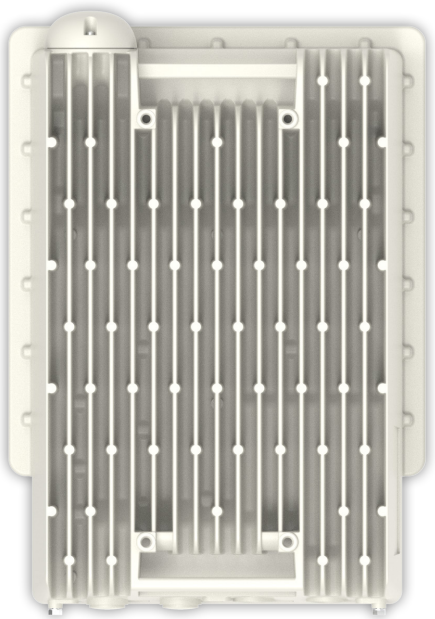
28 GHz cnWave™ Base Transceiver Station

DRAFT – PENDING FCC CERTIFICATION

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™ 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

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Specifications

Product Model Numbers

Integrated 90 sector - Base Model	C280500A001A*
Integrated 90° Sector - fully licensed	C280500A101A

Spectrum

Frequency Range	24.25 – 29.50 GHz
Channel Width	50**, 56, 100**, 112 MHz channels, up to 2 carriers**

Interface

MAC (Media Access Control) 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
	MCS 6	-114.1	MCS 6	-101.2
Maximum EIRP	+44 dBm			
Hybrid ARQ	Yes, DL and UL			
Maximum Deployment Range	Up to 5 km (3.2 miles)			
Latency	1–2 ms, typical			
TDD Synchronization	Embedded GPS, Sync-Over-Power or IEEE1588v2			
TDD Symmetry	5:2, 6:1** and 4:3**			
Quality of Service	Four levels**			

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

**Future software release

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Antenna

Type	Integrated
Beam width - Azimuth	90° Integrated (selectable polarity H or V, 6 dB rolloff)
Beam width - Elevation	15°

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	@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
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

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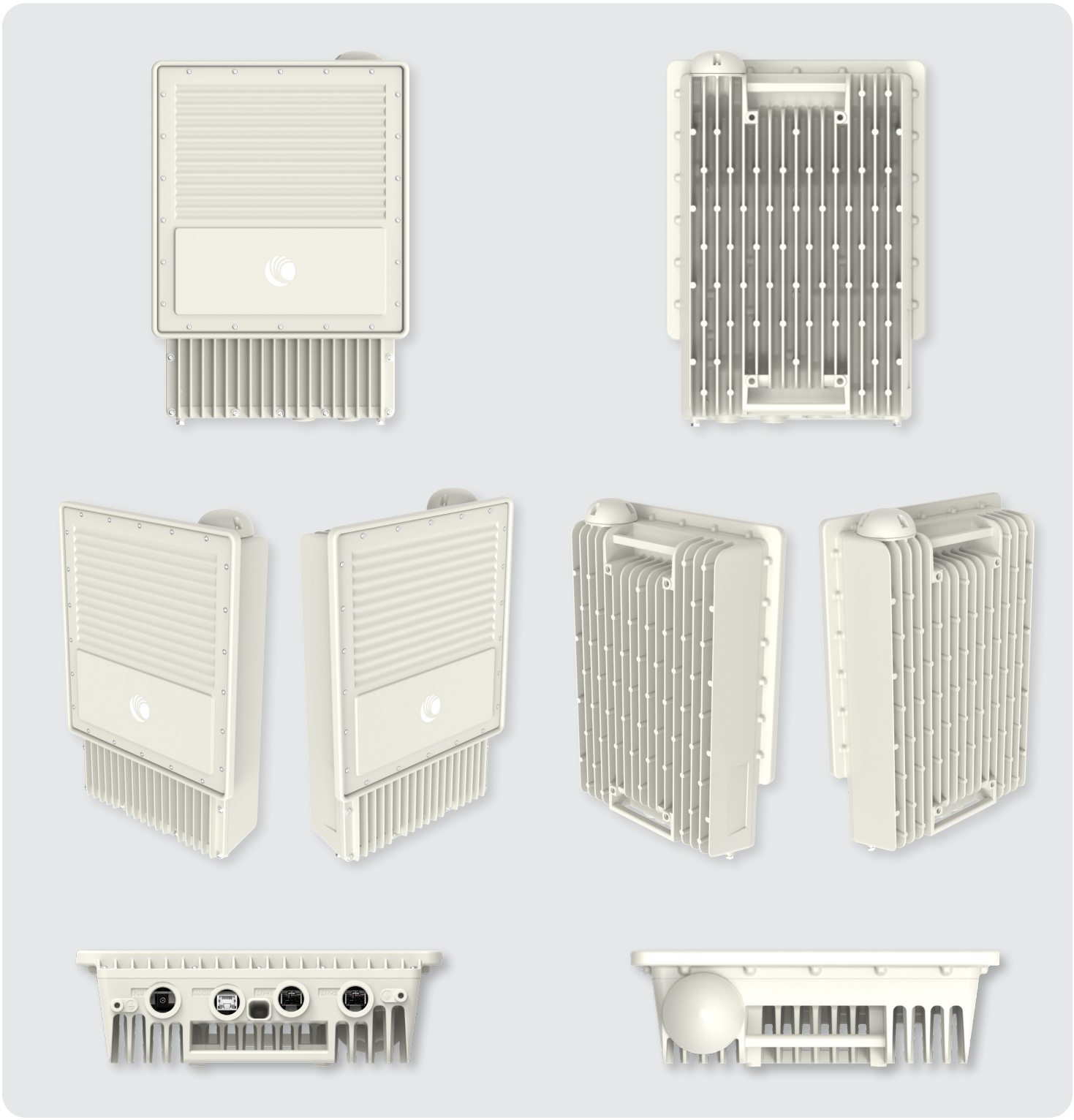

