

QUICK LOOK:

Cambium Networks industry-leading 450 platform adds Massive Multi-User MIMO capability with cnMedusa™ technology.

- Throughput of over 450 Mbps in a 20 MHz channel; More than 800 Mbps in a 40 MHz channel
- MU-MIMO with spectral efficiency of more than 50 bps/Hz
- Features smart beamforming to reduce interference





KEY FEATURES

- cnMedusa[™] technology enhances sector capacity by combining a smart beamforming antenna array with multiple RF transmit and receive chains, effectively multiplying available capacity by more than three times.
- Protect your investment in the 450 platform equipment by continuing to utilize existing Subscriber Modules (all 450 platform subscribers work with the 450m and cnMedusa technology)
- SFP port allows for greater deployment flexibility, and AUX port allows for connection of camera or other PoE directly.
- The Limited Version can reduce capital investment until additional capacity is actually required. A 30-day trial of MU-MIMO operation is included, and a simple license key can permanently enable MU-MIMO operation when needed.

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Product Model Numbers		
	Global	No Encryption
Integrated 90° Sector	C030045A101B	C030045A104B
Limited Version	C030045A111B	C030045A114B

Spectrum	
Channel Spacing	Customizable channel selection to 50 KHz raster
Frequency Range	3300–4200 MHz
Channel Width	5, 10, 15, 20, 30 and 40 MHz

Specifications

Interface		
MAC (Media Access Control) Layer	Cambium Networks proprietary	
Physical Layer	8 x 8 Multi-User MIMO OFDM	
Ethernet Interface	100/1000BaseT, full duplex, rate auto negotiated (802.3 compliant), SFP support for 1 Gbps optical	
Protocols Used	IPv4, UDP, TCP, IP, ICMP, Telnet, SNMP, HTTP, FTP	
Network Management	IPv4/IPv6 (dual stack), HTTP, HTTPS, Telnet, FTP, SNMPv2c and v3, Cambium Networks cnMaestroTM	
VLAN	802.1ad (DVLAN Q-inQ), 802.1Q with 802.1p priority, dynamic port VID	

Security	
Encryption	FIPS-197 128-bit AES,
	256-bit AES (Requires Optional License for attached Access Point)

