

IPWireless UMTS TD-CDMA V5 Node B™ Base Station

Features and Benefits

Modular Architecture: The IPWireless V5 Node B™ is a modular architecture supporting one to three sectors of cellular deployment. The digital shelf consists of one control card, up to three sector cards and an optional Universal Gateway Card. Each sector card controls one radio shelf. The radio shelf can be located close to the antenna or up to 500 meters from the digital shelf using a CPRI fiber interface, eliminating the RF cable loss. Individual sector cards and radio shelves are field replaceable without affecting other sectors in the NodeB.

Large Coverage: The radio shelf contains two complete transmit/receive chains for both downlink transmit diversity and uplink receive diversity for increased radio coverage. The dual RF chains support Multiple Input Multiple Output (MIMO) for increased throughput capacity. Transmit power up to 40 dBm (10 Watts) per transmit port provides wide area coverage.

High Data Throughput: The V5 Node B provides sector peak throughput up to 28 Mbps on the downlink and 8 Mbps on the uplink for 10 MHz TDD; and 21 Mbps on the downlink and 9 Mbps on the uplink for 5+5 MHz FDD. For TDD operation, the time slot split can be adjusted to match the operator's network traffic profile. Adaptive modulation and coding are used to match the data throughput with the channel condition, with the aim of delivering the highest data throughput to the end users.

Remote Management: The operator can remotely configure the Node B, including the upgrade of firmware and software via a web browser based Element Manager (EM). The EM also supports performance monitoring and fault management which reports alarms and events.

Interference Mitigation: Adjacent cell interference limits cellular network performance at the cell overlap areas. The V5 Node B implements advanced Inter-cell Interference Mitigation (IIM) techniques, using advanced signal processing to cancel interference to increase cell coverage and data throughput. IIM makes an N=1 frequency reuse system behave like an N=3 without adding frequency assets, greatly increasing the system spectral efficiency and cell-edge capacity.

Frequency and Bandwidth Agile: The V5 Node B operates in both 5 MHz and 10 MHz carriers on the same hardware platform. Selection of carrier bandwidth is done by a

simple configuration change in the Element Manager. Operators who have access to larger bandwidth can use wider carrier to deliver double data throughput without adding NodeB equipment. Both FDD and TDD radio shelves are available. The radio shelf is tunable across the supported frequency range. Channel filters may be added for operators who demand more stringent radio emission specifications than the standard requirements.

Field Upgradable: The V5 NodeB is field upgradable to support future wireless standards including 3GPP Long Term Evolution (LTE). The digital shelf contains a spare slot for an optional Universal Gateway Card, allowing the NodeB to connect directly to an IP core network.

Specifications

IPWireless V5 Digital Shelf Specifications

Approvals	CE approval for EMC. CSA, UL and CB approval for safety
Backhaul facility	100/1000BaseT Ethernet. Optional upgrade to 8x E1
LMT Interface	10/100BaseT Ethernet
Alarm Interfaces	2 Alarm Outputs, 5 Alarm Inputs
Radio Unit Interface	Baseband Analog and/or CPRI optical fiber Connectors LC Duplex - MMF 50/125um \leq 500m 65/125um \leq 300m
Universal Gateway Card (Optional)	Core network interface: 2x 100/1000BaseT Ethernet Up to 220 Mbps combined uplink and downlink throughput Individual license keys for up to 6 sectors
Ambient Temp Range	-20 to +55 °C (-4 to +131 °F)
Environmental Specification	ETS300-019 Class 3.1E
Size – include front brackets	19" rack mount (4U) - H 180 mm x W 485 mm x D 310mm
Weight	13 kg (maximum)
Power consumption	200 Watts maximum
Voltage / Current	DC -48 Volts nominal, 4A maximum
GPS Interface	GPS – 50 Ohm nominal, Type N Female
Upgradeability	Software and Firmware upgradeable from Element Manager



IPWireless V5 RF Shelf Specifications

Approvals	CE approval for EMC. CSA, UL and CB approval for safety
RF Power Output	+40dBm (+/-1dB) per antenna port
AWGN Receive Sensitivity (with receive diversity)	-115dBm (+/- 2dB) / code for 7.68Mcps -118dBm (+/- 2dB) / code for 3.84Mcps
Antenna Connector Type	Connector 1 – Main Tx/Rx, 50-ohm nominal 7/16 DIN Connector 2 – Diversity Tx/Rx 50-ohm nominal 7/16 DIN
Frequency range (Select on order)	1900 – 1920 MHz TDD 2010 – 2025 MHz TDD 2053 – 2082 MHz TDD 2496 – 2690 MHz TDD 872 – 876 MHz Rx / 917 – 921 MHz Tx FDD (8U) 698 – 716 MHz Rx / 728 – 746 MHz Tx FDD 776 – 798 MHz Rx / 746 – 768 MHz Tx FDD
Bandwidth	5 or 10 MHz TDD OR 5 + 5MHz or 10+10 MHz FDD
Duplex Method	TDD or FDD
Ambient Temp Range	-20 to +55 °C (-4 to +131 °F)
Environmental Specification	ETS300-019 Class 3.1E
Size – include front brackets	19" rack mount (5U) - H 222 mm x W 485 mm x D 380mm 19" rack mount (8U) - H 356 mm x W 485 mm x D 380 mm for 872 MHz
Weight	25 kg (maximum) 30 kg (maximum) for 872 MHz
Power consumption	450 Watts (typical) 600 Watts (maximum)
Voltage	DC -48 Volts nominal, 12.5A maximum
Upgradeability	Software and Firmware upgradeable from Element Manager



Ordering Information

To place an order, please contact IPWireless regional sales.

Americas – americassales@ipwireless.com

EMEA – emeasales@ipwireless.com

Asia Pacific – apacsales@ipwireless.com

About IPWireless

IPWireless broadens the horizon of 3GPP, the world's preeminent mobile standard, to support a range of compelling new applications and untapped global spectrum bands. With its complete end-to-end 3GPP solutions, including chipsets, devices, and complete network solutions, the Company enables mobile operators and other new wireless entrants from the government, consumer electronics, and other sectors, to deliver a new generation of wireless services. The company's proven high-performance mobile broadband solutions have been deployed by a set of marquee customers around the globe in both the commercial and government markets including T-Mobile, New York City's Department of Information Technology and Telecommunications (DoITT), and some of the first 700MHz deployments in the United States. IPWireless' award winning mobile broadcast solutions have been tested by some of the largest mobile operators in the world, and allow device, chipset and network vendors to accelerate their offerings for Integrated Mobile Broadcast (IMB), the GSMA endorsed mobile broadcast standard.



www.ipwireless.com

USA Headquarter

90 New Montgomery Street, Suite 315
San Francisco, CA 94105
USA
+1 415 430 1350

UK R&D Center

Unit 7, Greenways Business Park
Chippenham, Wiltshire SN15 1BN
United Kingdom
+44 (0) 1249 800 100