Parallel Wireless CWS-111 Outdoor Hardware Data Sheet

CWS-111

Multi-mode (3G, 4G, Wi-Fi) multi-band base station with integrated flexible backhaul (including wireless mesh)

Key Features

- Leverages the same silicon for 3G and 4G
- 3GPP compliant
- SON-based interference mitigation
- Self-configuring, self-optimizing, and self-managing via HetNet Gateway

Key Benefits

- Cost-effective, resilient coverage outdoors and indoors
- Lower overall TCO
- Flexibility in deployment: fewer sites; sites that can support multiple sectors

Overview

The Converged Wireless System CWS-111 is a software-defined – multi-mode – multiband base station. It supports 3G, 4G, and Wi-Fi and integrates flexible backhaul (including wireless) all in the same form factor.

The CWS-111 is available in a low power solution and a high power solution. The high power solution requires the addition of a Local Radio Head and an RF Filter module. This design approach helps to achieve the right level of system flexibility and attractive economics for Service Providers to deliver variants for a wide-variety of deployments with the lowest cost/unit coverage ratio. The innovative design economically supports 3G and 4G, backhaul and a higher power output resulting in the following benefits:

- Larger coverage area with one base station
- Enhanced in-building penetration with down tilted antennas
- A true wireless broadband level of service enablement for the subscribers with more data throughput

Both, the low and high power CWS-111 is configured and managed by the Parallel Wireless HetNet Gateway (HNG). The CWS can be deployed and maintained without any specialized staff. The HNG makes the CWS nodes self-configurable, self-optimizing, provides resilience, and enables meshing between the nodes using licensed or unlicensed spectrum.

The CWS base supports Wi-Fi, 3G (WCDMA) and 4G(LTE) in the same form factor, which helps drive the overall cost down resulting in:

- Sites that can support multiple technologies → fewer sites
- Support for neutral host deployments at much lower cost than traditional DAS system due to flexible backhaul capabilities and cloud based real-time orchestration.

Key Features and Capabilities

- 3G, 4G/LTE, and Wi-Fi
- Integrated flexible backhaul: LOS and nLOS; Fiber/Ethernet/LTE, multi-radio multi-point-to-multi-point wireless mesh

- 3GPP compliant across all components
- 3GPP compliant “Plug-n- Play” security
- SON-based interference mitigation
- Carrier-grade hardware
- Low power consumption
- Software-enabled remote diagnostic to detect, monitor, and alarm

Deployment Options

CWS-111, an outdoor product series node, can be attached to any street furniture and is pre-assembled and pre-configured. *Recommended applications*:

- To improve coverage (including larger coverage area and improved in-building from zero bars to 4 bars) and capacity in high density urban environments
- To provide low-cost coverage in rural areas
- For general-purpose rugged outdoor and indoor wireless LAN

CWS-111 Base Specifications at a Glance

Architecture	**High-capacity platform for cost-effective, resilient coverage**
Flexibility	Virtualized design: functions based on software are not coupled to hardware: • Self-configuring • Self-optimizing • Self-healing • Multi-radio backhaul mesh
Air Interface	3GPP Release 9 compliant
Software Features	• QoS based mesh routing • IPsec • SON resource control
Timing Support	Built-in GPS, using external antenna
Antenna Type	Connectors for long haul link support with high gain/narrow beam antenna & omni/sectored antenna
Resilience	Full hardware and software redundancy, as well as high-availability software techniques
Temperature	Weatherproof fanless outdoor enclosure (-33 °C to +50 °C)
Interference management	Fully automatic via HetNet Gateway

Enclosure	IP67 Enclosure

CWS hardware family is designed to comply with these standards (in progress):

Regulatory and Compliance	
Ingress Protection Class	Outdoor IP67 IEC529, Mil-Std-810f ("Dust tight", "Immersion")
Safety & Environmental	EN 60 950-22 / UL 60950 / CSA C22.2 RoHS Directive 2002/95/EC Directive 1999/519/EC, EN 50383, 50384
Radio & EMC Compliance	FCC Part 27 FCC Part 90 2004/108/EC R & TTE directive 1999/5/EC EN 55022 Class B EN 55022 Class B ETSI EN 301 489-1 V1.9.2 ETSI EN 301 489-4 V1.4.1 ETSI EN 301 489-23 V1.5.1 ETSI EN 201 468 V1.3.1 ETSI TS 125 113 V10.2.0 ETSI EN 301 908-1 V5.2.1 ETSI EN 301 908-3 V5.2.1 ETSI EN 301 502 V9.2.1
CE Marking	93/68/EEC 2006/95/EEC

Note: Current and future features are listed.