sysmoBTS 1002OD data sheet

sysmocom
systems for mobile communications GmbH

Introducing sysmoBTS 1002OD

The sysmoBTS is 1002OD a new low-power, small-formfactor IP-backhaul GSM BTS. It offers supreme cost efficiency and is suitable for a wide range of applications, including

- Rural cellular networks in lowest-ARPU regions
- GSM related research and development laboratories
- Production testing of GSM/EDGE terminal equipment
- Rapidly deployable GSM networks
- Private GSM networks (PBX style use)
- In-building coverage/capacity extension
- Remote area GSM deployments, utilizing any IP-based satellite back-haul service

The sysmoBTS 1002OD is intended to be mounted directly to the antenna pole in close proximity of the antenna.

This keeps RF cables short and avoids the losses associated with long coaxial cables. Instead of running coaxial cables up the pole, you now simply only need CAT5 cables for Ethernet and PoE (Power over Ethernet).

Beyond this product

sysmocom not only offers this product, but a variety of other products and services, such as

- **sysmoNITB starterkit** complete ready to run 2G, 3G5 and/or 4G solution for lab testing
- **Cellular Network Infrastructure** a comprehensive suite of elements for 3GPP cellular networks
- **sysmoOCTSIM / sysmoQMOD** solution for remote SIM operation for cellular modems
- **SIMtrace2** debug and trace SIM card communication
- **sysmoSIM** SIM cards, pre-programmed and with custom printing
- **sysmoBTS** range from 1TRX 0.2W to 2TRX 2x10W
- extensive portfolio of **support contracts** for all sysmocom Products
- **training services** for installation, network deployment, operation
- **vendor-agnostic integration** and inter-operation with other vendor RAN and Core Network products
- **variety of sectorized and omni-directional antennas a s well as RF cabling and accessories**

Custom-tailored GSM solutions

sysmocom is not just another RAN vendor with a fixed product portfolio. All our products are based on Open Source software components, permitting customization both by sysmocom as well as the customer.

Access to the source code is key in enabling our customers to create products and services outside the constraints of existing, standardized GSM protocols, interfaces or procedures. Any aspect of our products can be modified according to customer needs.

Contact Information

We appreciate inquiries from end-users, operators as well as retailers.

sysmocom – systems for mobile communications GmbH
Siemensstr. 26a, 10551 Berlin, GERMANY

Phone: +49-30-60987128-0
Fax: +49-30-60987128-9
e-mail: info@sysmocom.de
web: http://sysmocom.de/

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Mechanical / Electrical specification

Dimensions of enclosure (W x H x D)	300 x 220 x 55 mm (measurements excluding pole/wall mount) Casted aluminium enclosure with UV resistant paint
Weight	2 kg
Mounting	included wall-mount and pole-mount clamp
Protection Rating	IP32 enclosure for wall or pole mount
Temperature Range	Operating temperature: -40 °C to 55 °C Storage temperature: -40 °C to 70 °C
RF Input (N female)	• GSM 850/900/1800/1900 quad-band uplink band • Sensitivity: –109 dBm (exceeding 3GPP TS 05.05 pico BTS requirements)
RF Output (N female)	• GSM 850/900/1800/1900 downlink band • Max. output power: (850/900): 22 dBm GMSK, 18 dBm 8PSK (1800/1900): 25 dBm GMSK, 20 dBm 8PSK
GPS Input	N female connector towards GPS antenna (for GPS-disciplined oscillator)
CPU / SoC	TI Davinci (ARM926 @ 405 MHz + DSP @ 804 MHz)
Input Voltage	36-60 V (DC). direct or via 803.3at PoE; power consumption: 12.5W (typ.) 16.5W (max)
Cooling	Passive.
Internal Memory	128 Mbyte SLC NAND Flash, 128 Mbyte DDR2 SDRAM, microSD socket
Communications Interface	RJ45 Ethernet (100-Base-Tx) port with 802.3at PoE

Software / Logical specification

Number of Transceivers	1 TRX / 8 timeslots
Supported timeslot configurations	CCCH, CCCH+SDCCH/4, SDCCH/8, TCH/F, TCH/H, PDTCH
Back-haul (Signaling)	A-bis according to TS 08.58 and TS 12.21, encapsulated over TCP/IP
Back-haul (voice)	RTP/UDP/IP with FR/EFR/AMR payload according to IETF and ETSI specs
Ciphering	A5/1, A5/2 and A5/3
GPRS/EDGE	GPRS-only PCU with Gb-over-IP interface
Max. concurrent calls	14 (TCH/H on 7 timeslots)
Max. simultaneous SMS	60 (7*SDCCH/8 + 1*SDCCH/4)
Operating System	Embedded Linux (Poky based)

Available Options / Configurations

Hardware Options

- Clocking: VCTCXO / OCXO / GPS disciplined
- External Antenna Duplexer
- PoE power splitter (802.3af compatible)
- G.SHDSL modem for 2-wire copper back-haul

Software Options

- BTS-only (A-bis/IP interface)
- integrated BSC (A/IP interface)
- NITB: Fully autonomous GSM PBX
- GPRS PCU with Gb interface

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