CERAGON

Imagine being able to
grow exactly as your business needs

FibeAir® IP-20 Platform

Rising to the backhaul challenge

Since we first started providing wireless backhaul solutions over two decades ago, we've helped our customers face countless challenges – and we pride ourselves on being able to rise to them every time.

We have people who understand the technology and the business. We have products that are advanced and reliable. And as a company, we have a determination to meet every challenge you face with a solution.

This is why we invite our customers to challenge us. Because we know that our solutions will help our customers go further.

Challenge us
to take you further

To achive the highest value for you

At the heart of our solutions is the FibeAir IP-20 Platform. We recognized that the best wireless backhaul solution had to enable three things:

Increase operational efficiency
It has to be efficient to run. It needs to maximize capacity and performance, but while minimizing running costs such as spectrum fees, tower lease fees, rent, labor and power related costs.

Ensure peace of mind
It needs to be reliable, ensuring service availability and it needs to answer your wireless backhaul needs – both now and in the future. Whether you are moving to 4G, 4.5G or considering your 5G network strategy, you need to know that you've got technology and people who can move there with you – and who are ready to start now.

Keep your customers satisfied
That's why we're all here. We rise to the challenge because it gives your customer a better experience. That means you can acquire more customers, and keep your customers happy - and if you can keep your customers happy, you can keep your customers. Period.
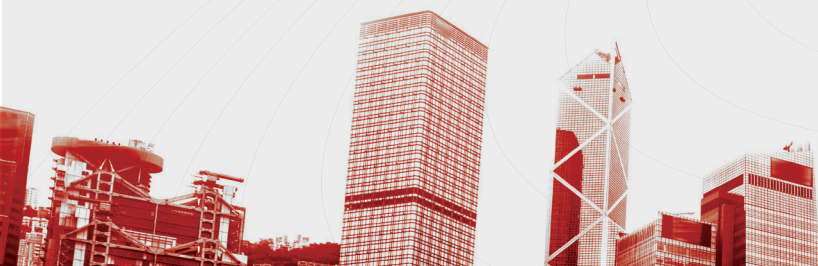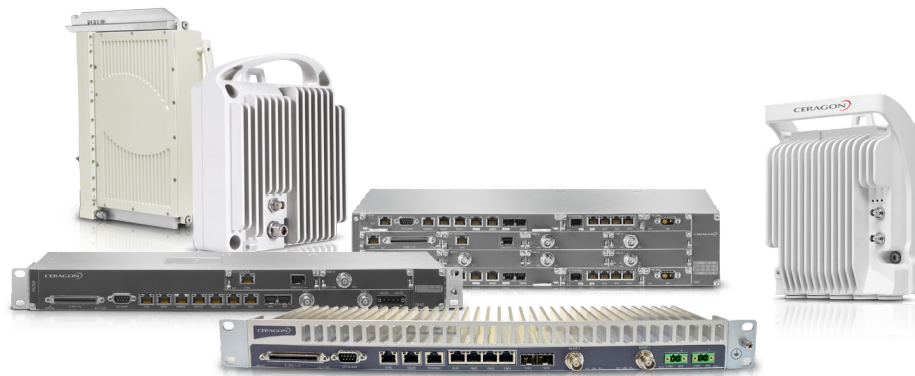.

Increase your
operational efficiency

Ensure your
peace of mind

Enhance your
customers' quality of experience

" Ceragon's microwave backhaul portfolio is the market leader. Ceragon's product portfolio assures operators' infrastructure investments keep up with ever-rising traffic volumes and meets each operator's unique needs better than rivals. "

Ed Gubbins, Senior Analyst, Wireless Infrastructure, Current analysis: February, 2016

A single platform serving All wireless backhaul needs

The FibeAir IP-20 Platform provides a wide range of configurations to match the requirements of diverse network scenarios. It offers flexibility in choosing all-outdoor, split-mount and all-indoor configurations to suit any deployment scenario and, combined with Ceragon's network management tools, it simplifies operations and provides a perfect platform for end-to-end, high-capacity backhaul solutions. By not only solving your backhaul challenges today, but also providing a clear roadmap for the future, FibeAir IP-20 gives you confidence of providing the capacity – and customer experience – that you need to grow your customer base, raise revenues, and maximize profit margins.