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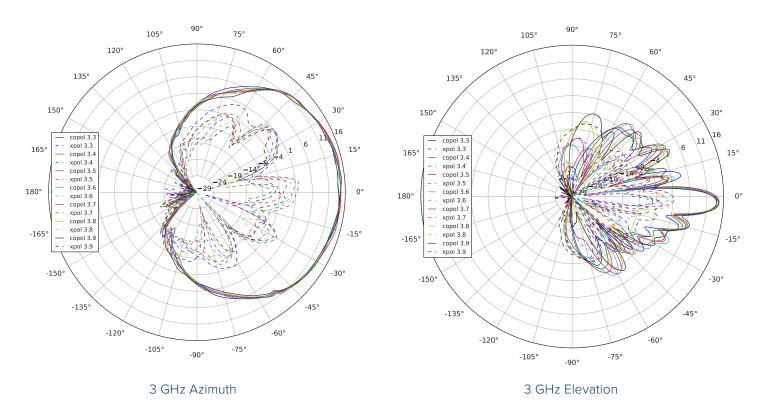
ARO Yes Modulation Levels (Adaptive) MCS Signal to Noise Required (SNR, in dR) 2x OPSX 10 4x 16 GAM 17 6x 64 GAM 24 8x 256 GAM 32 Waximum Deployment Range Up to 64 km (40 miles) 32 Latency 10 ms, typical 32 OBS Synchronization Yes, via Autosync (CMM5 or UGPS) 32 Quality of Service Differere QoS 34 Antenna Beam width - Azimuth 90° integrated sector (duel polarity, H-W, 3dB rolloff), 120° (6dB rolloff) Beam width - Elevation 2° Electrical Downitls, 8° Elevation Beamwidth and Null Fill down to -30° Asia dism Max Tx Power Physical Antenna Connection Maximum Ellop and Lateral and Sector Array Antenna Connection Surge Suppression (with LP) Malian and AUX ports: EN610004-45: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor. Model ≠ C0000065L007B Dispense Surge suppressor. Model ≠ C0000065L007B Dispense Surge suppressor. Model ≠ C0000065L007B </th <th>Performance</th> <th></th> <th></th>	Performance			
Modulation Levels (Adaptive)	Subscribers Per Sector	Up to 238		
	ARQ	Yes		
	Modulation Levels (Adaptive)	MCS	Signal to Noise Required (SNR, in dB)	
	2x	QPSK	10	
Bx 256 GAM 32 Ultimate Sensitivity 94 dBm Percentage Maximum Deployment Range Up to 64 km (40 miles) Percentage Latency 10 ms, typical Percentage GPS Synchronization Yes, via Autosync (CMM5 or UGPS) Percentage Quality of Service Diffserve GoS Percentage Antenna Beam width - Azimuth 90° integrated sector (dual polarity, H+V. 3dB rolloff), 120° (6dB rolloff) Beam width - Azimuth 20° Electrical Downtilt, 8° Elevation Beamwidth and Null Fill down to -30° and -36 dBm Max Tx Power Physical Antenna Connection Integrated Sector Array Surge Suppression (with LPU) MAIN and AUX ports: ENG1000 4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C0000065L007B Do IN port: ENG1000 4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C0000065L007B Bean Time Between Failure 940 years Environmental 40°C 16 60°C (-40°E to 140°E), 100% non-condensing Wind Survival 200 kph (124 mph: 913 N Wind Survival 200 kph (124 mph: 927 N	4x	16 QAM	17	
Maximum Deployment Range	6x	64 QAM	24	
Maximum Deployment Range Up to 64 km (40 miles) Latency 10 ms, typical GPS Synchronization Yes, via Autosync (CMM5 or UGPS) Quality of Service Diffserve QoS Antenna Beam width - Azimuth 90° integrated sector (dual polarity, H+V, 3dB rolloff), 120° (6dB rolloff) Beam width - Elevation 2° Electrical Downtit, 8° Elevation Beamwidth and Null Fill down to -30° hazimum EIRP 452 dBm (or up to maximum allowed by regulation) - achieved by combining 16 dBi Antenna Gain and +36 dBm Max Tx Power* Physical Antenna Connection Integrated Sector Array All N and AUX ports: EN51000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor. Model # C000065L007B DC IN port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor. Model # C000000L114A Mean Time Between Failure 9/10 (10 port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor. Model # C000000L114A Mean Time Between Failure 9/10 (10 port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor. Model # C000000L114A Mean Time Between Failure 9/10 (10 port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor. Model # C000000L114A Mean Time Between Failure 9/10 (10 port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor. Model # C000000L114A Mean Time Between Failure 9/10 (10 port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor. Model # C000000L114A Mean Time Between Failure 9/10 (10 port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor. Model # C000000L114A Mean Time Between Failure 9/10 (10 port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor. Model # C000000L114A Mean Time Between Failure 9/10 (10 port: EN61000-4-5: 10/700us, 4 kV vol	8x	256 QAM	32	
