OctBTS 3500

Dual SDR Small Cell Platform

Key Features

- Small form factor
- Dual 2 x 2 MIMO radio sectors independently support any waveform
- Pre-packaged solutions for GSM, HSPA, CDMA2000, and LTE - FDD/ TDD
- Up to 32 3G users per channel
- Up to 30 / 12 Mbps LTE throughput per channel
- Fast frequency agility
- Wi-Fi local coverage

OCTBTS 3500 Applications

- Outdoor small cell base stations with full mobility and extended range
- Deployable wireless networks for Emergency, Public Safety, and Tactical use
- Man-portable , vehicle-mounted, and airborne base stations for public safety and tactical use
- Embedded communications systems on UAVs and remotely-controlled vehicles
- Custom waveforms and mesh networks
- Portable network analyzers and UE testers
- FlexiCell self-contained network in a box
- Enterprise small cell base station

Multi-Mode Dual-Sector Base Station

The OCTBTS 3500 is a dual-sector software defined base station platform that supports any combination of GSM, UMTS/ HSPA, CDMA2000 or LTE - FDD/ TDD sectors, or custom waveforms. The OCTBTS 3500 is a perfect fit for applications requiring small size, low power consumption, and exceptional frequency agility. OEMs can use the platform to implement complete systems including dual-mode outdoor small cell base stations and specialized embedded radio systems.

The OCTBTS 3500 platform incorporates Octasic's flexiPHY GSM, UMTS/ HSPA, and LTE- FDD/ TDD software, and is pre-integrated with a range of commercial Layer 2/3 protocol stacks from leading vendors. OEMs can leverage the complete solution to deliver high-performance base stations offering their own differentiating features, while reducing development time, cost, and risk. OEMs also have the option to integrate their own Layer 2/3 stack, or to implement fully custom waveforms using Octasic's Opus Studio development environment.

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Full Featured Base Station Platform

Platform Description

The OCTBTS 3500 includes all network interface, packet processing, baseband processing, and low-power RF functions. The platform integrates dual OCT2224W baseband SoCs and dual 2X2 MIMO transceivers to simultaneously support two air interfaces, and a Freescale i.MX6 ARM control/application processor.

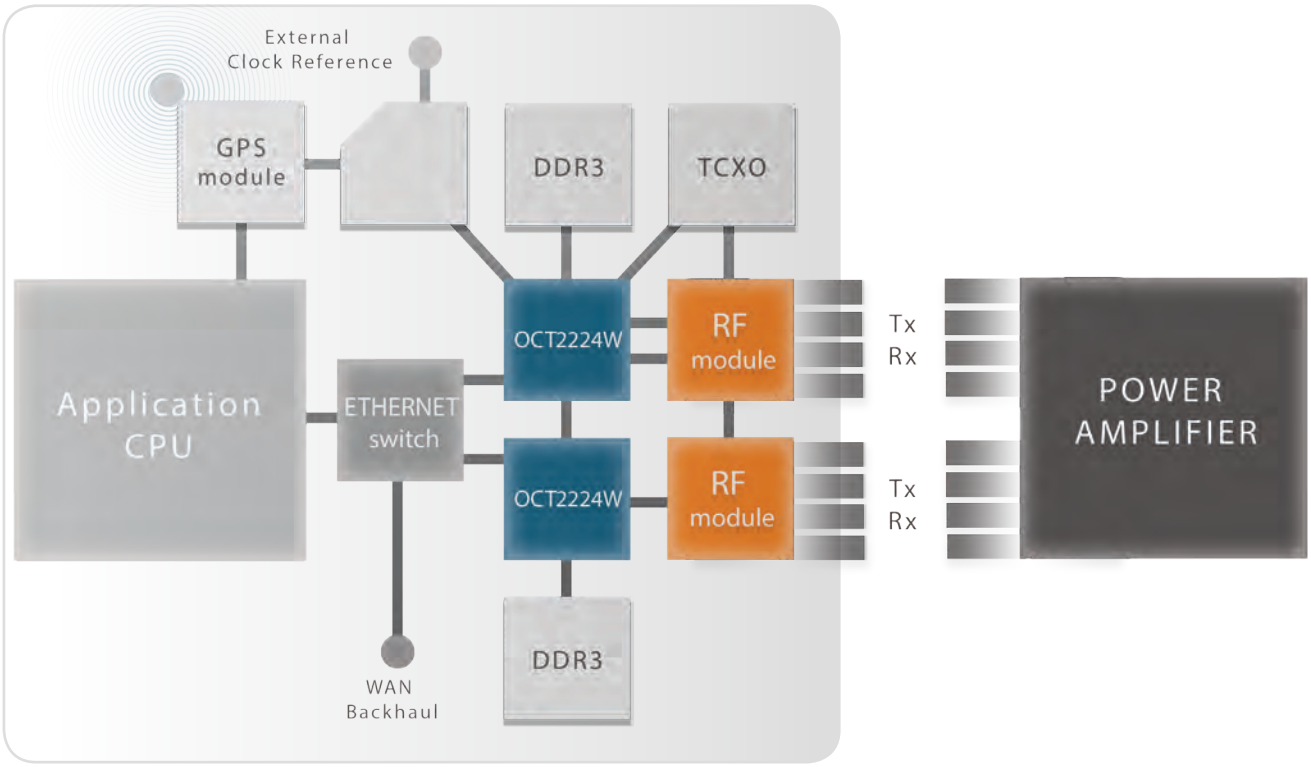
The OCTBTS 3500 also includes a Wi-Fi module to offer local Wi-Fi services in the vicinity of the base station.

From Platform to System

Octasic has already integrated flexiPHY with Layer 2/3 software from leading vendors, including Aricent and Radisys, saving months of development work.

