Cisco BWX 2300 Series Broadband Wireless Access System

WiMAX service providers need low-cost basestations to enhance coverage, fill gaps, and relieve capacity. The Cisco® BWX 2300 Series Broadband Wireless Access System offers uncompromised radio performance at low cost through the use of advanced radio systems. Service providers can easily add capacity and extend service coverage with the assurance of complete compatibility with their current Cisco systems.

Features and Benefits

The Cisco BWX 2300 Series Broadband Wireless Access System offers service providers the following benefits:

- The ability to offer service in uncovered areas at reduced cost
- Added capacity where needed in stadiums, shopping centers, or office buildings
- Multiple-input, multiple-output (MIMO) service with 3 dB beamforming gain for increased coverage and capacity (planned future software release)
- Comprehensive integration with the Cisco Service Exchange Framework, enabling the full range of subscriber management and service control
- A licensed Mobile WiMAX radio access component of the Cisco Broadband Wireless network architecture for a tested, integrated end-to-end system

**Figure 1.**   Cisco BWX 2305 Basestation

Product Architecture

The Cisco BWX 2300 Series uses a two-element antenna and advanced antenna techniques to enhance throughput and capacity in areas where macro-cells are overloaded or where a macro-cell infrastructure is not economically justified.

The Cisco BWX 2305 Broadband Wireless Access System is a key element of the Cisco Broadband Wireless Solution (Figure 1), featuring leading Mobile WiMAX radio access technologies and tight integration with Cisco's proven IP Next-Generation Network transport and service-delivery infrastructures. This open-standards solution is compliant with the Mobile WiMAX specification and the Profile C Network Reference Model and includes a full suite of base stations, antenna systems, access service network gateways, management systems, and customer premises equipment.

Figure 2. Cisco Broadband Wireless Solution
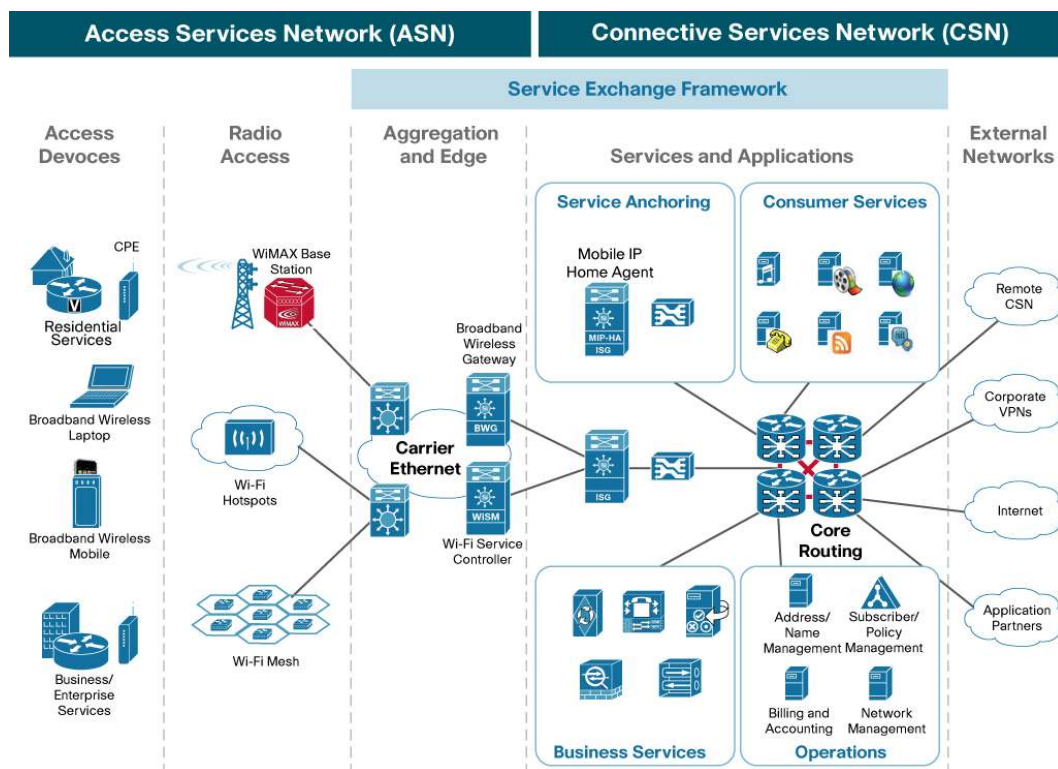
The integration of IP technologies throughout this end-to-end broadband wireless architecture allows service providers to make use of a large body of innovation in IP transport, service control, and application delivery, extending from the core through the access networks to the subscriber devices. Building on more than 20 years of Internet technology innovation, Cisco uses Mobile WiMAX to extend broadband beyond the reach of wired networks.