Letency 10 ms, typical GPS Synchronization 7es, via Autosync (CMM5 or UGPS) Quality of Service 05 Antenna Beam width - Azimuth 90° integrated sector (dual polarity, H+V, 3dB rolloff), 120° (6dB rolloff) Beam width - Azimuth 90° integrated sector (dual polarity, H+V, 3dB rolloff), 120° (6dB rolloff) Beam width - Elevation 90° integrated sector (dual polarity, H+V, 3dB rolloff), 120° (6dB rolloff) Beam width - Elevation 90° integrated Sector Array Antenna Connection Integrated Sector Array Antenna Connection Integrated Sector Array De IN port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000065L0078 De IN port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000006L104A Mean Time Between Failure 940 years Environmental 1P67, IP66 Temperature / Humidity 940° to 60°C (40°F to 140°F), 100% non-condensing Weight 940°C to 60°C (40°F to 140°F), 100% non-condensing Without Mounting Brackets: 20.4 kg (45 lbs) With Mounting Brackets: 22.6 kg (49.8 lbs) (49.8 lbs) (49.77 kph / 110 mph; 927 N (40.77 kph / 110 mph; 1183 N Dimensions (Diameter x Depth) 69 x 61 x 17.5 cm (27.2 x 24 x 7 in) Power Consumption 1400 to 4000 C0000	Ultimate Sensitivity	-94 dBm		
GPS Synchronization Yes, via Autosync (CMM5 or UGPS) Quality of Service Diffserve QoS Antenna Beam width - Azimuth 90° integrated sector (dual polarity, H+V, 3dB rolloff), 120° (6dB rolloff) Beam width - Elevation 2° Electrical Downtiit, 8° Elevation Beamwidth and Null Fill down to -30° Maximum EIRP 3° Electrical Downtiit, 8° Elevation Beamwidth and Null Fill down to -30° Antenna Connection Integrated Sector Array Antenna Connection Integrated Sector Array Mall Mand AUX ports: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor; Model # C000065L007B Dic IN port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor; Model # C000000L114A Mean Time Between Failure 40 years Environmental 1967, IP66 Temperature / Humidity 40 years Environmental 1967, IP66 Temperature / Humidity 40° to 60°C (-40°F to 10°F), 100% non-condensing Widd Auxivial 1967, IP66 <th colspa<="" th=""><th>Maximum Deployment Range</th><th>Up to 64 km (40 miles)</th><th></th></th>	<th>Maximum Deployment Range</th> <th>Up to 64 km (40 miles)</th> <th></th>	Maximum Deployment Range	Up to 64 km (40 miles)	
Antenna Beam width - Azimuth 90° integrated sector (dual polarity, H+V, 3dB rolloff), 120° (6dB rolloff) Beam width - Elevation 2° Electrical Downtilt, 8° Elevation Beamwidth and Null Fill down to -30° Maximum EIRP *52 dBm (or up to maximum allowed by regulation) - achieved by combining 16 dBi Antenna Gain and +36 dBm Max Tx Power Physical Antenna Connection Integrated Sector Array Main and AUX ports: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000065L007B DC IN port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000000L114A Mean Time Between Failure >40 years Environmental 1P67, IP66 Temperature / Humidity -40°C to 60°C (-40°F to 140°F), 100% non-condensing Weight Without Mounting Brackets: 20.4 kg (45 lbs) With Mounting Brackets: 22.6 kg (49.8 lbs) Wind Survival 200 kph (124 mph) 927 N Wind Loading - Front Facing (200 kph / 124 mph) 927 N Wind Loading - Front Facing (200 kph / 124 mph) 183 N Dimensions (Diameter x Depth) 69 x 61 x 17.5 cm (27.2 x × 4 x 7 in) Power Consumption 140W typical, 150W peak (up to 180W max with AUX port PoE enabled) Hold Time	Latency	10 ms, typical		
