

# GSM RBS 2309

The GSM EDGE Micro Base Station

**RBS 2309** is the new 2 TRX GSM EDGE Micro Base Station for both indoor and outdoor micro cell applications. RBS 2309 is a product that will generate fast revenue as it allows easy site acquisition, cost-effective implementation and operation. RBS 2309 is the perfect solution for micro cells unit, small or medium capacity, or in small capacity macro cells when site space is crucial. Expansion is possible up to 6 TRX per cell.

## Satisfies subscribers and increases revenues

Introducing RBS 2309 into the network increases capacity and improves coverage and quality in densely populated areas. It can be deployed practically anywhere and is ideal for permanent micro cells, temporary hot spots and dedicated in-building solutions as it is for complete micro cell layer deployment. This means not only a possibility to serve more satisfied subscribers, but also a possibility for improved Minutes of Use (MoU) per subscriber as outcome.

## Easy site search and acquisition

RBS 2309's small size, discrete design, totally silent operation and well-proven siting flexibility makes site acquisition easy and cost-effective. RBS 2309 is a small yet complete base station. It includes transceivers, switching functionality and transmission. External optional battery back up is possible as well as the option of having integrated antennas within the base station. It is landlord



friendly with an unobtrusive design and is silent in operation. It provides practically endless site opportunities as it can be placed both indoors and outdoors – both for capacity and coverage purposes – with minimal civil works required, thereby reducing site cost.

## Easy operation and maintenance

RBS 2309 makes operation easy and cost-effective thanks to market leading reliability, user friendliness and low power consumption. RBS 2309 is designed for indoor and outdoor operation worldwide. It is convection cooled with no moving parts, is energy efficient and has low need for preventive maintenance. It contains the most advanced software for operation and maintenance available on the base station market today, together with a built-in database where information about installed hardware is stored. A user friendly Man Machine Interface (MMI) is provided. To minimize test-time when RBS 2309 is mounted out of reach, permanent cabling with easy access for the Operation and Maintenance Terminal (OMT) is available. Two different optional external battery backup versions is available; the EBB-06 with approximately 100 minutes battery back-up and the EBB-01 supporting up to ten minutes battery back-up.

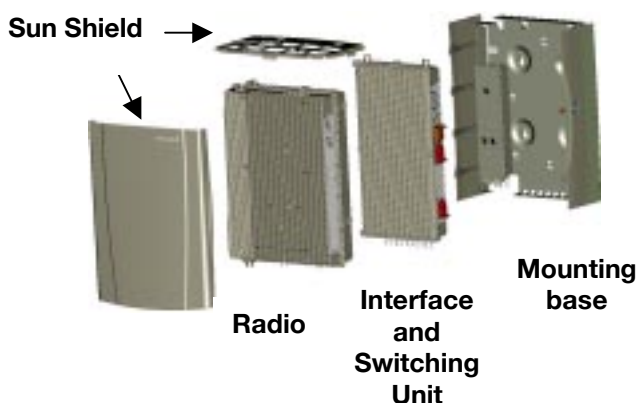


Figure 1. Replaceable units in RBS 2309

### Easy expansion

RBS 2309 makes capacity expansion easy and cost effective thanks to instant and flexible scalability. Expansion to four or six transceivers per micro site with a single Broadcast Control Channel (BCCH) is easily done by adding expansion units. An expansion unit only consists of mounting base, radio and sun shield, i.e. no Interface and Switching Unit is necessary and that makes the installation easier.

With the built-in multi-drop functionality, up to three RBS 2309s can be connected to a single 2 Mbit/s transmission line for cost efficient operation. RBS 2309 supports 1,2 and 3 cells configuration.

### Key benefits

RBS 2309 reduces cost and helps create shorter time to revenues for the operator by providing:

- Easy site search and acquisition
- Easy installation and commissioning
- Easy operation and maintenance
- Easy capacity expansion

### Key features

- Small, lightweight but complete Micro Base Station
- GSM 800/E-GSM 900/1800/1900 operation
- Two transceivers per cabinet
- Scalable up to six transceivers per micro cell
- Reliable
- No moving parts with totally silent operation
- Low need for preventive maintenance
- Supports up to 4 external alarms
- Low power consumption
- Indoor and outdoor wall and pole/mast mounting options
- Extended temperature range with fan unit option
- Integrated or external antennas with multicasting box option
- Integrated Channel Service Unit (CSU), Long Haul, and Multi drop with bypass functionality.
- MINI-LINK™ E Micro options
- AC and DC operation options
- External battery backup options
- Permanent OMT cabling option
- Synthesized and base band frequency hopping
- RX diversity and support for SW Power Boost
- Support for Half Rate, Full Rate, Enhanced Full Rate, Adaptive Multi Rate, 14.4 kbit/s, HSCSD, GPRS (CS1-4) and EDGE.

## Technical specification for GSM RBS 2309

Frequency band:	GSM 800, E-GSM 900, GSM 1800, GSM 1900
Sectors:	1-3
Number of transceivers (per cabinet):	2
Expansion possibility	Expansion to 4 and 6 transceivers possible
EDGE and GPRS	All transceivers supporting EDGE and GPRS
RF power into antenna feeders:	37 dBm for GSM 800/900/1800/1900
Receiver sensitivity:	-110 dBm (TU 50), excluding diversity gain
Transmission interface:	1.5 Mbit/s (T1 100) and 2 Mbit/s (E1 75/120)
Transmission features:	Integrated CSU (T1)
Integrated Long Haul:	(E1/T1 120/100 ohm)
Integrated Multi drop with bypass functionality:	(E1/T1)
MINI-LINK™E Micro options:	(E1 120 ohm)
Dimensions inclusive mounting bracket with external antennas (w*h*d):	433 x 610 x 270 mm (17 x 24 x 10.6 in.)
Volume (inclusive mounting bracket):	< 50 liters
Weight Master (inclusive mounting bracket):	< 40 kg (90 lbs)
Weight Extension (inclusive mounting bracket):	< 31 kg (71 lbs)
Power supply:	100-127/200-250V AC, 50/60 Hz -48V DC
Power consumption (average without heating):	145 W
Optional optimized external battery backup (EBB-01):	10 minutes
Optional long external battery backup (EBB-06):	100 minutes
Operating temperature – With AC supply:	-33°C – +45°C (-27°F – +113°F)
– With fan unit option:	-33°C – +55°C (-27°F – +131°F)
– With DC supply:	-15°C – +45°C (-5°F – +113°F)
Weatherproof:	IP 55, Enclosure type 3R class
Antennas	External / integrated sector / integrated omni