTOR.

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PETITIONERS' ASSERTED PRIOR ART COMBINATION

- **PETITIONERS' PROPOSE THE COMBINATION OF ASADA + SWEDLOW + FRICKE + GUPTA RENDERS CLAIM 12 OBVIOUS**
- **PETITIONERS' PROPOSE THE COMBINATION OF GOODMAN + ASADA + FRICKE + GUPTA RENDERS CLAIM 12 OBVIOUS**

U.S. PATENT NO. 8,886,269
ASADA + SWEDLOW + FRICKE + GUPTA

NO MOTIVATION TO COMBINE ASADA AND SWEDLOW

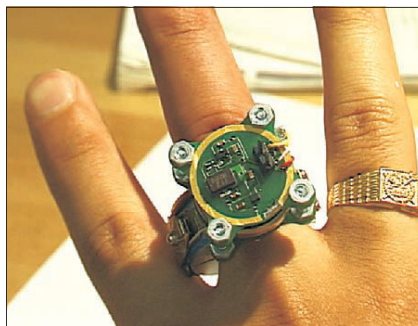
PETITIONERS CONTEND THAT A POSITA “WOULD HAVE BEEN MOTIVATED TO MOUNT THE AT LEAST ONE OPTICAL EMITTER AND PHOTODETECTOR OF ASADA ON A FLEXIBLE SUBSTRATE (“BASE”) AS TAUGHT BY SWEDLOW TO ALLOW SIGNALS TO BE TRANSMITTED TO AND FROM THE OPTICAL EMITTER AND PHOTODETECTOR VIA ETCHED WIRES.”

PETITIONERS’ OPPOSITION, PAPER 33 AT P. 4-5.

U.S. PATENT NO. 8,886,269
ASADA + SWEDLOW + FRICKE + GUPTA

ASADA

- **ASADA'S DISCLOSES A RING SENSOR FOR HEALTH MONITORING** *PATENT OWNER'S REPLY, PAPER 37 AT P. 4.*
- **"ASADA DESCRIBES A METHOD FOR DEALING WITH MOTION ARTIFACTS BY USING A MOTION DETECTION SYSTEM THAT IS IMPLEMENTED WITH A SECOND PPG SENSOR, AND A 'PUSHER' TO CREATE MOTION FOR THE NOISE SIGNAL."** *ID.*
- **"ASADA DISCUSSES COMFORT AND RELIABILITY AS IMPORTANT TO WEARABLE BIOSENSORS"** – STATES THAT THE ASADA DESIGNS ARE COMFORTABLE *ID.*



EX. 1005, FIGURE 9

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