

Our experience, your advantage

AGS25 SERIES

Advanced multi-band & aggregator platform

AGS25 is an Advanced multi-band & aggregator platform that flexibly addresses the different RAN generation needs over a common wireless transport infrastructure, securing all foreseen use cases which are enabled by 5G.

The AGS25 is a family of microwave aggregators with multiple mechanical arrangements designed to fit different needs and deployment scenarios in a modern mobile backhaul infrastructure.

The ASNK ODU is extremely compact, with a volume of less than 2 liters and a benchmarking power consumption of 10W, which helps operators diminish CO2 emissions.

AGS25 provides the highest node capacity in the smallest form factor, with high performance carrier Ethernet 2.0 and IP/MPLS engine, with multiple 1/10/25Gbps ports ensure deployment flexibility and future-readiness, while maintaining full support of the legacy traffic E1 services.

The platform enables convergence of the major microwave application segments:

- Next Generation Indoor Unit for advanced packet processing
- Aggregation of IF and All-Outdoor radio including E-Band for metro
- Aggregation of IF radio for long-haul



AGS25 SERIES IDUs and ODUs

UNIVERSAL PRODUCT ARCHITECTURE

Microwave radio products have evolved in terms of functionality and physical arrangements to cover in an effective and efficient way all the different applications.

AGS25 as part of the SIAE MICROELETTRONICA Unified Product Architecture, utilizes at its core the SM-OS operating system based over three major components:

Network Management Plane

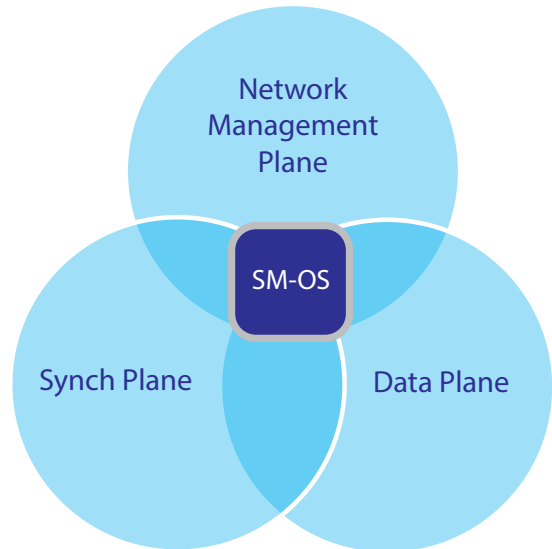
- NETCONF/Yang in SDN deployment
- SNMP v3, HTTPs, SSH, SFTP
- RADIUS / Tacacs + for centralized user management

Data Plane

- MEF – Carrier Ethernet services
- IP/MPLS – L2/L3 VPN services
- QoS/HQoS – queue management/policing and shaping

Synch Plane

- Synchronous Ethernet
- ITU-T G.8275.1 Profiles (T-BC)
- 1 PPS in/out port



SPLIT-MOUNT PLATFORM

IDU PRODUCT FAMILY

AGS25 series is the Next Generation Indoor Unit for split-mount radio, which delivers multi Gbps radio capacity with 25GE interfaces transporting 5G in urban, suburban, and rural applications.

Offering high capacity, low latency, low power consumption and optimized TCO, AGS25 is the right solution for 5G transport. AGS25 include two physical mechanical arrangements to satisfy simple point to point needs to the most complex sites including nodal configurations and scaling capacity in line with network growth.

The IDU can support a variety of interfaces with a mix of GE and Radio IF interfaces, for maximum flexibility when interconnecting heterogeneous technologies.

AGS25M

AGS25M is a fully integrated single box solution. It offers a complete range of interfaces: Radio, 25/10/2.5/1 Gigabit, E1 both native and pseudo wire.

AGS25M can support up to four IF interfaces, allowing the set up of a four-direction nodal solution in a single rack unit IDU, or radio LAG over 4x ODUs and E-Band, reaching the amazing capacity of 25 Gbps, supporting the backhaul evolution in 5G and beyond.



AGS25M
integrated single unit

ODU PRODUCT FAMILY

ASNK

- Modulation up to 4096 QAM
- Channel spacing up to 112 MHz
- Lower than 2 liters volume for easier installation
- Multicarrier aggregation for Hybrid link, applicable to any ASNK ODU variant (standard licensed frequency band and a millimeter wave 80 GHz band)



ASNK

ASNK D

- Dual carrier
- Modulation up to 4096 QAM
- Channel spacing up to 112 MHz
- Lower than 2 liters volume for easier installation
- Dual carrier configuration for 2 Gbps transport capacity in a single unit (ACCP)
- Filterless variant for long-haul applications



ASNK D

ASNK Q

- Quad carrier
- Modulation up to 4096 QAM
- Channel spacing up to 112 MHz
- 4 liters volume
- