

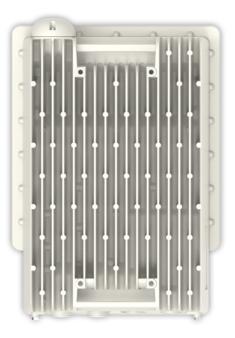
# **28 GHz cnWave<sup>™</sup> Base Transceiver Station**

### QUICK LOOK:

Cambium Networks unveils a simple, affordable yet powerful 5G NR solution for 24–29 GHz spectrum.

- Throughput of over 3 Gbps per sector
- Utilizing Multi-User MIMO (powered by cnMedusa<sup>™</sup> technology)
- Based on 5G NR protocol using SDR Architecture to enable continuous evolvement and enhancements





#### **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.
- One radio model capable of operation from 24.25 GHz to 29.50 GHz spectrum, covering the most common 5G bands globally
- High performance radio interface optimized for Fixed Wireless and frequency re-use across a network
- Two SFP+ ports allow 1 Gbps or 10 Gbps optical interfaces



# Specifications

Product Model Num	ibers		Spectrum		
Integrated 90 sector - Base Model	C280500A0	001A*	Frequency Rang	<b>e</b> 24.25–29.5	50 GHz
Integrated 90° Sector - fully featured	C280500A1	02A	Channel Width	50, 56, 100 up to 2 cari	, 112 MHz channels, riers
Interface					
MAC (Media Access Cont Layer	5G NR Air Interface				
Subscribers Per Sector	Up to 240				
Physical Layer	5G NR Air Interface based, OFDM 120 KHz Subcarrier spacing, DL and UL 8x8 MU-MIMO UL OFDMA				
Ethernet Interface	100/1000BaseT, full duplex, rate auto negotiated (802.3 compliant), SFP support for 1 or 10 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 cnMaestro™				
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)				
Performance					
Channel Size	DL MCS	DL Sensitivity (dB)	UL MCS	UL Sensitivity (dB)	
112 MHz	MCS 23	-91.5	MCS 23	-78.5	
	MCS 6	-111.1	MCS 6	-98.2	
56 MHz	MCS 24	-93.3	MCS 22	-82.7	
Maximum EIRP	MCS 6 +44 dBm	-114.1	MCS 6	-101.2	
Hybrid ARQ	Yes, DL and UL				
Maximum Deployment Range	Up to 5 km (3.2 miles)				
Latency	3–5 ms, typical				
TDD Synchronization	Embedded GPS, Sync-Over-Power or IEEE1588v2				
TDD Symmetry	5:2, 6:1, 4:1 and 4:3				
Quality of Service	Four levels				

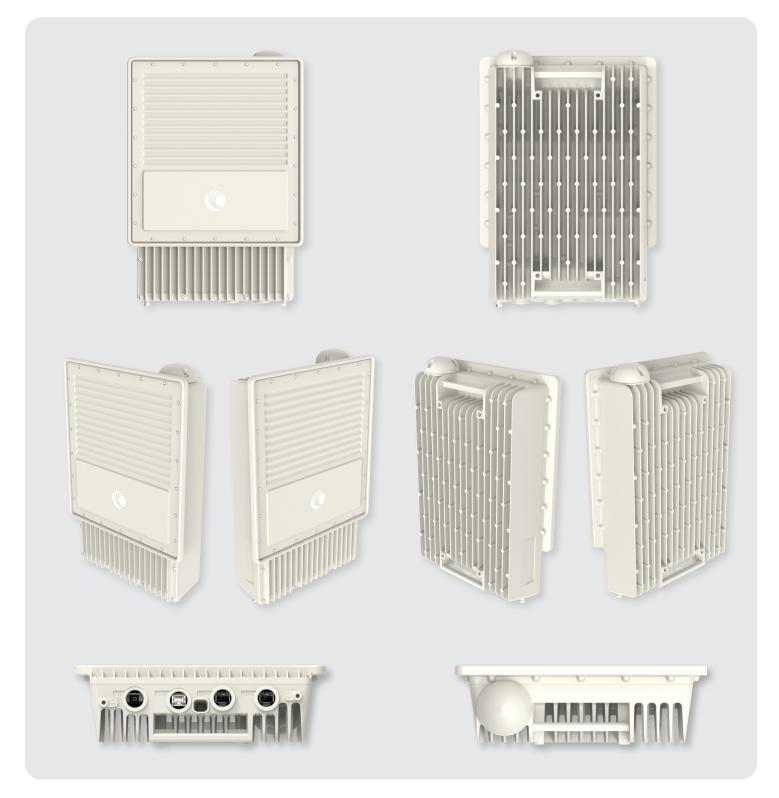
\*See available feature license keys in 28 GHz cnWave Ordering Guide



