ZoneDAS One

5G NR Active DAS

Perfect Solution for Multi-Operator Deployment

Seamless indoor cellular in 5G-NR era

The 5G-NR cellular wireless brings blazing-fast speed and high-capacity for access, the fastest 5G has more challenges for bringing cellular signal indoors by its technology essence - higher frequency, shorter coverage. ZoneDAS One system plays a crucial role in 5G era for businesses and consumers to solve the challenges in bringing 5G Indoors via easy-to-deploy copper or fiber cabling. Via copper connection, it also allows ZoneDAS One power its entire system with PoE and just one power supply, significantly shortening system deployment time. ZoneDAS One system provides ubiquitous coverage ideal for hospitality, commercial venues, workplaces, and residential buildings.

Signal source and tech independent

Being analog based, the ZoneDAS One system is technology independent, supporting everything from 2G to 5G. It is a multi-operator, neutral host DAS solution delivering cellular signals into the locations difficult to cover with traditional macro networks. It supports “frequency re-farming” and allows multiple technologies (2G/3G/4G/5G/NB-IoT) to run concurrently in the same range of frequencies. Unlike traditional DAS products, ZoneDAS One works with low-power base stations and accepts weak small cell signals of 5 ~ 24 dBm from multi-vendors. This negates the need to purchase high-power base stations and helps system integrators lower their deployment CAPEX.

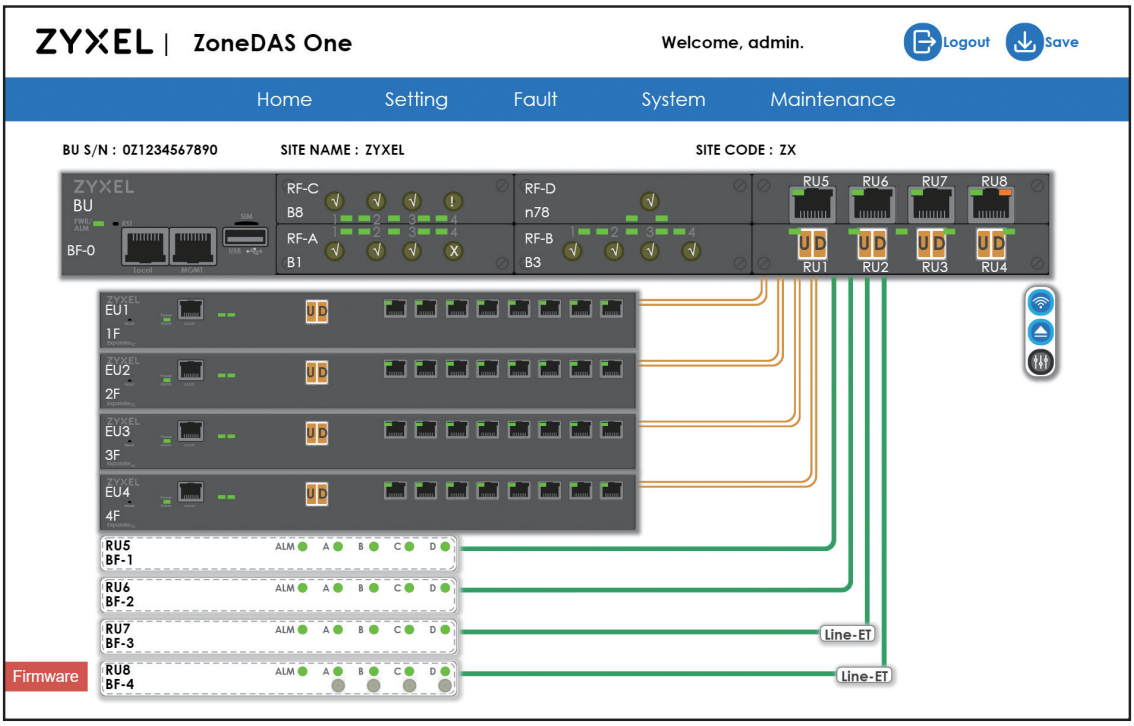
- Neutral Host DAS Solution
- Analog-Based Hybrid Signal Source
- Flexible deployment via copper or fiber cabling
- Innovative design, end-to-end performance guarantee
- Fully modular architecture

Flexible and adaptable

Featuring a fully modular design architecture, the ZoneDAS One presents highly flexible designs and enables adaptable active antenna system. It easily adds support for MIMO, additional carriers, or future technologies through simple module additions or swaps. Whether you need to add a new band, or a change occurs in mobile technology, such as the evolution from 4G to 5G, the ZoneDAS One adapts to meet your requirements and protect your investment. The ZoneDAS One also supports flexible 2 tier or 3 tier approach with Expanders and Fiber converters for simpler and more efficient installation.