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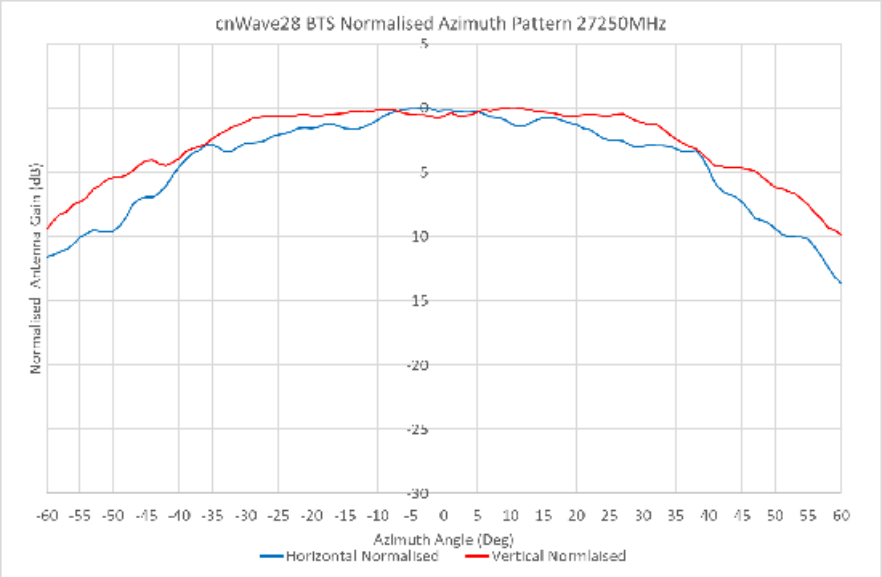
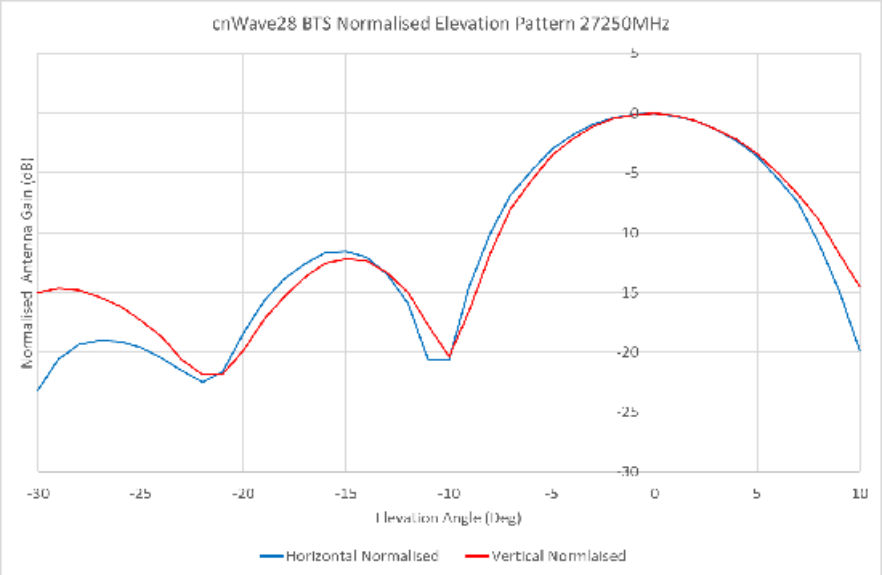
28 GHz Base Transceiver Antenna Patterns (Sector Mode)





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.

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