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Motorola Wireless Broadband

Point-to-Multipoint CSM 120 Subscriber Module

CSM 120
Subscriber Module

CSM 120 Subscriber Module with optional Passive Reflector Dish

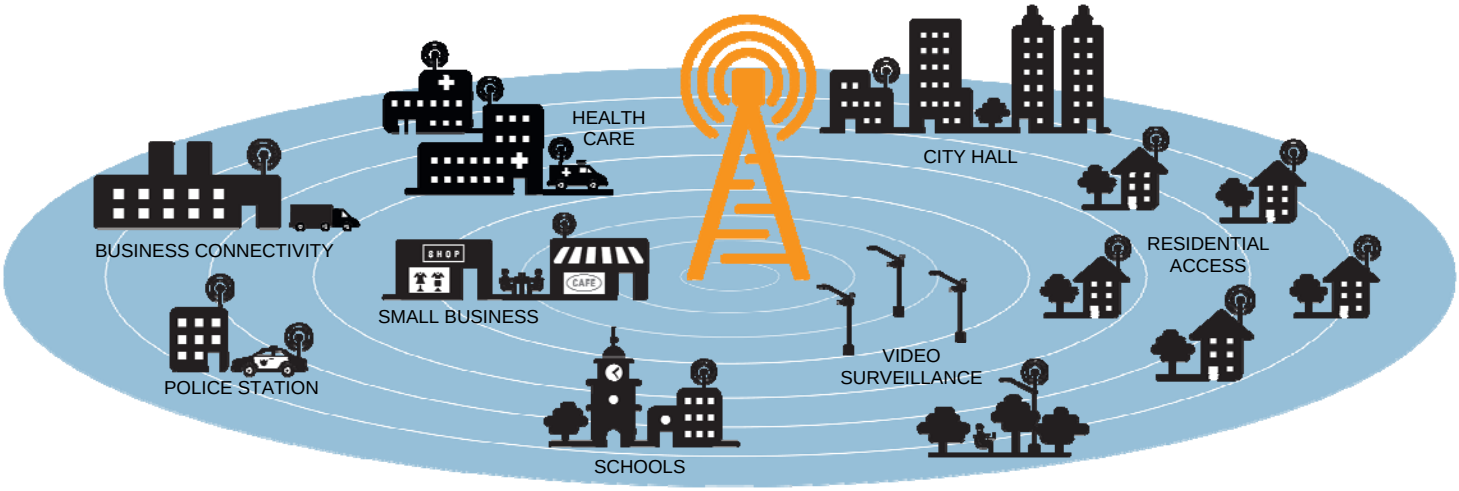
The Motorola Wireless Broadband Point-to-Multipoint (PMP) CSM 120 Subscriber Module is the ideal solution for developing, enhancing and extending advanced broadband networks and services – and for making delivery of high-demand applications like Internet access, voice over IP, video services, and security surveillance much quicker and much less expensive.

Motorola Wireless Broadband products combine field-proven toughness with exceptional performance, security, ease-of-use and cost effectiveness. CSM 120 modules are available with total throughput of up to 7 Mbps for data, video and voice applications. Available in frequencies from 2.4 GHz to 5 GHz, with an array of options and accessories, CSM 120 Subscriber Modules are the right choice for building or extending broadband connectivity for government, business and residential applications.

Why Motorola Wireless Access Network Solutions are Superior

- **Industry Leading Interference Tolerance –** Motorola access network solutions provide an industry leading Carrier to Interference (C to I) ratio and utilize GPS synchronization to mitigate self interference.
- **Fast, Simple Installation –** Access Points and Subscriber Modules have easy to use alignment tools and do not require an equipment room or environment controlled area at the AP tower location.
- **Reliable Hardware Performance Over Time –** Motorola access network solutions perform in harsh weather conditions including heat, cold and moisture. Designed without heaters or cooling fans, Motorola equipment performs with high availability and reliability over time.
- **Proven Throughput Performance –** Performance specifications are statements of actual field performance, not performance in an indoor noise free lab environment.
- **Scalable as Subscriber Base Grows –** GPS synchronization enables operators to build networks that grow with demand as new subscribers are added and network density increases or as operators expand the network into new geography.

