

sysmoBTS 2100 data sheet

sysmocom

systems for mobile communications GmbH



Introducing sysmoBTS 2100

The sysmoBTS 2100 is sysmocom's most powerful and performant small-formfactor IP-backhaul dual TRX GSM BTS for medium coverage outdoor applications. Replacing the popular sysmoBTS 2050 it offers higher output power, integrated cavity duplexers and bigger maximum reception area. Therefore it offers supreme cost efficiency and is suitable for a wide range of applications, including

- Rural cellular networks in lowest-ARPU regions
- Rapidly deployable GSM networks
- Private GSM networks (PBX style use)
- Remote area GSM deployments, utilizing any IP-based satellite back-haul service
- Offshore wind farms, oil rigs
- Onboard coverage on maritime vessels (ferries, cruise ships, commercial vessels)

The IP66 rated sysmoBTS 2100 is intended to be mounted directly to the antenna pole in close proximity of the antennas. This keeps RF cables short and avoids the losses associated with long coaxial cables. Integrated duplexers for both ports reduce the amount of external components.

Benefit from sysmocom's world-class experience in all areas of cellular networks from RAN to core network, permitting flexible integration of other network elements like BSC into the BTS itself.

In addition to operating as a classic BTS in an existing carrier network all sysmoBTS products permit you to run a completely autonomous small GSM network from within the BTS: The NITB (Network In The Box). No external BSC/MSC/HLR/VLR required!

Beyond the BTS

sysmocom not only offers this innovative sysmoBTS 2100 product, but a variety of other products and services, such as

- **sysmoNITB 2G starterkit** complete ready to run 2G solution for lab testing and training
- **sysmoNITB 3.5G starterkit LE** sysmocom's first ready to run 3.5G solution
- **sysmoBSC** Base Station Controller, supporting Abis/IP as well as legacy E1 interfaces
- **sysmoNITB** autonomous self-contained GSM network
- **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** as 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.

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Mechanical / Electrical specification

Dimensions of enclosure (W x H x D)	230 x 344 x 133 mm (measurements excluding pole/wall mount)
Weight	< 8 kg
Protection Rating	IP66 (dust tight, waterproof) outdoor enclosure for wall or pole mount
Temperature Range	Operating temperature: -20 °C to 55 °C Storage temperature: -40 °C to 70 °C
RF Port (N female)	<ul style="list-style-type: none"> • Two ports (dual TRX) • Integrated cavity duplexer, no need for external duplexer! • Single-band GSM 850/900/1800 • Sensitivity: -114 dBm (exceeding 3GPP TS 05.05 pico BTS requirements) • Max. output power: 2 x 40 dBm / 2 x 10W Adjustable in 1dB steps
Maximum Cell Radius	22 km
GPS Input	SMA female connector for GPS-disciplined oscillator
Input Voltage	24 V (DC), power consumption: 43W (2 x 5 W), 65W (2 x 10W)
Cooling	Passive
Communications Interface	Two RJ45 Ethernet (100-Base-Tx) ports

Software / Logical specification

Number of Transceivers	2 TRX / 16 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	30 (TCH/H on 15 timeslots)
Max. simultaneous SMS	124 (15*SDCCH/8 + 1*SDCCH/4)
Operating System	Embedded Linux (Poky based)

Available Options / Configurations

Hardware Options / Accessories

- GPS Antenna
- External IP65 Power Supply
- 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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