Antenna Beam width - Azimuth 90° Integrated sector (dual polarity, H+V, 3dB rolloff), 120° (6dB rolloff) Beam width - Elevation 2° Electrical Downtilt, 8° Elevation Beamwidth and Null Fill down to -30° Maximum EIRP 52 dBm (or up to maximum allowed by regulation) - achieved by combining 16 dBi Antenna Gain and +36 dBm Max Tx Power Physical Antenna Connection Integrated Sector Array MAIN and AUX ports: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000065L007B DC IN port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000000L114A Mean Time Between Failure > 40 years Environmental P67, IP66 Temperature / Humidity	GPS Synchronization	Yes, via Autosync (CMM5 or UGPS)		
Beam width - Azimuth 90° Integrated sector (dual polarity, H+V, 3dB rolloff), 120° (6dB rolloff) Beam width - Elevation 2° Electrical Downtilt, 8° Elevation Beamwidth and Null Fill down to -30° Maximum EIRP +52 dBm (or up to max in allowed by regulation) - achieved by combining 16 dBi Antenna Gain and she had by a charmal and a charmal properties of the data of t	Quality of Service	Diffserve QoS		
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Maximum EIRP +52 dBm (or up to maximum allowed by regulation) - achieved by combining 16 dBi Antenna Gain and 23 dBm Max Tx Power Physical Antenna Connection Integrated Sector Array Type Suppression (with LPU) MAIN and AUX ports: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C0000065L007B DC IN port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000000L114A Mean Time Between Failure > 40 years Environmental 1P67, IP66 Temperature / Humidity 40°C to 60°C (-40°F to 140°F), 100% non-condensing Weight Without Mounting Brackets: 20.4 kg (45 lbs) With Mounting Brackets: 22.6 kg (49.8 lbs) Wind Loading - Front Facing (200 kph / 124 mph) 613 N Wind Loading - Front Facing (200 kph / 124 mph): (200 kph / 124 mph): (183 N) 927 N Dimensions (Diameter x Depth) 69 x 61 x 17.5 cm (27.2 x 2 4 x 7 in) Power Consumption 40-60VDC				
Physical Antenna Connection Integrated Sector Array MAIN and AUX ports: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C0000065L007B DC IN port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C0000001114A	Beam width - Elevation			
Antenna Connection Integrated Sector Array Surge Suppression (with LPU) MAIN and AUX ports: □1000-4-5: 10700us, 4 kV voltage waveform, Recommended external surge suppressor: Model ≠ C000065L007B Dc IN port: EN61000-4-5: 107700us, 4 kV voltage waveform, Recommended external surge suppressor: Model ≠ C000000L114A Mean Time Between Failure 2-40 years Environmental IP67, IP66 Temperature / Humidity 40°C to 60°C (-40°F to 15°F), 100% non-condensing Weight Without Mounting Brackets: 22.4 kg (45 lbs) With Mounting Brackets: 22.6 kg (49.8 lbs) Wind Survival 200 kph (124 mph) 613 N Wind Loading - Front Facing (277 kph / 110 mph: 2020 kph / 124	Maximum EIRP			
Surge Suppression (with LPU) MAIN and AUX ports: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C0000065L007B Mean Time Between Failure > 40 years Environmental IP67, IP66 Temperature / Humidity 40°C to 60°C (-40°F to 140°F), 100% non-condensing Weight Without Mounting Brackets: 20.4 kg (45 lbs) With Mounting Brackets: 22.6 kg (49.8 lbs) Wind Survival 200 kph (124 mph) 613 N Wind Loading - Front Facing @144 kph / 90 mph: 613 N @177 kph / 110 mph: 927 N @200 kph / 124 mph: 1183 N Dimensions (Diameter x Depth) 69 x 61 x 17.5 cm (27.2 x ≥ 4 x 7 in) Power Consumption 140W typical, 150W peak (up to 180W max with AUX port PoE enabled) Input Voltage 40-60VDC	Physical			
Surge suppressor: Model # C000065L007B DC N port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000000L114A Mean Time Between Failure > 40 years Environmental Temperature / Humidity -40°C to 60°C (-40°F to 140°F), 100% non-condensing Weight Without Mounting Brackets: 20.4 kg (45 lbs) Wind Survival Wind Loading - Front Facing	Antenna Connection	Integrated Sector Array		
