

Nokia Siemens Networks Flexi Multiradio BTS – All-purpose Flexi BTS featuring 3 technologies in 1



This multi-standard base station offers unique site benefits and paves a smooth path to LTE in both paired and unpaired spectrum.

It takes efficient sites to keep pace with persistent mobile traffic growth. Our new Multiradio BTS paves an evolutionary path to unprecedented performance and spectral efficiency.

Mobile broadband has finally arrived with a compelling DSL-like user experience.

This advanced hardware is ready for software upgrades to EDGE evolution, HSPA evolution, and LTE with common IP/Ethernet transport.

Boosting efficiency and improving users' experience

With data traffic increasing exponentially and costs spiraling, operators must keep pace, improve efficiency, and cut the per-bit cost of network equipment. Our solutioneers have developed a single hardware platform for multiple technologies that does all this and more. Flexi Multiradio BTS features software-powered radio and transport capability, affording you the opportunity to step up from a voice-

optimized network to IP-centric and flat architecture anytime you wish. Not only will you benefit from more efficient network operations, your peerless BTS platform will help you drive down OPEX, contain CAPEX, and secure your investments for many tomorrows to come.

Unrivaled in integration density

GSM/EDGE, WCDMA/(I-)HSPA, and LTE – our all-in-one Flexi Multiradio BTS offers all three. And it is brought to you by the leader in both baseband (BB) and radio frequency (RF) technology:

- Multiband-enabled and ready for LTE processing technology, the baseband is a multimode solution that handles GSM/EDGE, HSPA and LTE
- The RF module's multicarrier, multi-standard power amplifiers allow you to build BTS sites at lowest cost and take an evolutionary path to high capacity

Our integrated, three-sector RF module handles all 3 technologies concurrently and resides in a single 25-liter unit with 3x60W output power. And that level of integration density is unequalled in the industry.

Our Flexi base stations leave such a small footprint that you can use them to build the world's smallest macro BTS site.

Environmentally responsible

Energy efficiency is another big bonus. Our Flexi base station's design dramatically reduces power consumption. The first Flexi version draws as much as 70% less power than conventional systems. What's more, Flexi Multiradio BTS will be even more economical, adding another 40% cut to the energy savings equation.



Flexi 3-sector RF module

Our solutioneers weren't satisfied with simply setting new benchmarks for energy efficiency, so they enabled the introduction of renewable energy sources such as solar panels and wind turbines in real-world deployments.

Cost-efficient from front to end

Flexi BTS is scalable, modular, lightweight, and compact. Its field-proven design affords you more installation options – you can mount it on walls, poles, and even out of sight. All modules are IP65-compliant, and rugged enough for outdoor use without needing shelters or air-conditioning. Distributed architecture, with the RF module or a remote radio head mounted close to the antenna, eliminates feeder losses. With all these advantages, you can acquire precisely the sites you need and operate them most cost-effectively. One technician can easily carry and install all modules, so the cost of installing Flexi Multiradio BTS is also far lower.

With IP/Ethernet connectivity built in, Flexi Multiradio BTS offers cost-effective, direct interfaces to hybrid and full-packet backhaul networks. And because these interfaces are integrated in the system module, it is affordable software rather than costly hardware that charts a smooth evolutionary course towards IP/Ethernet transport.

Flexi Multiradio BTS lets you capitalize on the enhanced efficiency of flat, all-packet network architecture and the topology of LTE networks available today with HSPA terminals. Even if you are dealing with very high traffic loads, Flexi Multiradio BTS has all the answers. It supports flat I-HSPA architecture, with the shortcut across the user plane, direct from the BTS to the Nokia Siemens Flexi ISN cutting latency and costs.

Our NetAct OSS, a multi-technology and multi-vendor platform, gives you a wide range of flexible solutions to choose from, all of which make the best of software-defined radio and transport capabilities.

The 1Gbps baseband is also LTE-ready and future-proof. What's more, software-driven evolution will not adversely impact Flexi Multiradio BTS hardware. Fewer site visits, effective obsolescent hardware management, and far less logistical effort add up to make Flexi a very cost-effective solution indeed.

From anywhere to LTE

While GSM traffic continues to surge, and vendors and operators are busy extending HSPA capacity and coverage, the next technology for even higher spectral and network efficiency is already on its way. As standardized in 3GPP Release 8, LTE will deliver data at speeds ranging up to 173 Mbps (MIMO 2x2). Designed to support several carrier bandwidths in discrete increments from 1.4 to 20 MHz, LTE is better equipped to accommodate multiple technologies.

Flexi Multiradio BTS also supports the evolutionary trajectory of EDGE and HSPA. EDGE is sure to attain new performance levels, for example, with Dual Carrier and EGPRS-2 software features which together enable speeds up to 1.2 Mbps and lower latency. HSPA evolution, as standardized in R7 and 8, will enable higher peak rates, lower handset power consumption, and faster call setup.

Factoring a wide range of 3GPP features into your networking equation, Flexi Multiradio BTS is ready for every evolutionary advance. And all it takes is nothing more complicated than a simple software upgrade.

At the forefront of mobile broadband with Flexi Multiradio BTS

Flexi Multiradio BTS delivers highest mobile broadband performance at lowest operating cost. And it does this now with GSM/EDGE and HSPA, and soon with LTE and any combination of all three.

Technical data

Installation options	Modular base station for indoor and outdoor installation; floor, wall, pole, mast mountable; supports distributed and feeder-less site setups
Frequency bands	Flexi Multiradio BTS is geared to support multiple paired and unpaired bands: 700, 800, 850, 900, 1800, 1900, 1700/2100, 2100, 2300 and 2600 MHz. Availability depends on market and operator requirements.
Maximum capacity	Up to 6+6+6 GSM or 4+4+4 WCDMA or 1+1+1 LTE at 20 MHz or flexible combination of the above technologies in concurrent mode. For higher capacity several modules can be deployed on a single site.
Multi-radio configuration	1 Flexi 3-sector RF module + 1 system module for GSM/EDGE + 1 system module for WCDMA/HSPA and LTE. Remote Radio Head (RRH) solution also supported.
RF power amplifier technology	Multicarrier power amplifier (multi-standard)
Height x width x depth	133 x 447 x 560 mm per module, indoors and outdoors. Fits in any 19" rack.
Volume net	25 liters per module
Weight	25 kg per module
Operating temperature range	-35 °C to +55 °C
Power supply	40.5 – 57 VDC, 184 – 276 VAC with power module
Typical power consumption	790W for combined GSM and WCDMA site
Output power	240W per RF module or 40W + 40W per Remote Radio Head (RRH)
Ingress protection class	IP 65

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