Simple maintenance & management

Traditional DAS products do not offer end-to-end monitoring and management. Signals just quietly travel through RF cables, and building owners have no proactive monitoring to detect issues occurred until complaints arise. Zyxel's active ZoneDAS One solves the problem with its support for end-to-end system monitoring and management, enabling IT staff to manage everything from the RF source to the antenna point via VLAN, OpenVPN, SNMPv2/v3, Web GUI, and remote Syslogs.



Specifications

Base Unit

BU (Base Unit) Chassis

- 1U height, 19" rack mountable
- 2 x Signal Distribution (SD) module slots
- 4 x RF POI module slots
- Bandwidth up to 400 MHz DL/ 280 MHz UL
- 1 x RJ-45 management port for backend NMS integration
- 1 x RJ-45 console port
- 1 x Reset button
- Management: Web GUI, SNMPv2/v3 agent, and Syslog through Open VPN
- AC power: 100 ~ 240 V AC, 50 - 60 Hz
- Dimensions (WxDxH): 440 x 325 x 45 mm
- Net weight: 5.5 kg full load
- Power consumption: 510 W full load
- Optional expansion kit: Expanders/ Fiber Converts/Line Extenders

BU-POI Module

- Smart POI with SMA interface
- Band selectable as the ZoneDAS One System RF Specifications table
- Relay bandwidth up to 100 MHz max. per module
- RF source input power range: 0 ~ 24 dBm (2G/3G/4G), 5 ~ 24 dBm (5G)
- ALC protection range: 24 dBm ~ 30 dBm

RJ-45 SD (Signal Distribution) Module

- 4 x RJ-45 ports
- Each RJ-45 port supports up to 100 meters of CAT7 S/STP cabling (n78, 3.3 ~ 3.8 GHz), or CAT6a S/STP (Below 2700 MHz)
- PoE feeds power to Remote Units via RJ-45 cables

Fiber SD (Signal Distribution) Module

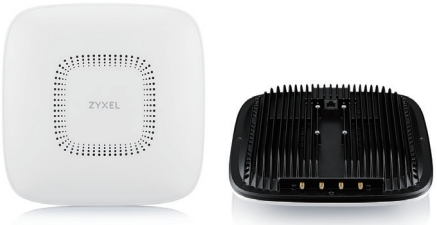
- 4 LC/APC optical ports
- Each fiber optical port supports Dual Core Single Mode Optical Fiber, up to 2.5 km

Remote Unit

RU (Remote Unit) Box

- Band selectable as the ZoneDAS One System RF Specifications table
- Support up to 4 RF modules
- 1 x RJ-45 interface for BU connection via CAT7 or CAT6a S/STP cabling
- Power supply via PoE
- Built-in Omni antennae with 3 dBi gain
- Output power range: 14 ~ 23 dBm
- Fanless design
- Ceiling mount
- Dimensions (WxDxH): 270 x 270 x 80 mm
- Net weight: 2.5 kg
- Power consumption: 60 W full load

Remote Unit for External Antennas



- Band selectable as the ZoneDAS One System RF Specifications table
- Bandwidth up to 400 MHz DL/ 280 MHz UL
- Support up to 4 RF modules
- 1 x RJ-45 interface for BU connection via CAT7 or CAT6a S/STP cabling
- Power supply via PoE
- 4 x SMA-type connectors for external antenna
- Max output power per antenna port: 17 dBm
- Fanless design
- Ceiling mount
- Dimensions (WxDxH): 270 x 270 x 80 mm
- Net weight: 2.5 kg
- Power consumption: 60 Watts full load

Expander CC

- 1U height, 19" rack mountable
- 1 x RJ-45 uplink port to Base Unit via CAT7/6a Ethernet cable, up to 100 m
- 8 x RJ-45 as SD ports to Remote Units via CAT7/6a Ethernet cable, up to 100 m
- 1 x RJ-45 console port
- PoE power feeding to Remote Units
- Input power: AC input, 100 ~ 240 VAC, 50 - 60 Hz
- Dimensions (WxDxH): 440 x 308 x 45 mm
- Net weight: 4.5 kg
- Power consumption: 502 W

Expander FC

- 1U height, 19" rack mountable
- 1 x LC/APC Duplex uplink port to Base Unit via single mode fiber optical cable
- 8 x RJ-45 SD ports to Remote Units via CAT7/6a Ethernet cable, up to 100 m
- 1 x RJ-45 Local console port
- PoE power feeding to Remote Units
- Input power: AC input, 100 ~ 240 V AC, 50 - 60 Hz
- Dimensions (WxDxH): 440 x 308 x 45 mm
- Net weight: 4.5 kg
- Power consumption: 502 W

