

Title (en)

IMPROVING RADIO FREQUENCY SPECTRAL ANALYSIS FOR IN-VITRO OR IN-VIVO ENVIRONMENTS

Title (de)

VERBESSERUNG DER RADIOFREQUENZSPEKTRALANALYSE FÜR IN-VIVO ODER IN-VITRO UMGEBUNGEN

Title (fr)

AMELIORATION DE L'ANALYSE SPECTRALE HAUTE FREQUENCE POUR ENVIRONNEMENTS IN-VITRO OU IN-VIVO

Publication

EP 1021705 A1 20000726 (EN)

Application

EP 99941013 A 19990810

Priority

- US 9918096 W 19990810
- US 13209798 A 19980810

Abstract (en)

[origin: WO0009996A1] Concentration of a target chemical, glucose, in the presence of another substance, NaCl, in a specimen (4) is determined by subjecting (2) the specimen (4) to radio frequencies (6, 16) up to about 5 GHz. The real and imaginary components of the reflected and/or transmitted signal are examined (18) to identify the presence and/or concentration of the chemical of interest. The examination includes analysis of the effective complex impedance presented by the specimen (4) and/or the effective phase shift between the transmitted and reflected signals. The effects of NaCl on glucose concentration measurements can be nulled-out by examining impedance magnitude at a cross-over frequency or measuring NaCl concentration in a first frequency range and subtracting from a combined glucose/NaCl concentration measurement in a second frequency range. This technique can be used by diabetics to measure blood glucose in-vivo or in-vitro.

IPC 1-7

G01N 27/02; **G01N 33/50**

IPC 8 full level

A61B 5/00 (2006.01); **A61B 5/053** (2006.01); **G01N 27/02** (2006.01); **G01N 33/487** (2006.01)

CPC (source: EP)

A61B 5/053 (2013.01); **A61B 5/14532** (2013.01)

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

WO 0009996 A1 20000224; **WO 0009996 A9 20000803**; AU 5474699 A 20000306; EP 1021705 A1 20000726; EP 1021705 A4 20020828

DOCDB simple family (application)

US 9918096 W 19990810; AU 5474699 A 19990810; EP 99941013 A 19990810