GSM-EDGE Superfemto

PRODUCT SHEET

nuRAN™ WIRELESS
Reaching Everyone, Everywhere

GSM-EDGE Superfemto

- **Lowest-cost GSM solution on the market**
- **Adapts to any network topology**
- **Easy to install and configure**
- **BTS, BSS, or network-in-a-box in a single device**

REACHING EVERYONE, EVERYWHERE

Reaching new subscribers is becoming more and more challenging, as only the most remote locations and lowest-ARPU subscribers remain uncovered. Consequently, operators seeking expansion face low-ROI business cases. That was before the GSM-EDGE Superfemto. NuRAN's highly integrated picocell solution dramatically decreases both CAPEX and OPEX, turning even the most challenging sites into profitable deployments.

SIMPLE TO DEPLOY

The GSM-EDGE SuperFemto supports GSM, GPRS, and EDGE in a variety of logical channel combinations, adapting to traffic requirements and optimally exploiting radio link resources.

Deploying a radio access network (RAN) through the help of a GSM-EDGE SuperFemto only requires minimal infrastructure as backhaul communications are performed through Ethernet, leveraging existing IP networks. Network planning is also made much simpler through the GSM-EDGE SuperFemto's network listening capability, which allows identifying neighbouring cells and measuring their signal strengths.

The GSM-EDGE SuperFemto comes in several band options: dual-band Euro (900/1800), dual-band US (850/1900), and quad-band (quad-band version not CE compliant).

APPLICATIONS

- In-building coverage
- Offshore platforms & ships
- Private networks
- Network-in-a-box

FLEXIBLE SOLUTION

The GSM-EDGE Superfemto may be deployed as a radio access solution for various network topologies. It can be used as a standard BTS and connect to a centralized BSC; it can run as a Base Station Subsystem (BSS); or it can act as a network-in-a-box, directly connecting to a PBX and internet.

SPECIFICATIONS

Analog

- Band support: dual-band Euro, dual-band US, or quad-band
- Operating frequencies:

Band	Reception	Transmission
850	824–850 MHz	869–895 MHz
900	880–915 MHz	925–960 MHz
1800	1710–1785 MHz	1805–1880 MHz
1900	1850–1910 MHz	1930–1990 MHz

- Network monitoring:
  - RF activity scan
  - BSIC decoding

- Performance: Superior to GSM 05.05 (picocell profile)
- Maximum output power:

Band	GMSK	8PSK
850	22 dBm	18 dBm
900	22 dBm	18 dBm
1800	25 dBm	20 dBm
1900	25 dBm	20 dBm

- Gain range: 10 steps
- Clock accuracy: < 0.1 ppm
- Oscillator type: VCTCXO or OCXO
- Long-term correction: synchronization on macro/micro BTS through network monitoring.

Channel support

- Traffic:
  - TCH/F + FACCH/F + SACCH/TF
  - TCH/H(0,1) + FACCH/H(0,1) + SACCH/H(0,1)
- Beacon:
  - FCCH + SCH + BCCH + CCCH
  - FCCH + SCH + BCCH + CCCH + SDCCH/4(0..3) + SACCH/C4(0..3)
  - SDCCH/8 (0..7) + SACCH/C8(0..7)
- Packet switching:
  - CS-1 to CS-4 encoding
  - MCS-1 to MCS-9 encoding
- Speech format: AMR, HR, FR
- Encryption: A5/1, A5/2, & A5/3

Physical interfaces

- Antenna type: dual port, internal (PCB), or external (SMA)
- Traffic and control: 10/100 Mbps Ethernet RJ45
- Status indicator: LEDs ×2

Logical interfaces

- Abis over IP
- A over IP & Gb
- SIP/RTP & Gi (internet)

Electrical

- Power consumption: less than 13 W
- Input voltage: 5 VDC

Mechanical

- Approximately 100 mm × 160 mm × 60 mm (W×H×D)

Environmental

- Operating temperature: 0 °C to 45 °C
- Storage temperature: –40 °C to 70 °C
- Humidity: 90%, non-condensing
- Cooling: passive

Compliance

- 3GPP TS 04.04
- 3GPP TS 05.02 — 05.05
- 3GPP TS 05.08
- 3GPP TS 05.10

NuRAN Wireless products are constantly being improved; therefore, NuRAN Wireless reserves itself the right to modify the information herein at any time and without notice.

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