

The  
United  
States  
of  
America



**The Director of the United States  
Patent and Trademark Office**

*Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.*

*Therefore, this*

**United States Patent**

*Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, or importing into the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.*

*Lucia Staret Kea*

*Acting Director of the United States Patent and Trademark Office*



US008531265B2

(12) **United States Patent**  
**Šulc**

(10) **Patent No.:** **US 8,531,265 B2**  
(45) **Date of Patent:** **Sep. 10, 2013**

(54) **MODULE FOR WIRELESS COMMUNICATION BETWEEN ELECTRIC OR ELECTRONIC EQUIPMENT OR SYSTEMS, METHOD FOR ITS CONTROL AND METHOD FOR CREATING GENERIC PLATFORMS FOR USER APPLICATIONS IN AREA OF WIRELESS COMMUNICATIONS WITH THOSE MODULES**

(75) Inventor: **Vladimir Šulc, Sobotka (CZ)**

(73) Assignee: **Microrisc S.R.O., Jicin (CZ)**

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1050 days.

(21) Appl. No.: **11/526,819**

(22) Filed: **Sep. 26, 2006**

(65) **Prior Publication Data**

US 2007/0188343 A1 Aug. 16, 2007

(30) **Foreign Application Priority Data**

Sep. 26, 2005 (CZ) ..... PV 2005-616

(51) **Int. Cl.**  
**G06F 9/44** (2006.01)

(52) **U.S. Cl.**  
USPC ..... **340/3.3**; 340/539.13; 340/539.1;  
713/2

(58) **Field of Classification Search**  
USPC ..... 340/825.22, 539.1; 455/524, 561,  
455/92; 713/2  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

4,368,468 A \* 1/1983 Lisle et al. .... 342/151  
H610 H \* 3/1989 Focarile et al. .... 340/7.42

4,910,510 A *	3/1990	Davis et al. ....	340/7.41
4,942,534 A *	7/1990	Yokoyama et al. ....	700/9
5,173,706 A *	12/1992	Urkowitz ....	342/99
5,248,967 A *	9/1993	Daneshfar ....	340/931
5,426,424 A *	6/1995	Vanden Heuvel et al. ...	340/7.52
5,450,492 A *	9/1995	Hook et al. ....	380/28
5,455,572 A *	10/1995	Cannon et al. ....	340/7.54
5,745,049 A *	4/1998	Akiyama et al. ....	340/870.17
5,784,633 A *	7/1998	Petty ....	710/60
5,826,166 A *	10/1998	Brooks et al. ....	725/134
5,896,261 A *	4/1999	Black ....	361/92
6,259,991 B1 *	7/2001	Nysen ....	701/300
6,396,733 B1 *	5/2002	Lu et al. ....	365/158
6,653,824 B1 *	11/2003	Whitlock ....	323/344
6,675,022 B2 *	1/2004	Burgan et al. ....	455/524
6,861,952 B1	3/2005	Billmaier	
6,917,281 B1 *	7/2005	Goldberg ....	340/7.53
6,963,765 B2 *	11/2005	Hattori et al. ....	455/574
6,993,417 B2	1/2006	Osann, Jr.	
7,000,835 B2 *	2/2006	Komatsu ....	235/437

(Continued)

*Primary Examiner* — Jennifer Mehmood

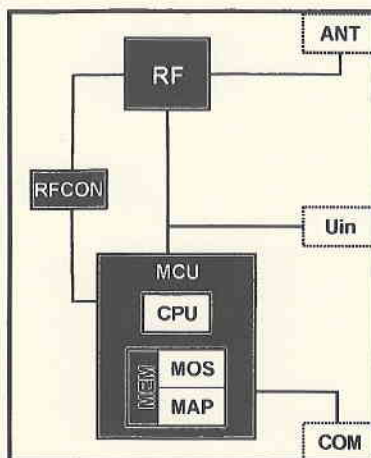
*Assistant Examiner* — Rufus Point

(74) *Attorney, Agent, or Firm* — Buchanan Ingersoll & Rooney PC

(57) **ABSTRACT**

A module for wireless communication between electric or electronic equipment or systems, in high frequency bands at least in the range of 300 MHz to 2.60 GHz, particularly for home and office automation systems, comprising a block (RF) for wireless communication, connected to an antenna interface (ANT) and a power supply interface (Uin) and also to a control block (RFCON). The module further contains a control unit (MCU) comprising a central processor unit (CPU), a memory (MOS) with the operational system control code to ensure the function of wireless communication and a memory (MAP) for storing or starting up a user-defined applicational control code, where the control unit (MCU) is connected to the control block (RFCON), to the communication interface (COM) of the module and to the power supply interface (Uin).