PMP Access and Distribution Network



SPECIFICATION SHEET
Point-to-Multipoint 120 Series Subscriber Module

Motorola Wireless Broadband Solutions

Motorola's comprehensive portfolio of reliable and cost-effective wireless broadband solutions together with our WLAN solutions provide and extend coverage both indoors and outdoors. The Motorola Wireless Broadband portfolio offers high-speed Point-to-Point, Point-to-Multipoint, Mesh, WiFi and WiMAX networks that support data, voice and video communications, enabling a broad range of fixed and mobile applications for public and private systems. With Motorola's innovative software solutions, customers can design, deploy and manage a broadband network, maximizing uptime and reliability while lowering installation costs.

CSM 120 Subscriber Modules are compatible with the following Access Points:

- CAP 120
- CAP 130

CSM 120						
FREQUENCY	**2.4 GHz**	**5.1 GHz**	**5.2 GHz**	**5.4 GHz**	**5.8 GHz**	**5.9 GHz**
PERFORMANCE						
Signaling Rate	10 Mbps					
Typical Aggregate Useful Throughput	7 Mbps					
Range Extender	Passive LENS or Reflector Dish available. Must be used within local EIRP restrictions					
Latency	5 - 7 msec					
Mean Time Between Failure	Greater than 40 years					
Modulation Type	High Index 2-level Frequency Shift Keying (FSK) optimized for interference rejection					
Access Method	Time Division Duplexing/Time Division Multiple Access (TDD/TDMA)					
SPECTRUM						
Frequency Range of Band	2.4-2.4835 GHz	5.15-5.25 GHz	5.25-5.35 GHz	5.47-5.725 GHz	5.725-5.85 GHz	5.85-6.05 GHz
Channel Width	20 MHz					
Non-Overlapping Channels	3	3	3	Up to 12	6	11
Channel Spacing	Configurable on 2.5 MHz increments	Configurable on 5 MHz increments				
SECURITY						
Encryption	DES, AES Optional FIPS 197 Certified – 5.1 and 5.9 GHz are DES only					
LINK BUDGET						
Carrier to Interference Ratio (C/I)	~3dB					
Nominal Receiver Sensitivity (dBm typical)	-86 dBm					
Antenna Gain (dBi)	8 dBi	7 dBi				
EIRP	Up to 33 dBm	Up to 30 dBm				
DC Power (typical)	8 W					
ANTENNA						
Antenna Beam Width	3 dB antenna beam width 60 degrees, Azimuth and Elevation					
Horizontal Polarized Option	n/a	n/a	Yes	Yes	Yes	n/a
Connectorized Antenna Option	Yes	n/a	n/a	Yes	Yes	n/a
PHYSICAL						
Temperature	-40° F to +131° F (-40° C to +55° C)					
Wind Survival	118 miles/hr (190 km/hr)					
Dimensions	11.75 in H x 3.4 in W x 3.4 in D (29.9 cm H x 8.6 cm W x 8.6 cm D)					
Weight	1 lb (.45 kg)					
INTERFACE						
Interface	10/100 Base T, half/full duplex. Rate auto negotiated (802.3 compliant)					
Protocols Used	IPV4, UDP, TCP, ICMP, Telnet, HTTP, FTP, SNMP, PPPoE					
Network Management	HTTP, TELNET, FTP, SNMP Version 2c					
VLAN	802.1Q with 802.1p Priority					
CERTIFICATIONS						
FCC ID	ABZ89FC5808	n/a	ABZ89FC3789	ABZ89FT7623	ABZ89FT7630	n/a
Industry Canada Certification Number	109W-2400	n/a	109W-5200	109W-5400	109W-5700G	n/a
CE	DoCs are available at: http://motorola.wirelessbroadbandsupport.com/doc.php					

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