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Mean Time Between Failure> 40 yearsEnvironmentalIP67, IP66Temperature / Humidity40°C to 60°C (-40°F to 140°F), 100% non-condensingWeightWithout Mounting Brackets: 20.4 kg (45 lbs)With Mounting Brackets: 22.6 kg (49.8 lbs)Wind Survival200 kph (124 mph)Wind Loading - Front Facing @177 kph / 110 mph:613 N@177 kph / 110 mph:927 N@200 kph / 124 mph:1183 NDimensions (Diameter x Depth)69 x 61 x 17.5 cm (27.2 x ± x 7 in)Power Consumption140W typical, 150W peak (up to 180W max with AUX port PoE enabled)Input Voltage40-60VDC				
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Temperature / Humidity -40°C to 60°C (-40°F to 140°F), 100% non-condensing Weight Without Mounting Brackets: 20.4 kg (45 lbs) With Mounting Brackets: 22.6 kg (49.8 lbs) Wind Survival 200 kph (124 mph) 613 N Wind Loading - Front Facing @144 kph / 90 mph: 613 N @177 kph / 110 mph: 927 N @200 kph / 124 mph: 1183 N Dimensions (Diameter x Depth) 69 x 61 x 17.5 cm (27.2 x 24 x 7 in) Power Consumption 140W typical, 150W peak (up to 180W max with AUX port PoE enabled) Input Voltage 40-60VDC	Mean Time Between Failure			
Weight Without Mounting Brackets: 20.4 kg (45 lbs) With Mounting Brackets: 22.6 kg (49.8 lbs) Wind Survival 200 kph (124 mph) 4124 mph 613 N Wind Loading - Front Facing 6177 kph / 110 mph: 927 N 927 N 6200 kph / 124 mph: 1183 N Dimensions (Diameter x Depth) 69 x 61 x 17.5 cm (27.2 x 24 x 7 in) Power Consumption 140W typical, 150W peak (up to 180W max with AUX port PoE enabled) Input Voltage 40-60VDC	Environmental	IP67, IP66		
Wind Survival 200 kph (124 mph) Wind Loading - Front Facing @144 kph / 90 mph: 613 N @177 kph / 110 mph: 927 N @200 kph / 124 mph: 1183 N Dimensions (Diameter x Depth) 69 x 61 x 17.5 cm (27.2 x 24 x 7 in) Power Consumption 140W typical, 150W peak (up to 180W max with AUX port PoE enabled) Input Voltage 40−60VDC	Temperature / Humidity	-40°C to 60°C (-40°F to 140°F), 100% non-condensing		
Wind Loading - Front Facing @144 kph / 90 mph: 613 N @177 kph / 110 mph: 927 N @200 kph / 124 mph: 1183 N Dimensions (Diameter x Depth) 69 x 61 x 17.5 cm (27.2 x 24 x 7 in) Power Consumption 140W typical, 150W peak (up to 180W max with AUX port PoE enabled) Input Voltage 40-60VDC	Weight	-		
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Dimensions (Diameter x Depth)69 x 61 x 17.5 cm (27.2 x 24 x 7 in)Power Consumption140W typical, 150W peak (up to 180W max with AUX port PoE enabled)Input Voltage40-60VDC		@177 kph / 110 mph: 927 N		
Power Consumption 140W typical, 150W peak (up to 180W max with AUX port PoE enabled) Input Voltage 40–60VDC		@200 kph / 124 mph: 1183 N		
Input Voltage 40–60VDC	Dimensions (Diameter x Depth)	69 x 61 x 17.5 cm (27.2 x 24 x 7 in)		
	Power Consumption			
Mounting Pole mount with included brackets (1.25 in to 4 in pole diameter)	Input Voltage	40-60VDC		
	Mounting	Pole mount with included brackets (1.25 in to 4 in pole diameter)		

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Certifications	
ISED Canada	109A0-30450M (3 GHz)
FCC ID	QWP-30450M (3 GHz)
CE	EN 302 326-2 v1.2.2 (3 GHz)

3 GHz 450m Antenna Patterns (Sector Mode)



ABOUT CAMBIUM NETWORKS

Cambium Networks empowers millions of people with wireless connectivity worldwide. Its wireless portfolio is used by commercial and government network operators as well as broadband service providers to connect people, places and things. With a single network architecture spanning fixed wireless and Wi-Fi, Cambium Networks enables operators to achieve maximum performance with minimal spectrum. End-to-end cloud management transforms networks into dynamic environments that evolve to meet changing needs with minimal physical human intervention. Cambium Networks empowers a growing ecosystem of partners who design and deliver gigabit wireless solutions that just work.

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