

MOTOROLA CANOPY™ WIRELESS BROADBAND

ADVANTAGE™ PLATFORM Subscriber Module (SM)



Meet Aggressive Service Level Agreements for Business and Residential Services

Some service providers need to compete with cable and DSL broadband alternatives. Others are looking to extend their network. The common goal is to deliver reliable, high-quality broadband service that supports bandwidth intensive and latency sensitive services such as residential Voice over Internet Protocol (VoIP), gaming, video content, video surveillance and high throughput data. Motorola's Canopy Advantage™ system provides carrier and private network operators a robust wireless broadband portfolio of products that provide the throughput to compete against cable and DSL alternatives.

Service providers can now offer premium services to Canopy network users. The Canopy Advantage SM provides a 20 Mbps point to multipoint signaling rate with a sustained 14 Mbps aggregate throughput. Advantage system capabilities can be deployed optionally within a network, allowing capacity and throughput increases as demand requires.

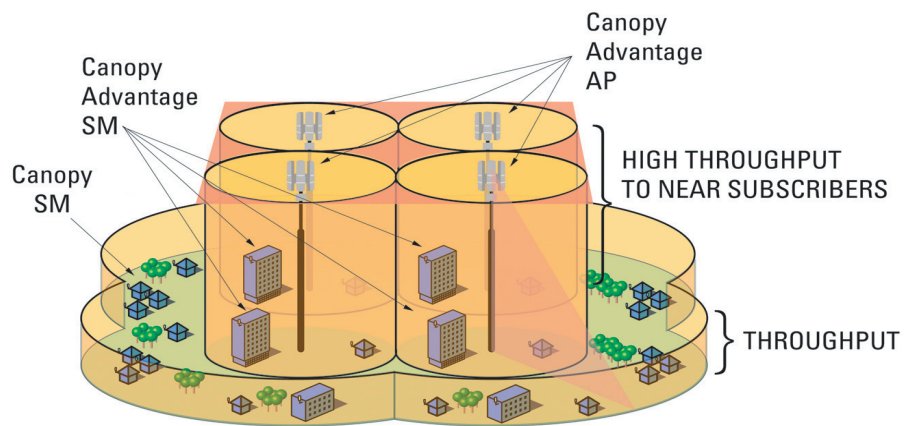
- **Carrier network operators** can offer and provide VoIP, video and high throughput services to customers as an alternative to DSL or T1/E1 services.
- **Private network operators** can support distance learning, video conferencing or high speed data transfer on a private secure network at a fraction of the cost of subscribing to DSL or T1 services.

| Network Application | Business Impact |
|---------------------------|--|
| Urban Carriers | <ul style="list-style-type: none">• Compete with DSL, T1, E1 or cable offerings• Enable customers to sample high throughput for a period before upgrading their service |
| Private Network Operators | <ul style="list-style-type: none">• Build high throughput networks at campus locations that are installed in a day• Deliver payback in a few months when compared with T1/E1 service offerings |
| Rural Carriers | <ul style="list-style-type: none">• Offer high throughput services in urban areas where businesses need an alternative to DSL and T1/E1 services• Create cost effective extension of existing DSL or cable network• Offer subscribers high throughput premium services that are not available in rural areas |

Benefits

- Network Operators can shape bandwidth offerings and provide up to 14 Mbps sustained aggregate throughput to customers located close to the AP. In general, the Advantage SM enables network operators to offer approximately double the throughput to network users at approximately up to the inner half of the range of the Canopy system
- 900 MHz AP network operators can offer 4 Mbps sustained aggregate throughput Non Line of Sight (NLoS) to customers approximately 2 miles from a (range is dependant on conditions)
- Enables network operators to offer premium services using Canopy's advanced bandwidth shaping features:
 - VoIP customers will experience reliable service by prioritizing communication with the Committed Information Rate (CIR) feature
 - Video content and Video Surveillance will benefit from Committed Information Rate (CIR) features
 - All applications will benefit from VLANs which conserve bandwidth and secure data from other users
- Enables business case to offer broadband services to a community
- Enables network operators to offer premium services: VoIP, video, and high speed data
- Enables operators to offer high throughput services and compete with similar services such as DSL, cable and T1/E1
- Compatible with existing Canopy SM investments

DEPLOYMENT VIEW



Motorola's Canopy System

The Canopy platform's flexible product design allows network operators to tailor installations to efficiently meet the bandwidth demand of business and residential subscribers. High throughput services such as video and high speed data can now be offered to network users as an optional upgrade to their broadband service.

As demand for bandwidth continues to grow, Canopy network operators can offer reliable, high throughput services sooner and at favorable prices when compared with wireline alternatives.

| Frequency | High Throughput and Range without Reflector | Standard Throughput and Range without Reflector | High Throughput and Range with Reflector | Standard Throughput and Range with Reflector |
|-------------------------------|---|---|---|---|
| 2.4 GHz @100 mW (ETSI) | 14 Mbps to 0.6 Mi (1 km) | 7 Mbps to 1.2 Mi (2 km) | reflector focuses beam and lowers noise floor | reflector focuses beam and lowers noise floor |
| 2.4 GHz @ 1W | 14 Mbps to 2.5 Mi (4 km) | 7 Mbps to 5 Mi (8 km) | 14 Mbps to 7.5 Mi (12 km) | 7 Mbps to 15 Mi (24 km) |
| 5.1 GHz | 14 Mbps to 1 Mi (1.6 km) | 7 Mbps to 2 Mi (3.2 km) | 14 Mbps to 5 Mi (8 km) | 7 Mbps to 10 Mi (16 km) |
| 5.2 GHz | 14 Mbps to 1 Mi (1.6 km) | 7 Mbps to 2 Mi (3.2 km) | n/a | n/a |
| 5.4 GHz | 14 Mbps to 1 Mi (1.6 km) | 7 Mbps to 2 Mi (3.2 km) | reflector focuses beam and lowers noise floor | reflector focuses beam and lowers noise floor |
| 5.7 GHz @ 1W | 14 Mbps to 1 Mi (1.6 km) | 7 Mbps to 2 Mi (3.2 km) | 14 Mbps to 5 Mi (8 km) | 7 Mbps to 10 Mi (16 km) |
| 900 MHz | 4 Mbps to 20 Mi (32 km) LoS | 2 Mbps to 40 Mi (64 km) LoS | n/a | n/a |

Software Upgrades

New Canopy Subscriber Modules shipping from the factory are capable of being upgraded via software to enable them as Canopy Advantage SMs. These software upgrades will be available as either fixed or floating licenses.



For more information about how the Canopy system can extend your network and services, provide competitive advantage and outstanding ROI, call 866-515-5825 in the U.S. — 800-795-1530 internationally or visit us at www.motorola.com/canopy