**18 Claims, 3 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

7,092,772 B2	8/2006	Murray et al.	2005/0080496 A1 *	4/2005	Hayes et al. ....	700/65
2002/0029303 A1 *	3/2002	Nguyen .....	2005/0164684 A1 *	7/2005	Chen et al. ....	455/414.1
2003/0149867 A1 *	8/2003	Park et al. ....	2006/0041572 A1 *	2/2006	Maruyama .....	707/101
2004/0267383 A1 *	12/2004	Bicknell et al. ....	2006/0141946 A1 *	6/2006	Rush et al. ....	455/92
			2008/0028119 A1 *	1/2008	Randell et al. ....	710/307
			2008/0052696 A1 *	2/2008	Pradadarao .....	717/158

\* cited by examiner

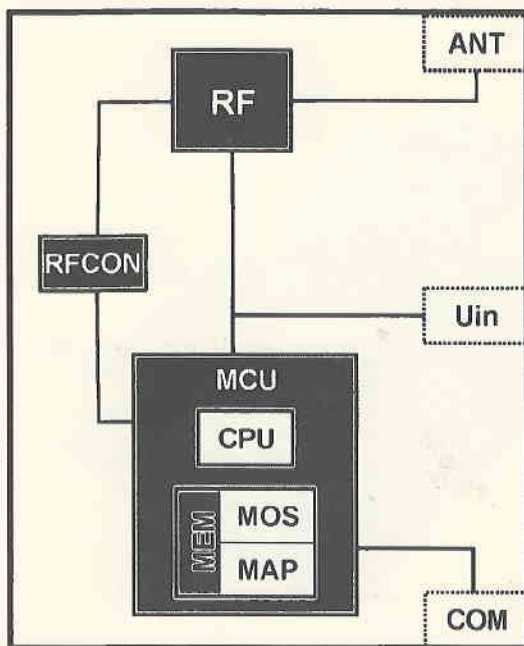


FIG. 1

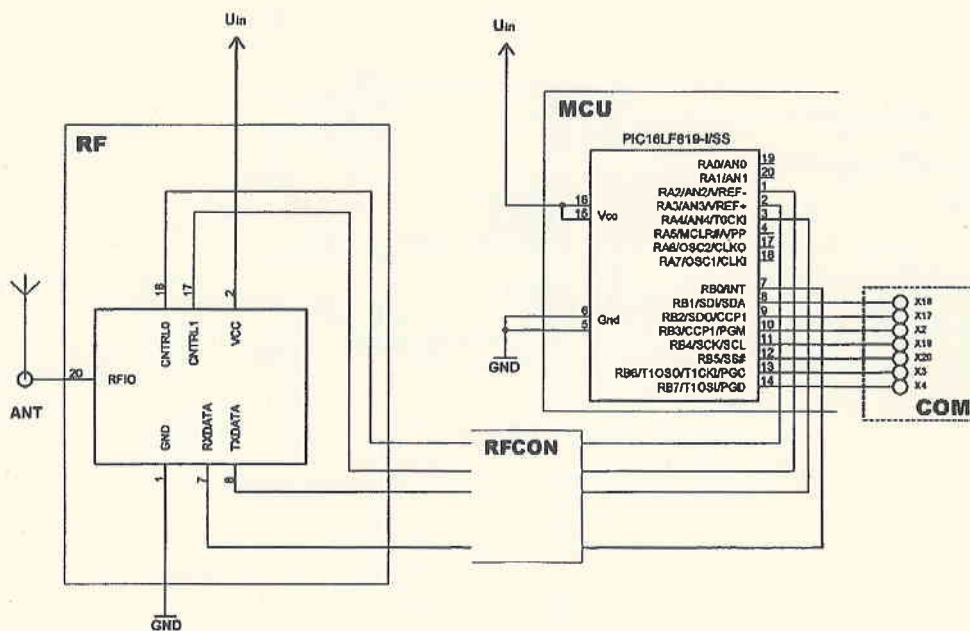


FIG. 2

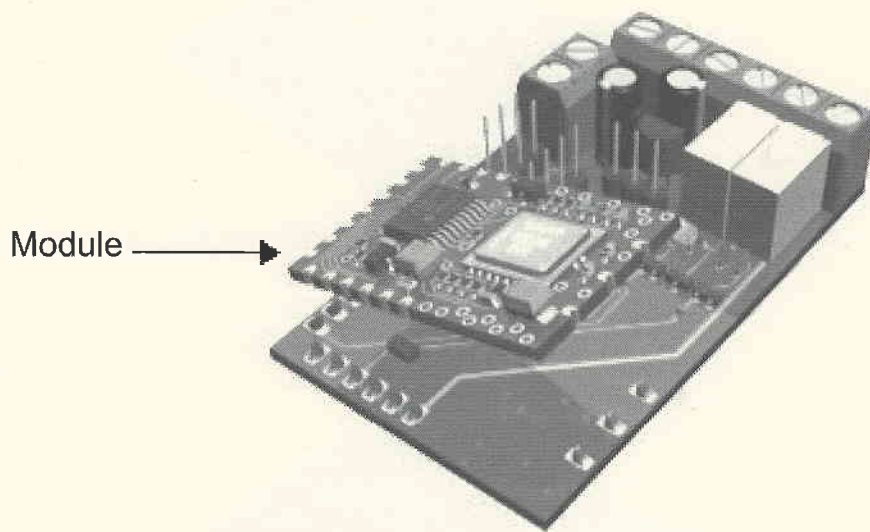


FIG. 3

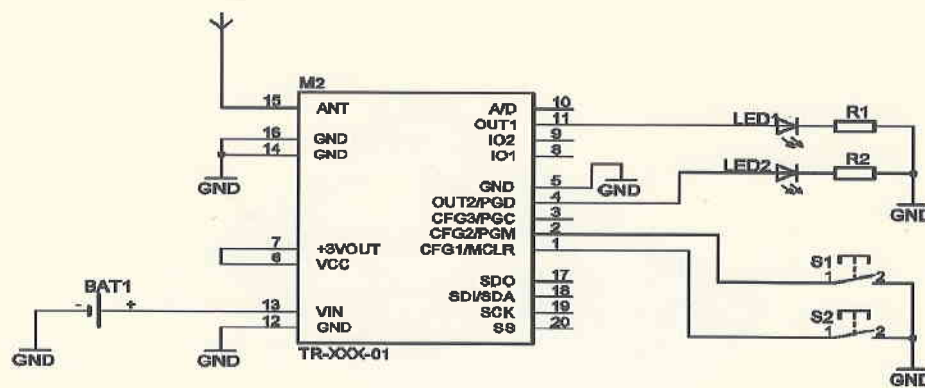
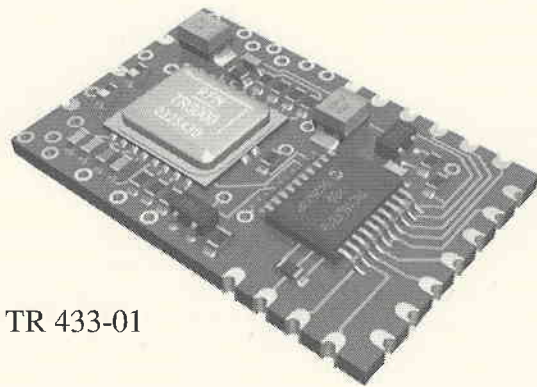
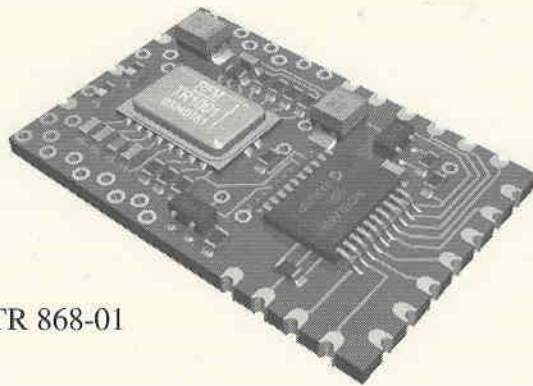


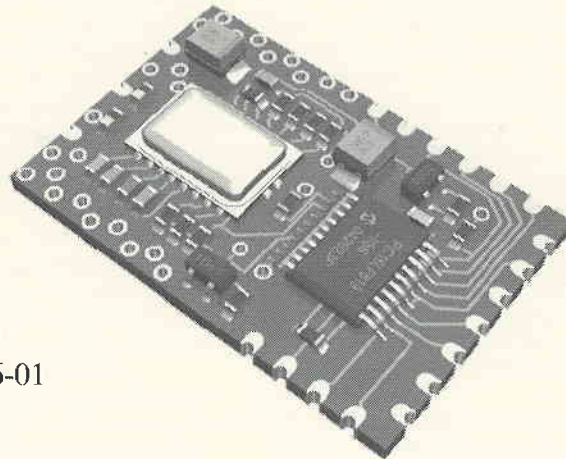
FIG. 4



TR 433-01



TR 868-01



TR 916-01

FIG.5