

Polycom® KIRK® DECT Application Module 6.0

Fact Sheet

Capacity:

- Data via voice channel:
Support for 6 full-duplex 4 kb/s channels. It is possible to create a full-duplex channel between a wireless infrastructure and a wireless portable device (a wireless infrastructure can have a maximum of 5 full-duplex channels created from 5 different wireless portable devices at the same time, as one channel is reserved for bearer handover). It is possible to use the voice channel for command and control as well.
- Data via MSF channel:
Support for 6 control channels with a capacity of 2 kbit/s.

Protocol Stack:

Full DECT protocol stack with either wireless infrastructure or wireless portable device functionalities.

Circuit Description:

- Fully integrated DECT radio transceiver and baseband processor, including:
 - Complete DECT transceiver, designed to operate the frequency synthesizer in a close loop configuration both during transmit and receive mode.
 - CompactRISC CR 16Cplus microprocessor with a single wire debug port running from ROM controls the protocol stack and the I/O peripherals, keyboard, UART, ACCESS bus, SPI, LED drivers and RF switches.
 - 16 bit CODEC with an analog frontend including a high efficiency audio amplifier (class D).
 - Programmable Gen2DSP supporting various telecommunication algorithms.
- Ceramic antenna design integrated in the module.
- Power amplifier design for DECT application.
- RF-SPDT switch technology.

Pre-supplied Software:

- The KIRK DECT Application Module 6.0 comes in two versions: either engineered with wireless portable device functionality or with radio infrastructure functionality.
- In its wireless infrastructure version, it is possible to subscribe up to 10 wireless portable devices. It is possible to call or send MSF between the 10 wireless portable devices.
- The complete software application of the module consists of the DECT protocol stack (running on the CR16), the DSP software (running on the Gen2DSP) as well as the user application (MMI) running on top of the DECT protocol stack. You have the option of developing your own MMI and DSP software units for your new wireless application products, or have a partner do all the development according to your specifications.
- The EKGAP Desktop Development Environment allows you to hook into the default firmware and program additional behaviour, or completely replace the default firmware. This way, you can construct and run your own applications on top of the DECT protocol stack.
- During development the user application can be built and run on a Windows or Linux PC.
- The EKGAP Desktop Development Environment is integrated with Eclipse IDE, and based purely on open source available software.*
- The supported API is a low level signalling API, prepared for extended high level functionality.

Radio Interface:

- Frequency Bands available: full DECT frequency range (1880 – 1930 MHz) and (1880 – 1900 MHz); 60 logical duplex channels (1880-1896 MHz); 30 logical duplex channels (1920-1930 MHz)
- Transmit power (NTP): Typ. 22 dBm
- Receiver sensitivity: Typ. < -94dBm [BER, 1000 ppm]
- Dual antenna diversity functionality
- Coverage range: Indoor: 20-50 m., outdoor: 300 m.

*Apart from some low-level hardware drivers, everything can be changed with open source software.

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Approvals:

- Radio (TBR06): EN 301 406 V1.5.1 / FCC rules part 15/subpart D, RSS-213
- Safety: EN 60950-1:2006 / IEC60950-1 CB Scheme*
- EMC: EN 301 489-1 / EN 301 489-6*
- Health: EN 50385:2002 (R&TTE, Article 3.1a, Council Recommendation 1999/519/EC)*
- Complies with GAP: EN 300 444
- Complies with DECT CI: EN 300 175-1 to 8
- IC and UL (60950-1 CAN(CSA-CSS.s No. 60950-1-03)

*Type approval limited to the component supplied.

Environmental Conditions:

- Relative humidity: Between 20% and 80% (non-condensing)
- Temperature range: -20°C to +60°C / -4°F and 140°F
- The module is in compliance with the requirements of EU directive 2002/95/EC (RoHS) and 2002/96/EC (WEEE)

Electrical Requirements:

- Power consumption:
 - Average power consumption (VBAT=2.7V): 200mA
 - Peak power consumption: 500mA
 - Idle power consumption, fixed part: 48mA
 - Idle power consumption, portable part: 20mA
- The power supply is 2.7 V – 5.5 V

Physical Characteristics:

- Size: l: 27mm/1,06" x d: 27mm/1,06" x h: 3 mm/0,11"
- Weight: 3.3 g/0,10 ounces



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