Expander FF

- 1U height, 19" rack mountable
- 1 x LC/APC Duplex uplink port to Base Unit via single mode fiber optical cable
- 16 x LC/APC Duplex SD ports to Fiber Converter via single mode fiber optical cable
- 1 x RJ-45 console port
- Input power: 12 V DC input
- Dimensions (WxDxH): 440 x 278 x 45 mm
- Net weight: 5.5 kg
- Power consumption: 40 W

Line Extender

- 1 x RJ-45 uplink port to Base Unit/ Expander via CAT7/6a Ethernet Cable, up to 100 m
- 1 x RJ-45 SD port to Remote Unit via CAT7/6a Ethernet Cable, up to 100 m
- PoE power feeding to Remote Units
- Input power: 48 V DC input
- Dimensions (WxDxH): 150 x 30 x 205 mm
- Net weight: 0.7 kg
- Power consumption: 75 W

Fiber Converter

- 1 x LC/APC Duplex uplink port to Base Unit/Expander via single mode fiber optical cable
- 1 x RJ-45 SD port to Remote Unit via CAT7/6a Ethernet cable, up to 100 m
- PoE power feeding to Remote Units
- Input power: 48 V DC input
- Dimensions (WxDxH): 186 x 43 x 203 mm
- Net weight: 1.7 kg
- Power consumption: 76 W

Environmental Specifications

Operating Environment

- Temperature: 0°C to 45°C
- Humidity: 10% to 95% (Non-condensing)

Storage Environment

- Temperature: -40°C to 75°C
- Humidity: 10% to 95% (Non-condensing)

Certification

CE

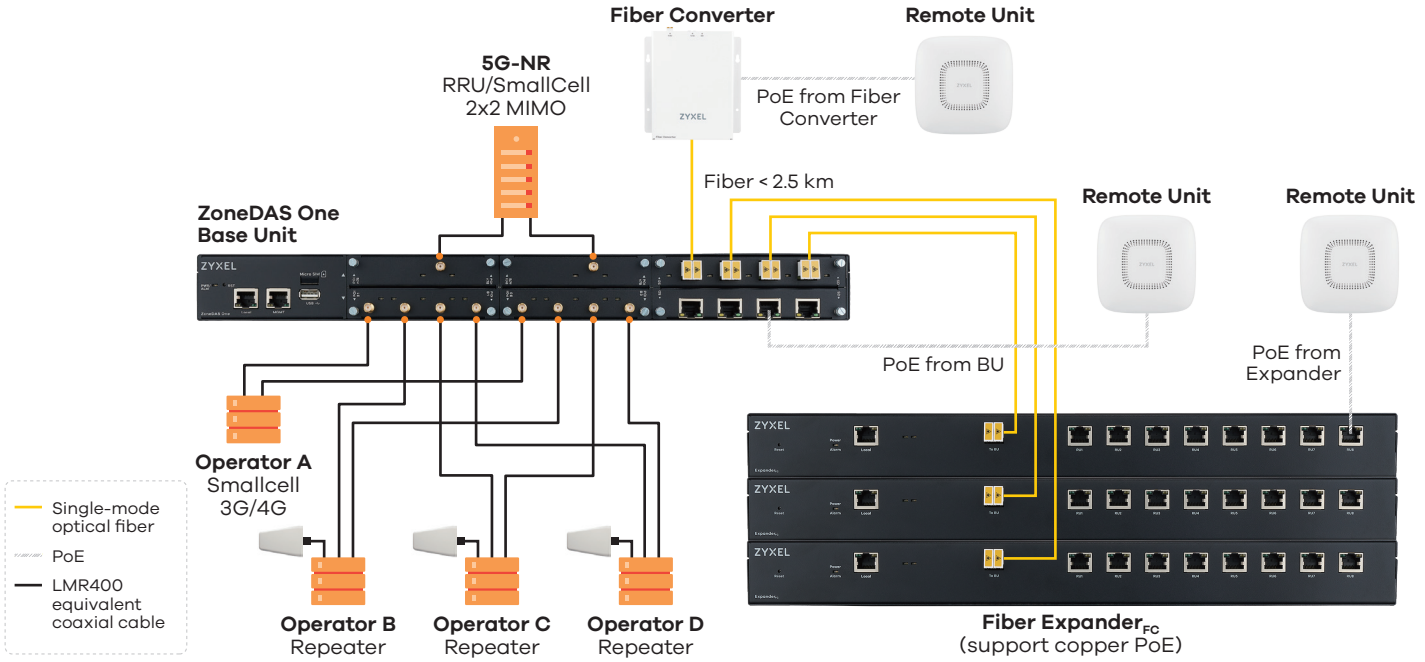
- EN301 489-1
- EN301 908-1
- EN50385 BS: 2017
- EN62368-1 2017