OEMs supply their own RF front ends (power amplifier, duplexer, and if necessary, low-noise amplifier), power supply, and packaging, as well as any necessary software applications.

OCTBTS 3500 Board



Extended Environmental Performance

The OCTBTS 3500 is designed for outdoor applications and challenging environments.

Power consumption is approximately 18 Watts for the base station without a power amplifier, making it ideal for power-efficient designs and convection-cooled applications. The included heat spreader makes it easy to mount the platform onto a heat sink or other heat dissipating surface. In addition, the OCTBTS 3500 is equipped with an Environmental Management IC (EMIC) that permits start-up and operation at ambient temperatures below 0° Celsius.

Software for All Standards

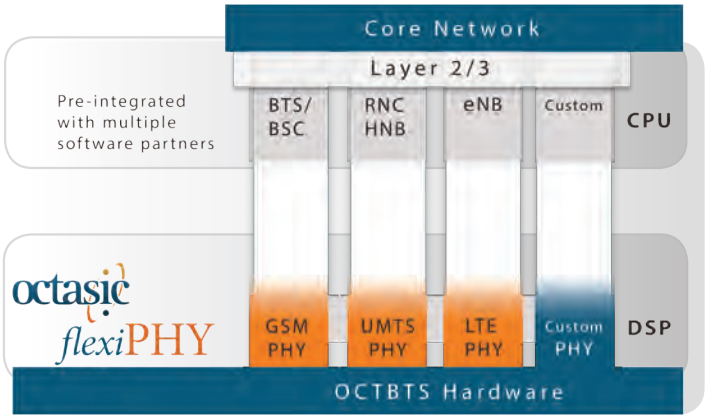
Software Solution

Users of the OCTBTS 3500 have access to integrated hardware/software packages. The OCT2224W runs Octasic's flexiPHY modem software, while the ARM processor runs the Layer 2/3 software.

Software solutions are available for a range of air interfaces including GSM/EDGE, UMTS/HSPA, LTE and CDMA2000.

Applications Support

For autonomous operation the OCTBTS 3500's ARM i.MX6 CPU application processor can also support a complete core network. Features of the i.MX6 facilitate customer-specific capabilities such as video processing, encryption, or other proprietary functions.



Complete SDR Development Environment

High Performance SDR Platform

The OCTBTS 3500 is a fully-programmable SDR base station platform. It supports standard cellular air interfaces, as well as proprietary waveforms, over a wide range of frequencies and channel bandwidths.

The OCTBTS 3500 offers a range of features designed to optimize the performance of base stations and radio systems, including:

- Each transceiver/baseband combination can be configured as an independent radio sector.
- Hardware acceleration blocks (HAB) in the OCT2224W SoCs.
- Frequency agility under software control from 400 MHz to 3 GHz, with a frequency tuning time of 25 micro-seconds.
- Support for vehicular-speed mobility with macro base station style channel estimation and Doppler frequency shift correction.

Development Environment

Octasic provides a complete set of development tools for customers wishing to integrate their own Layer 2/3 software, or develop their own PHY layer and waveform code, including:

- Opus Studio integrated development environment (IDE)
- OCTBTS Evaluation and Development Kit (hardware and software)
- OCT2224W board support package (drivers)
- Source code licenses for flexiPHY

If you are interested in custom SDR development on the OCTBTS 3500 platform, please contact Octasic for further details.

OCTBTS 3500 Technical Description

Transceiver Specifications

Number of simultaneous bands	2
MIMO Support	2 x 2 (each sector)
Duplexing	TDD and FDD options available
Frequency of operation	400 MHz to 3 GHz (other options also available)
Tuning time	25 micro-seconds
Channel sizes	1.4, 3, 5, 10, 20 MHz
Airlink support	GSM/EDGE, UMTS/HSPA, LTE - FDD/ TDD, and CDMA2000 standards, as well as custom waveforms
RF Compliance	36.104 (E-UTRA), 25.104 (UTRA)
RF Output Power	5 dBm
Rx Noise Figure	5.5 dB
RF Connectors	50 ohms, SMP, full detent, edge mount

Digital Section Specifications

DSP	Dual Octasic OCT2224W Baseband SoC
CPU	Freescale i.MX6 ARM with 2GB DDR3
CPU Operating System	Linux version 3.0.35
Memory	1GB or 4GB NAND flash

Interface ports

Network Interface	Ethernet 10/100/1000 Base T; 802.1 VLAN support
Management Ports	1 x USB; 1 x RS-232
Synchronization sources	GPS (on-board), NTP, SyncE, external reference (1 pps – 10 MHz)

Mechanical, Power, Environmental

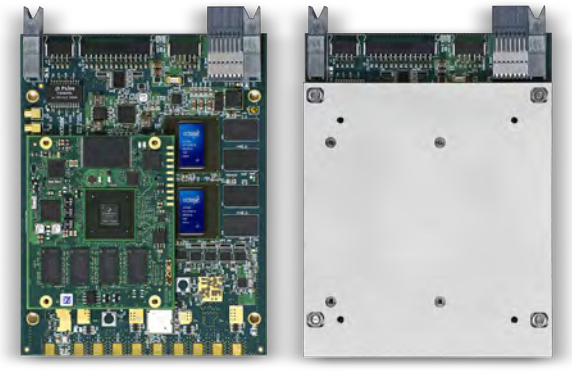
Size	100 mm x 130 mm (3.94 x 5.12 inches)
Supply Voltage	9 V – 14.4 V
Power Consumption (typical)	18 W
Operating Temperature	0° C – 75° C (heat spreader case temperature)

Options

Wi-Fi Module (for local Wi-Fi coverage)

WLAN IEEE802.11 11a/11b/11g/11n

2.4 GHz and 5 GHz



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