



# Flexible & Reliable Wireless Communication Module

**The RTX1040 DECT Module is suitable for portable wireless communication with a base unit to communicate audio, data, video or M2M, for conferences, teaching, admittance systems, telephony etc.**

#### **The DECT CAT-iq enabler in a module**

The RTX 1040 DECT CAT-iq Module is the far most effective and easy way to implement DECT telephony service to your device with the support of HD voice. With the RTX 1040 DECT CAT-iq module it is possible to develop an end-to-end solution without having an extended knowledge of the DECT radio frequency technology.

#### **End-to-end solution with one module**

An end-to-end solution can be designed using this DECT CAT-iq module. The firmware loaded onto the module can emulate either as the fixed part or as the portable part. The RTX 1040 DECT CAT-iq module can be integrated in different devices such as Broadband Access Gateways, cordless handsets, conference phone, cordless microphones, and high-end cordless audible equipment.

#### **Two Developments Kits available**

There are two development kits available: For a DECT CAT-iq based telephony system the development kit consisting of a DECT CAT-iq dongle and a DECT CAT-iq handset is a good choice.

Otherwise a development kit consisting of a development board which can emulate the portable part of the DECT CAT-iq protocol and another develop-

ment board representing the fixed part of the DECT CAT-iq protocol.

#### **RTX1040 consists of a hardware module with:**

- Portable part software configuration
- Fixed part software configuration

#### **A flexible and reliable communication platform**

Standard DECT and CAT-iq software platforms as well as proprietary RTX solutions can be carried out from the RTX1040 module.

The reference hardware is designed to relieve design efforts by having a USB port, a serial connector, a sensor interface and a peripheral interface.

The RTX1040 hardware module is a generic DECT hardware module which must be controlled by an external host processor through UART or SPI. Audio is transferred as PCM on the fixed part and analog audio on the portable part. Furthermore, a power supply and antenna must be connected to the module.

The RTX1040 module can be used with a standard DECT/CAT-iq software from RTX or with a custom firmware developed to provide specific features.

# TECHNICAL SPECIFICATIONS - RTX1040

| Feature                               | Specification  |
|---------------------------------------|--|
| Protocols supported                   | <ul style="list-style-type: none"><li>• DECT GAP, DECT 6.0, J-DECT ARIB STD-T101, CAT-iq v1, v2 and v3 compliant, DECT ULE base station (FP) features</li><li>• 1880 – 1900 MHz in Europe</li><li>• 1920 – 1930 MHz in USA &amp; Canada</li><li>• 1893.5 – 1906.1 MHz in Japan</li></ul> |
| Handset registrations                 | <ul style="list-style-type: none"><li>• 6</li></ul>  |
| Sensor/actuator registrations         | <ul style="list-style-type: none"><li>• 100</li></ul>  |
| Codecs                                | <ul style="list-style-type: none"><li>• Full codec negotiation in accordance with CAT-iq spec.</li><li>• G722 (64 kbit/s voice service)</li><li>• ADPCM G726 (32kbit/s voice service)</li></ul>  |
| Call features                         | <ul style="list-style-type: none"><li>• All mandatory CAT-iq features</li><li>• (call transfer, call waiting, 4 parallel calls, CLIP, CNIP etc.)</li></ul>   |
| List access features                  | <ul style="list-style-type: none"><li>• All mandatory CAT-iq features</li><li>• (Missed calls list, outgoing calls list, incoming accepted calls list, all calls list, contact list, internal names list, DECT settings list, line settings list)</li></ul>                              |
| External interfaces                   | <ul style="list-style-type: none"><li>• DECT/CAT-iq short-range wireless communication</li><li>• UART, SPI, I2C</li><li>• I2S (PCM bus)</li><li>• RTX test interface (UART and JTAG combo interface)</li><li>• External antenna</li></ul>  |
| EU Standards supported                | <ul style="list-style-type: none"><li>• Radio: ETSI EN 300 406 , ETSI EN 300 175</li><li>• EMC: EN 301 489-6, EN 301 489-1</li><li>• Safety: IEC/EN 60950-1: 2010</li><li>• ROHS: 2002/95/EC</li><li>• SAR: EN 50385</li></ul>   |
| US Standards supported                | <ul style="list-style-type: none"><li>• Radio and EMC: FCC Part 15, subpart D. (1920 – 1930 MHz)</li><li>• SAR: FCC guideline (OET bulletin 65 suppl.c: 2001)</li></ul>  |
| Japan Standards supported             | <ul style="list-style-type: none"><li>• RADIO and EMC: ARIB STD T-101, TELEC-T254</li><li>• SAR: TBD</li></ul>   |
| Codecs                                | <ul style="list-style-type: none"><li>• Full codec negotiation in accordance with CAT-iq spec.</li><li>• G722 (64 kbit/s voice service)</li><li>• ADPCM G726 (32kbit/s voice service)</li></ul>  |
| Physical characteristics              | <ul style="list-style-type: none"><li>• 42 mm x 27 mm</li><li>• Single sided PCB assembly</li></ul>  |
| Power ratings                         | <ul style="list-style-type: none"><li>• 2.1 - 3.5V</li></ul>   |
| Power consumption<br>PP mode, typical | <ul style="list-style-type: none"><li>• Standby 1.2 mA</li><li>• Active call, HD voice 70 mA</li><li>• Active call, normal 46 mA</li></ul>   |
| Development tools                     | <ul style="list-style-type: none"><li>• Software Development Kit (SDK)</li><li>• Documentation Package</li><li>• Application Debugger tools</li></ul>  |

## CAT-iq at a glance

- Cordless HD Voice
- Shared internet phonebook
- Interoperability amongst products
- World-wide reserved frequency band
- Fully backward compatible to DECT GAP