FibeAir IP-20 is a powerful platform that incorporates the industry's most advanced radio technologies creating a superior wireless backhaul solution. Our field-proven multicore radio technology enables high-capacity, high spectral efficiency microwave operations, that allows our customers to use ¼ of the spectrum in order to achieve a given capacity, to remotely double a link's capacity without additional hardware, to reduce antenna sizes - relieving tower load and to reduce power consumption. In any operating band, in any network scenario, it offers the ultimate in configuration flexibility and confidence that it can grow to accommodate future capacity needs.

FibeAir IP-20 portfolio

FibeAir IP-20G

Split-mount, compact edge node for all-packet and hybrid networks

Ceragon's FibeAir IP-20G all-packet, hybrid node covers the entire licensed frequency, offering the high spectral efficiency across licensed and license-exempt frequency bands (6-42GHz) that increases operational efficiency. It allows full support for IP and TDM services, featuring advanced Carrier Ethernet capabilities, as well as TDM processing and enhanced security features. The IP-20G's fixed configuration simplifies installation, and spare parts management and maintenance; the passive cooling design suits harsh environments, increases reliability and minimizes ambient noise.

FibeAir IP-20GX

Split-mount, extendable edge node for all-packet and hybrid networks

Ceragon's FibeAir IP-20GX extendable, split-mount edge node covers the entire licensed frequency spectrum, offering the high spectral efficiency across licensed and license-exempt frequency bands (6-42GHz) increasing operational efficiency. Flexible, universal slots enable extendibility to up to four carriers in 1RU, and any combination of data interface cards (e.g., STM-1/OC3, E1/T1) at multi-gigabit per-second capacity. It allows operators to support both IP and legacy TDM services, featuring advanced Carrier Ethernet capabilities, as well as TDM processing and enhanced security features.

FibeAir IP-20 portfolio

FibeAir IP-20N

High-availability, split-mount,
modular aggregation node for all-packet and hybrid networks

Ceragon's FibeAir IP-20N ultra-flexible aggregation node serves a wide range of topologies and network architectures. This scalable solution features the utmost in modularity and enables high density - up to 10 radio carriers - in a small footprint.
High spectral-efficiency technology boosts radio capacity into the multi-gigabit range for licensed and license-exempt frequencies (4-42GHz), improving operational efficiency.
As a hybrid solution, the IP-20N node supports a rich set of Carrier Ethernet advanced switching capabilities as well as multi-service TDM transport, enabling operators to boost performance in today's networks, while providing a cost-effective path to emerging requirements, such as SDN and NFV.

FibeAir IP-20 portfolio

FibeAir IP-20C
All-outdoor, compact, all-IP multi-carrier node

Ceragon's groundbreaking FibeAir IP-20C multicore wireless node delivers up to 2Gbps for any deployment scenario, from macro-cell and small-cell backhaul, to aggregation and multi-carrier trunk in all-outdoor environments.

Unparalleled spectral efficiency, accommodating 2Ggbps over a single 56MHz channel (or 1Gbps ove a 28MHz channel), increases operational efficiency and enhances customers' quality of experience.

Designed to accommodate future needs, the node can double capacity when needed with a remote click, via the two wireless carriers integrated into one box. Based on multi-core technology, the node uses a common, parallel radio processing engine, built around Ceragon's baseband modem and RFIC chipsets, centralizing resources, multiplying bandwidth and increasing system gain.

Ceragon's in-house developed capabilities, such as, 4X4 LOS MIMO, XPIC and advanced frequency reuse translate into true operational efficiency, providing much greater capacity, reduced power consumption, smaller, easier-to-install antennas and simplified management.

