



Datasheet

FibeAir IP-20V

REV. A.03 | October 2017



Radio

Supported Frequency Range

57-66 GHz

Radio Configurations

1+0

Radio Features

BPSK to 256 QAM w/ACM

Ethernet

Ethernet Interfaces

Port 1:

- Electric: 10/100/1000Base-T RJ-45.
- Proprietary PoE or external DC support (adapter)

Port 2:

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

Port 3:

- Three hardware options:
 - 1 x 10/100/1000Base-T (RJ-45) used for management only; OR
 - SFP cage supporting Regular SFP – single ETH interface; OR
 - SFP+ cage supporting a 10GE single ETH interface.

Notes: Port numbering differs for different hardware models.

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 302 217-4-2 V1 5.1 CLASS 2

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

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: $\pm(18/40.5 \text{ to } 60)$ 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	Capacity De-Dup	Capacity (Mbps)	Capacity De-Dup	Capacity (Mbps)	Capacity De-Dup
Modulation	50 MHz		250 MHz		500 MHz	
BPSK	33-40	35-128	177-216	186-673	358-438	-
QPSK	73-91	78-284	373-457	392-1421	752-919	-
8 QAM	108-136	116-422	556-679	583-2115	1116-1364	-
16 QAM	147-184	158-572	756-924	794-2500	1516-1854	-
32 QAM	194-241	207-751	995-1216	1045-2500	1994-2438	-
64 QAM	237-294	252-916	1221-1493	1283-2500	2447-2500	-
128 QAM	285-353	304-1101	1471-1798	1545-2500	-	-
256 QAM	-	-	1650-2016	1732-2500	-	-

Conducted Transmit Power and Receiver Threshold (RSL) (dBm @ BER = 10⁻⁶)

Frequency	Transmit Power	50	250	500	Receiver Threshold (RSL)	50	250	500
BPSK		5	3	0		-75.5	-69	-65
QPSK		5	3	0		-72.5	-66	-62
8 QAM		5	3	0		-67.2	-60.7	-56.7
16 QAM		4	2	-1		-65.8	-59.3	-55.3
32 QAM		4	2	-1		-61.9	-55.4	-51.4
64 QAM		2	0	-3		-59.2	-52.7	-48.7
128 QAM		2	0	-		-56.1	-49.6	-
256 QAM		-	-2	-		-	-46.6	-

