

Dynamic Adaptive Modulation

FibeAir IP-MAX includes the Dynamic Adaptive Modulation algorithm, which ensures an increase in capacity and a reduction of CAPEX.

Using Adaptive Modulation the system automatically adjusts itself to prevent weather-related fading from causing communication on the link to be disrupted. When extreme weather conditions affect the transmission the radio system

automatically chooses the best modulation in accordance with the channel's condition. This is done to overcome fading and other interference while ensuring that real-time applications run smoothly and uninterrupted.

The modulation switchover is implemented using a Hitless algorithm, thereby enabling continuous connectivity.



FibeAir IP-MAX Family

FibeAir IP-MAX-G

Enables native Ethernet with two indoor modules (IDM) options:



Optical GbE IDM



Electrical GbE IDM

FibeAir IP-MAX-MS

Enables native Ethernet and native TDM (Native 2™) with two indoor unit modules (IDM) options:



Optical GbE+ nxE1/T1 IDM



Electrical GbE+ nxE1/T1 IDM

Maximum Advantages

Gigabit Ethernet native solution
Full duplex throughput up to 900 Mbps over a single channel

Unique full range Adaptive Modulation
Provides the widest modulation range on the market from QPSK to 256 QAM with multi-level real-time modulation changing dynamically according to environmental conditions - while ensuring zero downtime connectivity

Pay as you grow- simple migration path
Easily upgradeable to higher capacities with license key

Single port for full capacity
Up to 900 Mbps on a single GbE port for cost effective networking

Sophisticated protection schemes
Using single or dual line interfaces, graceful bandwidth reduction ability, and Spanning Tree enabling features

Extended Quality of Service (QoS)
Enables smart multi-layer packet queuing and prioritization

Multi-Service Transport
Optical GbE or electrical 10/100/1000BaseT Ethernet data with optional n x E1/T1 interfaces over a single radio carrier

Comprehensive Spectrum Range
Full capacity over all 6-38 GHz frequency bands

Ultra low Latency (< 0.15 ms)
Suitable for delay-sensitive applications such as VoIP, Mobile TV and IPTV

Multiple network topology support
Ring, Mesh, Chain, Star and Tree

Large installed base with years of experience in high-capacity IP radios
Field-proven seamless integration with all standard IP equipment vendors

Double the capacity per given channel bandwidth
Using XPIC for co-channel, dual polarization configuration

Longer hops and smaller antennas
Ultra-high output power with High-Power RF Unit (RFU) for lower frequencies reduces network costs while increasing the reach of the network

FibeAir® IP-MAX²

Wireless Carrier Ethernet Solution



FibeAir IP-MAX² next generation high capacity Carrier-Grade wireless Ethernet solution features an industry-first, unique adaptive modulation engine, advanced QoS and the highest throughput in the market over a single channel.

- Single Port GbE native solution up to 900 Mbps over a single channel
- Unique Adaptive Modulation - QPSK 256 QAM
- Extended Quality of Service (QoS)
- Optical or electrical GbE
- Full capacity over 6-38 GHz frequency bands
- Any topology - Ring, Mesh, Chain, Star and Tree
- First Ethernet Microwave to achieve MEF certification

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Maximum Networking

Maximum Throughput Supports up to 900 Mbps over a single 50/56 MHz channel using co-channel and dual polarization (CCDP) with XPIC in a single IDU (two IDMs with two carriers and one GbE physical interface).

Full range fast Adaptive Modulation - Increases network capacity while reducing CAPEX, utilizing the highest possible modulation at any given moment according to the link quality degradation. Hitless switchover step by step, up/down between six modulation schemes from 256 QAM to QPSK.

Unique Multi Radio transmission - When operating in dual-radio configuration, each of the carriers is independent to fluctuate during hitless switchovers between modulations. Thus it enables increased capacity over a given bandwidth and maximum spectrum utilization. Traffic is divided among the two carriers without requiring link aggregation, and is not dependent on number of MAC addresses or their momentary traffic capacity.

Built-in Quality of Service - Provides priority support for different classes of service, according to packet classification of the External Header, VLAN 802.1p, TOS / TC - IP precedence, MPLS experimental field, VLAN ID and UDP packets. All classes use multiple levels of prioritization with user selectable options between strict priority queuing weighted fair queuing, with strict weights or user configurable weights.

Fast Traffic Protection by automatic port shutdown and the highest priority for BPDU packets when connected to switches/routers, ensures optimal RSTP (Rapid Spanning Tree Protocol) operation and the quickest recovery time

Flow Control Support according to IEEE 802.3x - providing efficient networking in case of throughput reduction.

Ethernet and Radio Performance monitoring - with statistics based on ITU-T G.826 and RMON/RMON2.

Super Jumbo Frame support -The Gigabit IDM supports frame sizes of up to 12,000 bytes. With this feature, FibeAir IP-MAX² is ready to support next generation Ethernet networks. In heavily loaded networks, where continuous data transfer is required, jumbo frames can significantly enhance the efficiency of Ethernet servers and networks. Jumbo frames enable the reduction of packet processing by the server, thereby increasing end-to-end throughput.

TDM Voice Transmission with Dynamic Allocation - With the n x E1/T1 option, only enabled E1/T1 ports are allocated with capacity. The remaining capacity is dynamically allocated to the GbE ports to ensure maximum Ethernet capacity.

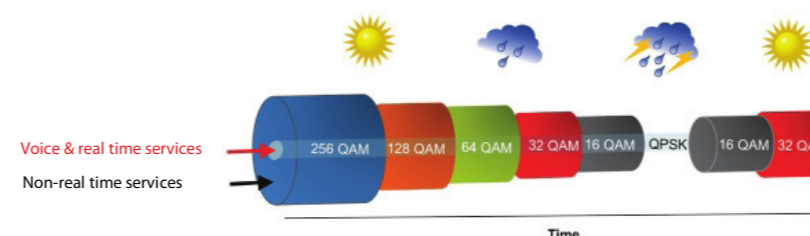
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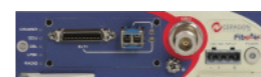
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