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### Get a free ticket to the Bluetooth Congress and Expo 2002 in Amsterdam

RTX Telecom is presenting our Bluetooth protocol stack and baseband, and is displaying some of the Bluetooth products we have already designed for international customers.

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RTX Telecom is now in a position to deliver Intellectual Property and turnkey solutions within all the leading wireless standards, including GSM/GPRS, 2.4GHz and 802.11a.

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## RTX Telecom - the sound choice in wireless development

RTX Telecom is one of the world's leading suppliers of product development solutions, focusing exclusively on advanced wireless communication standards that include 2.4 GHz, GSM and 802.11a. The product portfolio includes the development and design of cordless phones, cellular phones, headsets, testers, repeaters, WLAN, etc.

Despite our short history, RTX Telecom is a world leader in the field of short-range wireless DECT technology, and has developed more than 50 DECT phones and 2.4 GHz products with advanced features such as SMS, voice announcement, hands-free function and high-speed wireless data.

### Services

RTX Telecom is dedicated to serving manufacturers and others who wish to enter the wireless communications market or expand their market presence in the safest and quickest possible way. RTX Telecom provides:

- individually tailored turnkey solutions, where a customer's specification is turned into a fully tested product
- embedded solutions, where our wireless technology is embedded into a customer's own product

One of RTX Telecom's special strengths is our position at the forefront of the company's chosen field, combined with our rapid, efficient development work. Choosing RTX Telecom as your supplier of development work is a low-risk decision, as we can guarantee both your product's time to market and that the result will be a top-quality product. This is due our exceptional expertise within wireless development.

In addition, RTX Telecom has acquired unique experience in integrating sound and voice in data products that include broadband modems and WLAN solutions.

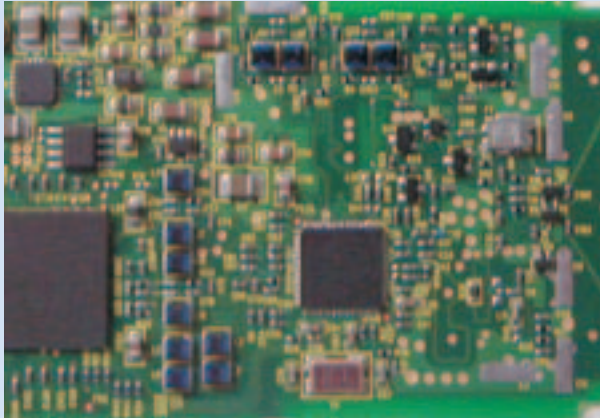
### Customers

RTX Telecom's customers include world-leading companies and brand name manufacturers. Contracts with customers often contain a confidentiality clause preventing RTX Telecom from revealing our involvement in a given project. A few of the customers that can be mentioned are:

- Siemens
- Ericsson
- Panasonic
- B&O Telecom
- KIRK Telecom
- GN Netcom.

*The new reception area at RTX Telecom's headquarters in Denmark, which has just been extended by 6100 square metres*





*RTX Telecom focuses on 802.11a technology - an 802.11a PC card developed by RTX Telecom, based on the new advanced Resonext platform*

## 802.11a – the new Wireless Local Area Network standard of the future

A family of IEEE standards for wireless LANs was first introduced in 1997. The original 802.11 specification provides 1 or 2 Mbps transmission in the unlicensed 2.4GHz band using either a frequency hopping modulation (FHSS) technique or direct sequence spread spectrum (DSSS), also known as CDMA.

### **Wi-Fi**

The 802.11b standard is rated at 11 Mbps in the 2.4GHz band, but delivers approximately 7 Mbps in practice. The Wireless Ethernet Compatibility Association (WECA) endorsed the DSSS 802.11b version, branding it "Wi-Fi" for Wireless Fidelity. Wi-Fi and 802.11b have thus become synonymous.



### **802.11a**

A faster 802.11a standard provides from 6 to 54 Mbps at 5GHz, but is not backward compatible with 802.11b.

### **802.11g**

A subsequent 802.11g standard provides up to 54 Mbps at 2.4GHz as well as backward compatibility with the slower 11b. Both 11a and 11g use Orthogonal Frequency Division Multiplex (OFDM) modulation to achieve the higher rates.

An 802.11 system works in two modes. In "infrastructure mode", wireless devices communicate to a wired LAN via access points. Each access point - and its wireless devices - is known as a Basic Service Set (BSS). An Extended Service Set (ESS) is two or more BSSs in the same subnet.

RTX believes that the 802.11a will shortly be the dominant wireless LAN technology as the major teleoperators are pushing towards implementing 802.11a so they can utilise their DSL and CATV strategy.





## GSM/GPRS technology from RTX and Motorola

RTX Telecom can now also provide turnkey designs within the field of GSM/GPRS technology, via an agreement with Motorola Semiconductor.

### Partnership

RTX Telecom has signed an agreement with the American company Motorola Semiconductor, one of the world's most significant suppliers of GSM/GPRS cellular phone chipset and protocol software. The agreement will make RTX Telecom an important partner for Motorola Semiconductor in the field of turnkey product development of GSM/GPRS handsets based on Motorola's GSM/GPRS technology.

This relationship means that Motorola will recommend RTX Telecom as a design centre to its customers, and that RTX Telecom will recommend Motorola's well-proven i.250 platform, which contains both chipset and protocol stack, when working on proposals for GSM/GPRS turnkey development projects.

### Best-in-class

The agreement means that Motorola will provide RTX Telecom with know-how, documentation, training and tools, along with direct access to the Motorola R&D departments, ensuring that RTX Telecom has "best-in-class" insight and skills as regards working with GSM/GPRS.

### Price Competitive

The i.250 platform introduced by Motorola provides a well-proven GSM/GPRS solution with a high level of integration. As a result, this solution is extremely competitive in terms of price, both as regards development costs and as regards the cost price for handsets/terminals.

### 3G terminals

"This is a major factor behind RTX Telecom's decision to enter into the agreement," states managing director Joergen Elbaek of RTX Telecom. "For us, it is crucial that the suppliers of both the chip and software work with the same objectives and have the same basic agenda. In addition, Motorola has a very strong global position along with a highly efficient sales organisation, and has a clear road map for chipsets and software for use in future 3G terminals featuring EDGE and UMTS. Clearly, this will be a great advantage for RTX Telecom."

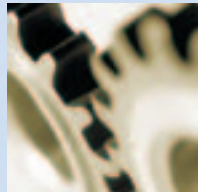
### Wireless wisdom

"RTX Telecom is now in a position to deliver Intellectual Property and turnkey solutions within all the leading wireless standards, including CDMA2000 1x, TD-SCDMA, GSM/GPRS, Bluetooth™, DECT, DCT2.4GHz and IEEE802.11a," adds Mr Elbaek.

*RTX Telecom can now also provide turnkey designs within the field of GSM/GPRS technology, via an agreement with Motorola Semiconductor.*



*Extend DECT coverage with RTX Telecom's popular repeater, which is sold as an OEM product*



## Extend the coverage

A DECT repeater sold as an OEM product has been developed by RTX Telecom in order to provide extended coverage.

The DECT repeater is designed in accordance with the DECT standard. This type of repeater (WRS - Wireless Relay Stations) is intended for use in residential, business and public DECT applications based on the GAP profile.

A repeater can be deployed to meet a need to extend the range of a DECT telephone. The repeater can also be utilised where there is a need to increase limited coverage or improve reception in areas shielded from the base station.

The repeater has two internal antennas and can be used to double the effective range of a DECT base station in a desired direction.

### **Plug-and-play**

In addition, the repeater uses a new, matchless automatic registration method. With this new method, the repeater automatically seeks and acquires the DECT/GAP base station that emits the most powerful signal. For the end-user, this means that the repeater installation has been simplified to plug-and-play level.



## Get a free ticket to the Bluetooth Congress and Expo 2002 in Amsterdam

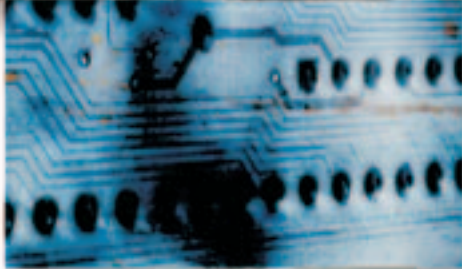
This year's exhibition will be the largest ever dedicated Bluetooth event to be held under one roof. The exhibition will be held at Amsterdam RAI, Europaplein from Wednesday 12 June to Friday 14 June.

The target audience is everyone interested in developing and implementing wireless connectivity to hand-held devices for a variety of application environments. RTX Telecom will present our Bluetooth protocol stack and baseband, and show some of the Bluetooth products we have already designed for international customers. Bluetooth Internet access products, Bluetooth headsets, Bluetooth tester and a Bluetooth toy called Harold are among the products to be displayed.

Enclosed with this newsletter, you will find a free exhibition ticket to the value of GBP 250 - but you must register by 24 May. For additional information, please contact [www.ibctelecoms.com/bluetoothcongress](http://www.ibctelecoms.com/bluetoothcongress).

If you would like to visit the RTX Telecom stand, you can find us at Booth 212.