The IP-20C node complies with advanced Carrier Ethernet MEF 2.0, enabling a rich variety of Ethernet-based services.

FibeAir IP-20S
All-outdoor, compact, all-IP edge node

Ceragon's FibeAir IP-20S all-packet edge node offers high spectral efficiency across licensed and license exempt frequency bands (6-42GHz), increasing operational efficiency. It fully supports advanced Carrier Ethernet services and enhanced security features. The IP-20S's all-outdoor form factor simplifies installation, eliminates the need for shelters, and reduces power-related expenses.

FibeAir IP-20 portfolio

FibeAir IP-20E
All-outdoor, compact, all-IP, E-band node

Ceragon's FibeAir IP-20E wireless backhaul node for small cell aggregation, and high-capacity transport between macro sites provides ultra-high capacity for bandwidth-intensive network applications in E-band. The compact, low-power, all-IP solution combines functionality and performance. Scalable to 2.5Gbps, the all-outdoor IP-20E node can provide a cost-effective solution for small-cell aggregation and other E-band transport applications. The IP-20E features fast, efficient installation, low footprint and enables to use of narrowband channels for creating long-distance E-band links. It complies with advanced Carrier Ethernet MEF 2.0, enabling a rich variety of Ethernet-based services.

FibeAir IP-20LH
Split-mount and all-indoor, all-packet and hybrid multi-carrier long-haul solution

Ceragon's hybrid FibeAir IP-20LH supports a rich set of Carrier Ethernet advanced switching capabilities as well as multi-service TDM transport, enabling operators to boost performance in today's networks, while providing a cost-effective path to emerging requirements, such as SDN/NFV.
High spectral-efficiency technology boosts radio capacity into the multi-gigabit range for licensed frequencies (4-11GHz), improving operational efficiency.
Unique, layer 1 carrier bonding (multi-carrier Adaptive Bandwidth Control, MC - ABC), enables multi-carrier aggregation to a single link, carrying TDM and Ethernet traffic - enhancing equipment and spectrum utilization and increasing service availability.

Specifications

	FibeAir IP-20G	FibeAir IP-20GX	FibeAir IP-20N	FibeAir IP-20C	FibeAir IP-20S	FibeAir IP-20E	FibeAir IP-20LH
Radio	6GHz to 42 GHz High spectral efficiency Seamless, 10-step hitless Adaptive Coding & Modulation (ACM) QPSK–2048QAM Up to 1Gbps radio throughput Up to 2 radios	6GHz to 42 GHz High spectral efficiency Seamless 10-step hitless Adaptive Coding & Modulation (ACM) QPSK–2048QAM Up to 2Gbps radio throughput Up to 4 radios	6GHz to 42 GHz High spectral efficiency Seamless 10-step hitless Adaptive Coding & Modulation (ACM) QPSK–2048QAM Up to 5Gbps radio throughput Up to 10 radios	6GHz to 42 GHz High spectral efficiency Multi-core technology In-house developed chipset: baseband modem and RFIC Parallel radio processing engine Seamless 10-step hitless ACM QPSK–2048QAM Over 2 Gbps capacity, using wide channels Up to 8 carriers, in a multi-carrier configuration (4xIP-20C) Integrated single unit XPIC LoS 4X4 MIMO quadrupling capacity, using only 2 radio units Advanced Frequency Reuse, enhancing network-wide spectral efficiency	6GHz to 42 GHz High spectral efficiency Seamless 10-step hitless Adaptive Coding & Modulation (ACM) QPSK–2048QAM Up to 500Mbps radio throughput	Ultra-high capacity Full-duplex, scalable to 2.5Gbps radio capacity BPSK–256QAM - for optimal availability and spectral efficiency Advanced wideband modem design, in-house RFIC technology Channel bandwidth: 62.5-500 MHz Optional integrated antenna XPIC ready WIFI management ready	4GHz to 11 GHz High spectral efficiency Hitless Adaptive Coding & Modulation for increased availability QPSK–2048QAM with ACM Up to 5Gbps radio throughput Up to 10 carriers High Tx Power, lowest Branching System losses. All-Indoor and Split-Mount configurations supported. Improved link availability with Rx IF-Combining.
Data interfaces	Packet/TDM traffic transport E1/FE/GbE interfaces	Packet/TDM traffic transport E1/STM-1/FE/GbE interfaces	Packet/TDM traffic transport E1/STM-1/FE/GbE/10GbE interfaces	All-packet FE/GbE interfaces	All-packet FE/GbE interfaces	All-packet FE/GbE interfaces	Packet/TDM traffic transport E1/STM-1/FE/GbE/10GbE interfaces