Product Specifications

Specifications for the Cisco BWX 2305 Broadband Wireless Access System are listed in Table 1.

Table 1. Cisco BWX 2305 Basestation Specifications

Item	Specifications		
Basestation	**2.3 GHz**	**2.5/2.6 GHz**	**3.4/3.5 GHz**
Frequency range	2300–2400 MHz	2496–2690 MHz	3400–3600 MHz
Model number (AC)	2.3-BTS4A-R1	2.5-2.6-BTS4A-R1	3.4-3.6-BTS4A-R1
Model number (+24 VDC)	2.3-BTS4T-R1	2.5-2.6-BTS4T-R1	3.4-3.6-BTS4T-R1
Model number (–48 VDC)	2.3-BTS4F-R1	2.5-2.6-BTS4F-R1	3.4-3.6-BTS4F-R1
Antenna			
Model number (frequency range)	2.3-RFS4N-S1 (2300–2390 MHz)	2.5-RFS4N-S1 (2496–2620 MHz) 2.6-RFS4N-S1 (2595–2690 MHz)	3.4-RFS4N-S1 (3400–3525 MHz) 3.5-RFS4N-S1 (3475–3600 MHz)
Type	2 element, sector, 120°		
Gain	15 dBi typical		
System Parameters			
Access scheme	Orthogonal Frequency Division Multiple Access (OFDMA)		
Duplexing scheme	Time Division Duplexing (TDD)		

Downlink/uplink duplex	32:15 typical		
Channel bandwidth	5 MHz		
Baseband modulation	QPSK/16QAM/64QAM adaptive		
Bandwidth allocation	Dynamic		
Beamforming gain	D/L: 6 dB U/L: 3 dB		
Power control	Forward/reverse, open/closed loop		
TX RF power	20–30 dBm to each antenna element 34–45 dBm EIRP, per antenna element		
Security	PKMv2		
Serviceability	EMS remote operation		
Upgradeability	Software downloads		
Number of users	200/BTS typical		
Backhaul interface	10/100 Ethernet (RJ-45) data/management port		
Mechanical			
Operational temperature	BTS: 0 to 50℃ (32 to 122℉) RFS/Ant: –40 to 50℃ (–40 to 122℉)		
Power consumption (at peak TX power)	325 W	325 W	325 W
Dimension/weight	BTS: 13 x 48 x 37 cm / 11 kg RFS: 41 x 39 x 14 cm / 12 kg ANT: 101 x 21 x 11 cm / 5 kg	BTS: 13 x 48 x 37 cm / 11 kg RFS: 41 x 39 x 14 cm / 12 kg ANT: 101 x 21 x 11 cm / 5 kg	BTS: 13 x 48 x 37 cm / 11 kg RFS: 41 x 39 x 14 cm / 12 kg ANT: 77 x 15 x 8 cm / 4 kg
Regulatory	FCC Part 15-B and Part 27, ETSI EN 302 326-2, EN 301 489-1 and -4, EN 60950-1, UL 60950	FCC Part 15-B and Part 27, ETSI EN 302 326-2, EN 301 489-1 and -4, EN 60950-1, UL 60950	ETSI EN 302 326-2, EN 301 489-1 and -4, EN 60950-1, UL 60950
Certification 	The Cisco BWX 2305 Basestation and Antenna have been designed to be WiMAX Forum compliant. Certification is underway and will be dependent on test lab readiness for the various system profiles.		

- The assumptions used to calculate the above performance values may not represent actual deployment conditions.
- Performance values are subject to change without notice. Please contact Cisco for the latest product specifications.

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Additional Information

For more information about the Cisco BWX 2300 Series Broadband Wireless Access System, contact your local account representative or visit: http://www.cisco.com/go/bwx.

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