ZoneDAS One System RF Specifications

Band	Duplex Mode	Uplink (MHz)	Downlink (MHz)
1/n1	FDD	1920 ~ 1980	2110 ~ 2170
3/n3	FDD	1710 ~ 1785	1805 ~ 1880
7/n7	FDD	2500 ~ 2570	2620 ~ 2690
8/n8	FDD	880 ~ 915	925 ~ 960
20/n20	FDD	832 ~ 862	791 ~ 821
28a/n28a	FDD	703 ~ 733	758 ~ 788
41/n41*	TDD	2496 ~ 2690	
n78*	TDD	3300 ~ 3800	

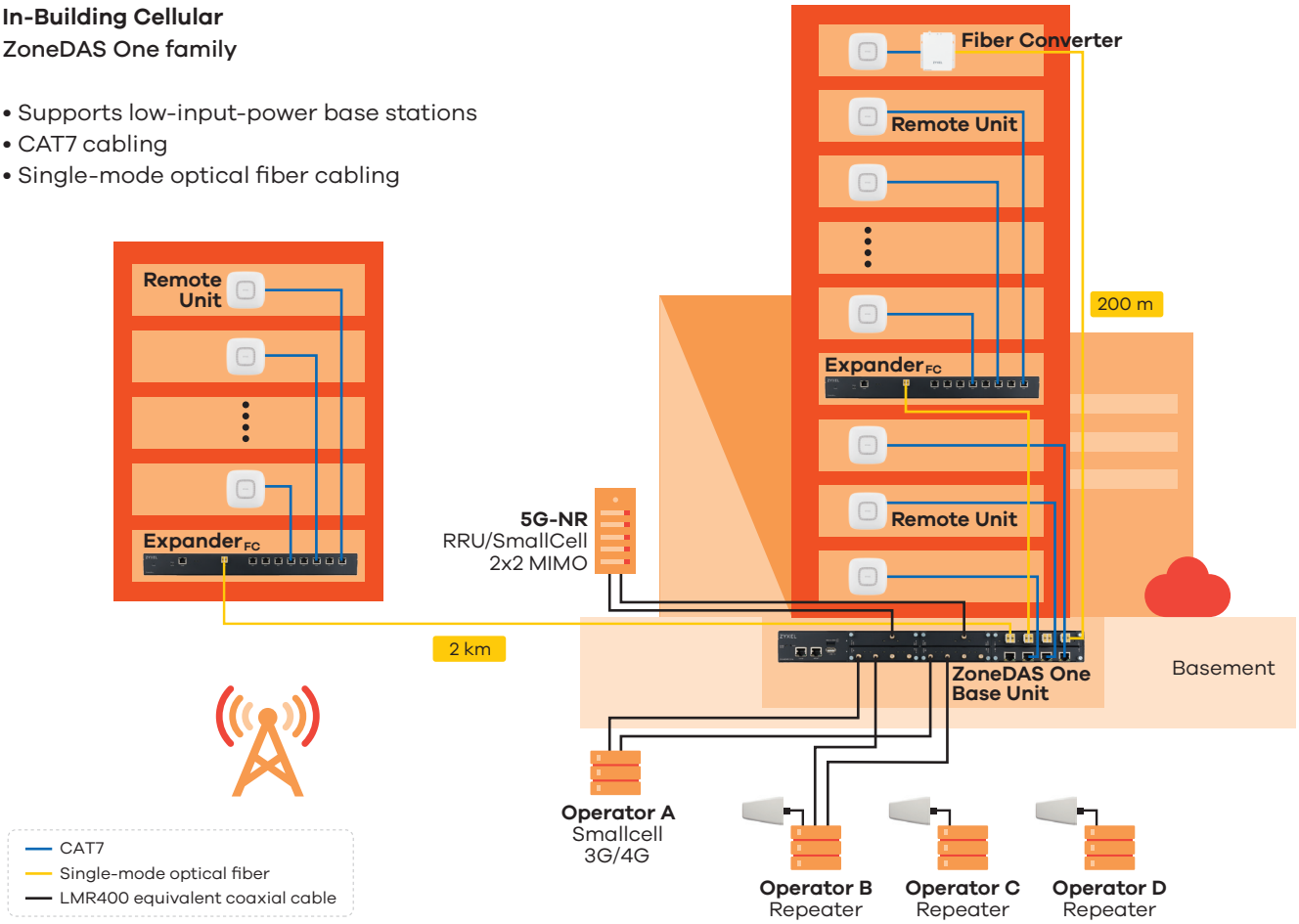
*: Not applicable for Remote Unit for External Antennas

Application Diagram



In-Building Cellular
ZoneDAS One family

- Supports low-input-power base stations
- CAT7 cabling
- Single-mode optical fiber cabling



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