TypeIntegratedBeam width - Azimuth0° Integrated (selectable polarity H or V, 6 dB rolloff)Beam width - Elevation5°Beam width - Elevation15°PhysicalNath Ports: EN61007-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000065L007B D'In port: EN610004-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000065L007B D'In port: EN610004-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000001114AMan Time Between Failure> 40 yearsFameratur / Humidhy> 40 yearsYong Co Co Co C (40°F to 140°F), 100% non-condensingWeight00 kph (124 mph)Vind Survival00 kph (124 mph)Yind Survival90 kph (124 mph)Yind Survival914 kph / 90 mph: < 613 N 200 kph / 124 mph: < 193 N 200 kph / 110 mph: < 927 N 200 kph / 110 mph: < 927 N 200 kph / 110 mph: < 927 N 200 kph / 124 mph: < 1183 NPimensions (Hx W x D)40×3 x 11 cm (19.5 x 13.4 x 4.3 in)Piwer Consumption160 WaximumInput Votage40-60 VDCMunting Houting Directers 20 mu (12.5 in to 100 mu (4 in pole diameter)	Antenna			
Beam width - Elevation 15°   Physical Surge Suppression (with LPU)   Surge Suppression (with LPU) MAIN 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 # C00000L114A   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: 11.3 kg (25 lbs) / With Mounting Brackets: 13.8 kg (30.4 lbs)   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 (H x W x D) 49 x 34 x 11 cm (19.5 x 13.4 x 4.3 in)   Power Consumption 180W maximum   Input Voltage 40-60 VDC	Туре	Integrated		
Physical   Surge Suppression (with LPU) MAIN 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 IP67, IP66   Temperature / Humidity -40°C to 60°C (-40°F to 140°F), 100% non-condensing   Weight Without Mounting Brackets: 11.3 kg (25 lbs) / With Mounting Brackets: 13.8 kg (30.4 lbs)   Wind Survival 200 kph (124 mph)   Wind Loading - Front Facing @114 kph / 90 mph: < 613 N   @200 kph / 124 mph: <183 N   Dimensions (H x W x D) 49 x 34 x 11 cm (19.5 x 13.4 x 4.3 in)   Power Consumption 180W maximum   Input Voltage 40-60 VDC	Beam width - Azimuth	90° Integrated (selectable polarity H or V, 6 dB rolloff)		
Surge Suppression (with LPU)MaIN ports: ENG1000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000065L007B D EN port: ENG1000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000000L114AMean Time Between Failure> 40 yearsEnvironmentalIP67, IP66Temperature / Humidity< ArcC to Go°C (-40°F to 140°F).100° non-condensing	Beam width - Elevation	15°		
Surge Suppression (with LPU)MaIN ports: ENG1000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000065L007B D EN port: ENG1000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000000L114AMean Time Between Failure> 40 yearsEnvironmentalIP67, IP66Temperature / Humidity< ArcC to Go°C (-40°F to 140°F).100° non-condensing				
Surge suppressor: Model # C000065L007B DC IN port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C00000L114AMean Time Between Failure> 40 yearsEnvironmentalIP67, IP66Temperature / Humidity-40°C to 60°C (-40°F to 140°F), 100% non-condensingWeightWithout Mounting Brackets: 11.3 kg (25 lbs) / With Mounting Brackets: 13.8 kg (30.4 lbs)Wind Survival200 kph (124 mph)Wind Loading - Front Facing a (217 kph / 110 mph: < 927 N a (200 kph / 124 mph: < 1183 N	Physical			
DC IN port: EN61000-4-5: 10/700us, 4 kV voltage waveform, Recommended external surge suppressor: Model # C000000L114AMean Time Between Failure> 40 yearsEnvironmentalIP67, IP66Temperature / Humidity- 40°C to 60°C (-40°F to 140°F), 100% non-condensingWeightWithout Mounting Brackets: 11.3 kg (25 lbs) / With Mounting Brackets: 13.8 kg (30.4 lbs)Wind Survival200 kph (124 mph)Wind Loading - Front Facing a (200 kph / 124 mph: < 613 N a (200 kph / 124 mph: < 927 N a (200 kph / 124 mph: < 1923 N	Surge Suppression (with LPU)			
ware suppressor: Model # C00000L114A   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: 11.3 kg (25 lbs) / With Mounting Brackets: 13.8 kg (30.4 lbs)   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 (H x W x D) 49 x 34 x 11 cm (19.5 x 13.4 x 4.3 in)   Power Consumption 180W maximum   Input Voltage 0-60 VDC				
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: 11.3 kg (25 lbs) / With Mounting Brackets: 13.8 kg (30.4 lbs)   Wind Survival 200 kph (124 mph)   Wind Loading - Front Facing @144 kph / 90 mph: < 613 N   @177 kph / 110 mph: < 927 N @100 kph / 124 mph: < 1183 N   Dimensions (H x W x D) 49 x 34 x 11 cm (19.5 x 13.4 x 4.3 in)   Power Consumption 180W maximum   Input Voltage 40–60 VDC				
EnvironmentalIP67, IP66Temperature / Humidity-40°C to 60°C (-40°F to 140°F), 100% non-condensingWeightWithout Mounting Brackets: 11.3 kg (25 lbs) / With Mounting Brackets: 13.8 kg (30.4 lbs)Wind Survival200 kph (124 mph)Wind Loading - Front Facing@144 kph / 90 mph: < 613 N		surge suppressor: Model # C000000L114A		
Temperature / Humidity   -40°C to 60°C (-40°F to 140°F), 100% non-condensing     Weight   Without Mounting Brackets: 11.3 kg (25 lbs) / With Mounting Brackets: 13.8 kg (30.4 lbs)     Wind Survival   200 kph (124 mph)     Wind Loading - Front Facing   @144 kph / 90 mph: < 613 N     @177 kph / 110 mph: < 927 N	Mean Time Between Failure	> 40 years		
WeightWithout Mounting Brackets: 11.3 kg (25 lbs) / With Mounting Brackets: 13.8 kg (30.4 lbs)Wind Survival200 kph (124 mph)Wind Loading - Front Facing@144 kph / 90 mph: < 613 N	Environmental	IP67, IP66		
Wind Survival200 kph (124 mph)Wind Loading - Front Facing@144 kph / 90 mph: < 613 N	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   @177 kph / 110 mph: < 927 N     @200 kph / 124 mph: < 1183 N   @200 kph / 124 mph: < 1183 N     Dimensions (H x W x D)   49 x 34 x 11 cm (19.5 x 13.4 x 4.3 in)     Power Consumption   180W maximum     Input Voltage   40-60 VDC	Weight	Without Mounting Brackets: 11.3 kg (25 lbs) / With Mounting Brackets: 13.8 kg (30.4 lbs)		
@177 kph / 110 mph: < 927 N   @200 kph / 124 mph: < 1183 N   Dimensions (H x W x D) 49 x 34 x 11 cm (19.5 x 13.4 x 4.3 in)   Power Consumption 180W maximum   Input Voltage 40-60 VDC	Wind Survival	200 kph (124 mph)		
Image: With Construction   With Construction   With Construction   Minimum     Power Consumption   180W maximum   180W maximum     Input Voltage   40–60 VDC   1900 VDC	Wind Loading - Front Facing	@144 kph / 90 mph: < 613 N		
Dimensions (H x W x D) 49 x 34 x 11 cm (19.5 x 13.4 x 4.3 in)   Power Consumption 180W maximum   Input Voltage 40-60 VDC		@177 kph / 110 mph: < 927 N		
Power Consumption180W maximumInput Voltage40-60 VDC		@200 kph / 124 mph: < 1183 N		
Input Voltage 40–60 VDC	Dimensions (H x W x D)	49 x 34 x 11 cm (19.5 x 13.4 x 4.3 in)		
	Power Consumption	180W maximum		
Mounting Pole mount with included brackets 32mm (1.25 in) to 100mm (4 in) pole diameter)	Input Voltage	40-60 VDC		
	Mounting	Pole mount with included brackets 32mm (1.25 in) to 100mm (4 in) pole diameter)		