Specifications

	FibeAir IP-20G	FibeAir IP-20GX	FibeAir IP-20N	FibeAir IP-20C	FibeAir IP-20S	FibeAir IP-20E	FibeAir IP-20LH
Networking	Integrated Carrier Ethernet switching capabilities, MEF Carrier Ethernet 2.0 compliant | MPLS-TP-ready Up to 30% more capacity using Header De-Duplication | Carrier-grade service resiliency (G.8032, MSTP) | Sync-E and 1588 synchronization ITU-T Y.1731 fault and performance management: MEF 35 | High resiliency to bursty LTE/LTE-A traffic using ultra-deep buffers Service Assurance for strict SLAs utilizing Hierarchical Quality of Service (H-QoS) | SDN-ready						Unique layer 1 carrier bonding (multi-carrier Adaptive Bandwidth Control - ABC), enabling multi-carrier aggregation to a single link, carrying TDM and Ethernet traffic - enhancing equipment and spectrum utilization and increasing service availability
Security	Comprehensive, multi-layer security: AES-256 radio encryption | Secured protocols and management interfaces (HTTPS, TLS, SSH, SNMPv3) Secured architecture and software design | Advanced authentication and identification management.						
Operating system	The FibeAir IP-20 platform features the unified CeraOS operating system, which streamlines wireless backhaul network modernization, operation and management.						
Radio units	RFU-C RFU-HP						RFU-HP

RFU-HP

High-power, reduced power consumption 4-11GHz* RFU
The FibeAir RFU-HP offers high-power, reliable, long-term RF performance in wide-channel bandwidth up to 60MHz. This easy-to-install unit features a smart energy mode, which can save 35% in wireless backhaul power expenses.
With tens of thousands of units deployed worldwide, it enables network operators to reach longer distances, using smaller antennas. This high-quality, cost-effective unit includes two receivers and one transmitter in a single transceiver unit, enabling operators to optimize their space diversity installation, increasing link reliability.

* 4-5GHz bands are supported only by the IP-20LH

RFU-C

High-performance, small-footprint, 6-42 GHz RFU
Ceragon's software-configurable FibeAir RFU-C supports a broad range of capacities and modulations, covering the entire range of channel spacing (3.5-60 MHz).
The RFU-C supports multiple indoor units, enabling operators to optimize their entire network deployment to their specific application.

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Challenge us
to take you further

About Ceragon

Ceragon Networks Ltd. (NASDAQ: CRNT) is the world's #1 wireless backhaul specialist. We help operators and other service providers worldwide increase operational efficiency and enhance end customers' quality of experience with innovative wireless backhaul solutions. Our customers include wireless service providers, public safety organizations, government agencies and utility companies, which use our solutions to deliver 4G, mission-critical multimedia services and other applications at high reliability and speed. Ceragon's unique multicore technology provides a highly reliable, high-capacity 4G wireless backhaul with minimal use of spectrum, power and other resources. It enables increased productivity, as well as simple and quick network modernization. We deliver a range of professional services that ensure efficient network rollout and optimization to achieve the highest value for our customers. Our solutions are deployed by more than 460 service providers, as well as hundreds of private network owners, in more than 130 countries.

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10 Gbps wireless data connections !

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