



AL Wireless

1 Gbps
full duplex



ZENITH R

Low cost freeband solution

Main features

- Frequency bands 17 and 24 GHz
- Output power -30 to +10 dBm
- Modulation scheme QPSK to 4096 QAM
- Transmission capacity up to 1002 Mbps full duplex
- Channel bandwidth 3.5 – 112 MHz
- Asymmetric channels, low duplex spacing
- Hitless adaptive coding and modulation (ACM)
- 1× 1Gbps RJ45 and 1× 1Gbps SFP interface
- Build-in spectrum analyzer
- Automatic polarization detection
- PoE 802.3at support, DC power support
- WiFi and USB service interface, mobile app
- Compact All Outdoor design

Ethernet features

- MTU up to 10240 Bytes
- Full support of VLANs including QinQ
- QoS support, 4 queues
- RSTP support
- Advanced RMON statistic and counters
- SyncE and 1588v2 support
- Low latency
- Optional AES256 encryption

Management system

- HTTP/S, Telnet, SSL management
- In-band management
- SNMPv2c protocol, SNMP traps

Typical applications

- **Mobile RAN networks:**
Backhaul for access sites with 3/4G base-stations
- **Rural and urban xDSL networks:**
High capacity connections to micro exchanges
- **Fixed line access networks:**
Broadband connections for enterprise customers
- **Internet service providers:**
Backbones and last miles
- **Electric Smart Grid networks:**
Sub-station interconnect
- **Public safety and security networks:**
Tetra radio backhaul and border sites access
- **Oil and gas networks:**
High capacity connections to field and pipeline infrastructure



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General				
Operating frequency range (GHz)	17.100 - 17.300 24.000 - 24.250			
TX/RX spacing (MHz)	Selectable, min 18 MHz			
Channel spacing (MHz)	3.5 – 112 MHz			
Modulation	QPSK/16/32/64/128/256/512/1024/2048/4096 QAM			
Capacity full duplex (Mbps)	56 MHz/QPSK	56 MHz/4096 QAM	112 MHz/QPSK	112 MHz/2048 QAM
	81	540	161	1002
Frequency stability	< 10 ppm			
Forward error correction	LDPC, RS			
System configurations	1+0			
Radio				
RX sensitivity BER = 10 ⁻⁶ (dBm)	56 MHz/QPSK	56 MHz/4096 QAM	112 MHz/QPSK	1120MHz/2048 QAM
	-85 -84	-53 -52	-82 -81	-53 -52
TX power range (dBm)*	-25 to +5 -30 to +10	-25 to +5 -30 to +10	-25 to +5 -30 to +10	-25 to +5 -30 to +10
ATPC	Yes			
ACM	Hitless			
Interfaces				
	1x 1Gbps (10/100/1000) IEEE 802.3at 1000BASE-T, 1x 1000Base-SX / 1000Base-LX SFP, user replaceable			
Management				
	WebGUI, Telnet, SSH, USB, WiFi, SNMPv1, SNMPv2c			
Ethernet				
	VLAN, QinQ, QoS, MTU 10240B, SyncE, 1588v2			
Antennas				
UNI1 - 0.35 m gain (dBi)	32.5 35.5			
UNI2 - 0.65 m gain (dBi)	38 41			
UNI3 - 0.9 m gain (dBi)	41.5 44			
UNI4 - 1.2 m gain (dBi)	43.5 46			
Class	RPE Class 2 or Class 3			
Polarization	Dual polarization			
Power supply and cabling				
Range (V)	PoE 40 – 60 VDC (IEEE 802.3at), 20 – 60 VDC direct			
Power consumption (W)	23			
ODU connection	S-STP/S-FTP Cat. 7 cable up to 100 m length, optical fiber			
Operating temperature				
ODU (°C)	-30 up to +55			
Protected terminal box (°C)	-25 up to +55			
ODU / Terminal box dimensions and weight				
Width x Height x Depth (cm)	24.5 x 24.5 x 16.0 / 14.7 x 16.3 x 4.4			
Weight (kg)	2.6 / 0.5			

* EIRP power limitation may be applied in some countries

For more technical information please see www.al-wireless.com.



AL Wireless a.s.
Sokolská 1605/66, Nové Město
120 00 Praha 2
Czech Republic

phone: +420 228 226 500
e-mail: info@al-wireless.com
web: www.al-wireless.com