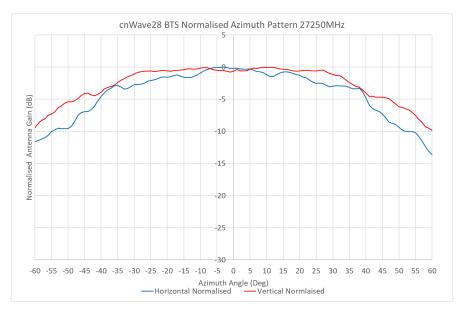
Certifications	
ISED Canada	RSS-191, SRSP 342.25 & SRSP 325.25
FCC	CFR47 Part 101 & CFR47 Part 30
CE	EN 302 326-2, v2.1.0

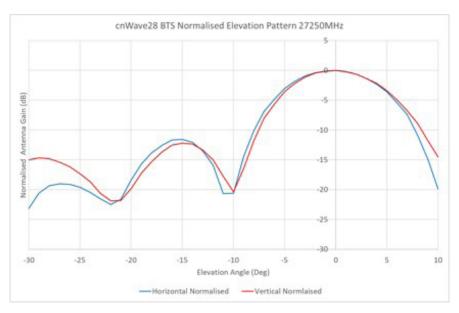






#### 28 GHz Base Transceiver Antenna Patterns (Sector Mode)





#### 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.

#### cambiumnetworks.com