

(51) International Patent Classification:
G08B 13/14 (2006.01)

(21) International Application Number:

PCT/US2009/001627

(22) International Filing Date:

13 March 2009 (13.03.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

12/079,396 26 March 2008 (26.03.2008) US

(71) Applicant (for all designated States except US): **MILLIPORE CORPORATION** [US/US]; 290 Concord Road, Billerica, MA 01821 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BURKE, Aaron** [US/US]; 17 Harris Avenue, Hamilton, MA 01982 (US). **ADHIKARI, Jiwan** [US/US]; 11 Baron Park Lane, Apt. 38, Burlington, MA 01803 (US).(74) Agent: **FRAME, Robert, C.**; Nields, Lemack & Frame, LLC, 176 E. Main Street - Suite 5, Westboro, MA 01581 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR),

[Continued on next page]

(54) Title: CONTACTLESS POWER SOLUTION FOR LOW POWER SENSORS IN BIOPROCESS ENVIRONMENTS

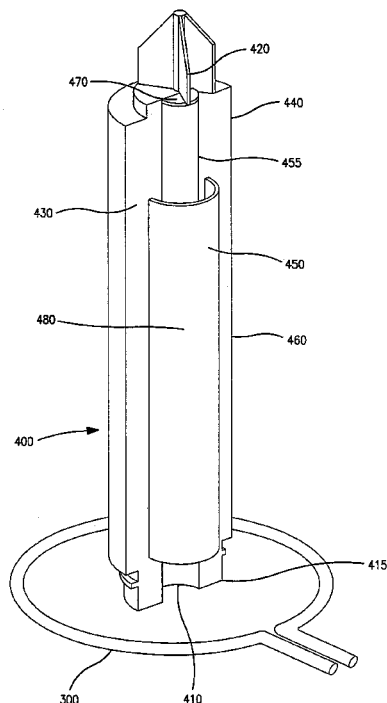


FIG. 4

(57) Abstract: A method and apparatus for providing more reliable wireless communication and power to sensors in electrically challenging bioprocess environments is disclosed. An unconnected antenna is located within the bioprocess environment, preferably in the same plane as the primary powered antenna. This unconnected antenna, also referred to as reflective antenna, enhances and confines the electromagnetic field created by the powered antenna. This reflective antenna is incorporated in or proximate to the devices containing a sensor or communication device. In one embodiment, the reflective antenna is incorporated into the filter housing. In another embodiment, it is incorporated into the filtering element itself. In another embodiment, it is incorporated into or affixed on the disposable bioprocess components, such as bags and tubes.

WO 2009/120271 A1



OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG). **Published:**

— *with international search report (Art. 21(3))*