If you would like to set up a meeting with RTX Telecom staff, please reply indicating your preferred meeting time to marketing manager Jens Kofoed, [jko@rtx.dk](mailto:jko@rtx.dk).



## Who are the end-users within telecommunication?

As the Internet becomes a more important part of people's daily life, the need for wireless access to the Internet escalates dramatically. The end-users want easy, mobile access to the Internet and the fewer new wires the better. Similarly, the telephone and cable television companies want to generate as much traffic from companies, building complexes and individual households as possible in order to expand their broadband business. There is only one way to target the broadband mass market - install a wireless network. This is simply because it must be so easy for the Family World segment that ordinary housewives can do it themselves without generating expensive house calls and visits from telephone or cable TV operators.

### Segments

There are basically three different end-user segments:

- 20% Just Talk
- 40% Family World
- 40% Business

### Just Talk

The Just Talk segment simply wants to talk on an ordinary or cordless phone, without requiring access to the Internet. Their motive is simple communication with friends and family.



### Family World

The Family World segment consists of all the family members and their individual communication needs. There is often more than one PC in the household, just as there is a TV set and multiple phones. The ideal communication product from the telephone or cable operator's point of view is an integrated access point with XDSL/CATV and wireless access to the PC. As operators want to be prepared for the future, the technology in focus is 802.11a, which will soon be standard for the teleoperators.

This is regarded as excessive by 90% of the end-users, as they currently have slow data transmission speed via PSTN or ISDN lines. DECT/DPRS, Bluetooth or 802.11b Wireless Local Area Network are more than enough to provide them with sufficient access to the Internet today.

### Business

The Business segment covers a large spectrum of sub-segments that include home offices, telecommuters, companies, hot spots and collective building complexes. Generally, their need is one of mobility and accessibility for the individual employee - anywhere and anytime. In addition, the business segments want savings on subscriptions and new opportunities for doing business more efficiently.



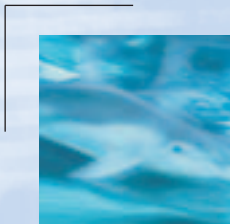


## RTX sales force in Europe, the USA, Japan and Korea

As part of RTX Telecom's strategy to continue expansion of its sales activities, and to be in closer contact with important customers and market areas, the company has signed an agreement with Imega, a Korean company that will represent RTX Telecom in Korea.

Imega's managing director, Paul Kim, has previously worked as managing director for LSI Logic, Korea, focusing primarily on market development for wireless

communication products, wireless infrastructure, ASIC solutions and expansion of the set-top box market. Mr Kim says, "I am really proud of having an opportunity to work with RTX Telecom, which is one of the world's leading independent suppliers of design services for the wireless communication market, with advanced technologies and solutions, a competent management team and bright and hard-working employees."



## Cordless design – 2.4GHz and DECT

RTX Telecom has acquired in-depth knowledge of different components and chipsets, especially from National Semiconductor, and is thus able to design and develop DECT and 2.4GHz solutions very quickly. Profiles currently supplied by RTX include GAP, CAP, IAP and DPRS.

### Unique selective performance

RTX Telecom is your guarantee for getting a DECT or 2.4GHz product with:

- unique performance
- very small form factor
- a competitive BOM

### 2.4GHz

On the North American market, a considerable number of wireless telephones are based on analogue technology, as opposed to DECT products, which require digital technology. RTX Telecom has therefore developed DECT 2.4GHz with frequency hopping specially for this market.

This technology is used in digital products operating in the 2400-2483MHz frequency band (also known as the ISM - Industrial, Scientific and Medical - band).

The RTX Telecom 2.4GHz platform is a low-cost solution based on the DECT GAP standard protocol, along with proven hardware and software. The platform uses 79 RF channels and is based on Fast Frequency hopping (up to 1700 hops/sec).

### Immunity to interference

One of the advantages of RTX Telecom's 2.4GHz technology is its high immunity to interference from sources such as microwave ovens.



*AT&T dual handset cordless telephones engineered by RTX Telecom, based on 2.4GHz technology*



*An example of a final PCB for 2.4 GHz, where the RF form factor can be as small as 400 mm<sup>2</sup>*

**PLEASE CONTACT ME**

RTX Telecom has registered the wrong contact person at our company.

Please change the name to:

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Phone \_\_\_\_\_



RTX Telecom A/S

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Denmark

Responsibility in relation to buying wireless development projects from RTX Telecom:

- Commercial decision-maker       Technical decision-maker  
 Influential contributor       Other

Interests in RTX Telecom technologies:

- |                                   |                                 |                                    |                                 |
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