Datasheet

FibeAir IP-20V
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) –337 mm x 281 mm x 107 mm, 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: ±(18/40.5 to 60) VDC (+18VDC extended range is supported as part of the nominal +24VDC support)

Product Images
## Radio Specifications

### Capacity

<table>
<thead>
<tr>
<th>Modulation</th>
<th>Capacity 50 MHz</th>
<th>Capacity De-Dup 50 MHz</th>
<th>Capacity (Mbps) 250 MHz</th>
<th>Capacity De-Dup 250 MHz</th>
<th>Capacity (Mbps) 500 MHz</th>
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### Conducted Transmit Power and Receiver Threshold (RSL) (dBm @ BER = 10^-6)

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