



Preliminary Datasheet

FibeAir IP-20V

REV. A.04 | January 2018



Radio Features

Frequency Range of 57-66 GHz

BPSK to 128 QAM w/ACM

Supports 1+0 configurations

Built-in frequency scanner to determine the current interference level for each channel

Ethernet

Ethernet Interfaces

Port 1:

- Electric: 10/100/1000Base-T RJ-45 (management only, no traffic)
- Ceragon-approved PoE

Port 2:

- SFP cage which supports – Regular and CSFP standards
 - Regular SFP provides Eth2
 - CSFP (Dual BiDir SFP) provides Eth2 and Eth3

Port 3:

- SFP+ cage supporting a 1GE or 10GE single ETH interface (user-configurable).

Notes: SFP devices must be of industrial grade (-40°C to +85°C, -40°F to +185°F).

Ethernet Features

MTU – 9600 Bytes

Quality of Service

- Multiple Classification criteria (VLAN ID, P-bits, IPv4 DSCP, IPv6 TC, MPLS EXP)
- 8 priority queues per port
- Deep buffering (configurable up to 64 Mbit per queue)
- WRED
- P-bit marking/remarking

4K VLANs

VLAN add/remove/translate

Frame Cut Through – controlled latency and PDV for delay sensitive applications

Y.1731 Ethernet OAM*

Header DeDuplication – Capacity boosting by eliminating inefficiency in all layers (L2, MPLS, L3, L4, Tunneling – GTP for LTE, GRE)**

Adaptive Bandwidth Notification (ABN, also known as EOAM)

Synchronization*

Synchronization Distribution

Sync Distribution over any traffic interface (GE/FE)

SyncE (ITU-T G.8261, G.8262)

SSM/ESMC Support for ring/mesh applications (ITU-T G.8264)

SyncE Regenerator mode, providing PRC grade (ITU-T G.811) performance for smart pipe applications

IEEE-1588

Optimized Transport for reduced PDV

IEEE-1588 TC

Antenna

Antenna Gain: 38 dBi

ETSI EN 302 217-4

Cross Polarization: 30 dB

Standards

MEF

Carrier Ethernet 2.0 (CE 2.0)

Supported Ethernet Standards

10/100/1000base-T/X (IEEE 802.3)

Optical 10Gbase-X (IEEE 802.3)

Ethernet VLANs (IEEE 802.3ac)

Virtual LAN (VLAN, IEEE 802.1Q)

Class of service (IEEE 802.1p)

Provider bridges (QinQ – IEEE 802.1ad)

Link aggregation (IEEE 802.3ad)

Auto MDI/MDIX for 1000baseT

RFC 1349: IPv4 TOS

RFC 2474: IPv4 DSCP

RFC 2460: IPv6 Traffic Classes

Security

Secured protocols:

- HTTPS
- SNMPv3
- SSH
- SFTP

* Planned for future release.

** Not available for 500 MHz channels.



Standards Compliance

Radio Spectral Efficiency: EN 302 217-2-2

EMC: EN 301 489-1, EN 301 489-4, Class B (Europe), FCC 47 CFR, part 15, class B (US), ICES-003, Class B (Canada), TEC/EMI/TEL-001/01, Class B (India)

Surge: EN61000-4-5, Class 4 (for PWR and ETH1/PoE ports)

Safety: EN 60950-1, IEC 60950-1, UL 60950-1, CSA-C22.2 No.60950-1, EN 60950-22, UL 60950-22, CSA C22.2.60950-22

Storage: ETSI EN 300 019-1-1 Class 1.2

Transportation: ETSI EN 300 019-1-2 Class 2.

Technical Specifications

Mechanical Specifications

Dimensions (38dBi Integrated Antenna) –
337mm x 281mm x 107mm, 4.2 kg.
13.27" x 11.06" x 4.21", 9.26 lbs.

Pole Diameter Range–
6cm – 11.4cm; 2.36" – 4.48"

Environmental Specifications

-33°C to +55°C (-45°C to +60°C extended)
-27°F to +131°F (-49°F to +140°F extended)

Power Input Specifications

Standard Input: -48 VDC; DC Input range: -40.5 to -60 VDC

Power Consumption Specifications

Up to 250 MHz – 33W; 500 MHz – 37W

PoE Injector Mechanical Specifications

134mm(H), 190mm(W), 62mm(D), 1 kg.
5.28"(H), 7.48"(W), 2.44"(D), 2.2 lbs.

PoE Injector Environmental Specifications

-33°C to +55°C (-45°C to +60°C extended)
-27°F to +131°F (-49°F to +140°F extended)

PoE Injector Power Input Specifications

Standard Input: -48 or +24 VDC (Optional)

DC Input range: $\pm(18/40.5$ to 60) VDC (+18VDC extended range is supported as part of the nominal +24VDC support)

PoE Injector Interfaces

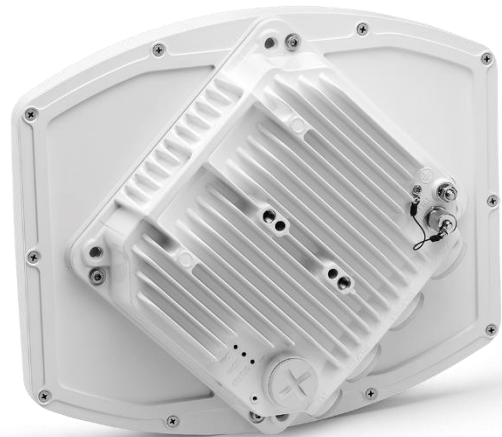
GbE Data Port supporting 10/100/1000Base-T

Power-Over-Ethernet (PoE) Port

DC Power Port –40V to -60V (a PoE supporting two redundant DC feeds each supporting $\pm(18-60)$ V is available)

Product Images

IP-20V



Radio Specifications

Capacity

	Capacity (Mbps)	Capacity De-Dup	Capacity (Mbps)	Capacity De-Dup
Modulation	50 MHz		100 MHz	
BPSK	30-37	31-96	65-80	65-205
QPSK	68-84	68-214	140-172	141-442
8 QAM	103-127	103-324	210-258	211-662
16 QAM	141-173	142-444	286-353	288-902
32 QAM	186-230	188-588	377-465	380-1190
64 QAM	226-279	228-715	464-572	468-1463
128 QAM	265-327	267-837	543-670	547-1711
Modulation	250 MHz		500 MHz	
BPSK	175-216	177-553	351-433	-
QPSK	370-456	373-1167	741-913	-
8 QAM	551-679	555-1735	1102-1359	-
16 QAM	749-924	755-2360	1499-1848	-
32 QAM	986-1216	994-2500	1972-2432	-
64 QAM	1210-1492	1220-2500	2421-2500	-
128 QAM	1458-1798	1469-2500	-	-

Transmit Power and EIRP Tx Power

Modulation	Transmit Power	50	100	250	500	EIRP TX Power	50	100	250	500
BPSK		5	5	5	5		43	43	43	43
QPSK		5	5	5	5		43	43	43	43
8 QAM		5	5	5	5		43	43	43	43
16 QAM		5	5	3	2		43	43	41	40
32 QAM		5	5	3	2		43	43	41	40
64 QAM		4	4	2	1		42	42	40	39
128 QAM		3	3	1	-		41	41	39	-

Receiver Threshold (RSL) (dBm @ BER = 10⁻⁶)

Modulation	Receiver Threshold (RSL)	50	100	250	500
BPSK		-83	-79	-76	-73
QPSK		-79	-76	-72	-69
8 QAM		-76	-72	-68	-65
16 QAM		-73	-70	-65	-62
32 QAM		-69	-66	-62	-58
64 QAM		-66	-63	-58	-55
128 QAM		-62	-60	-56	-

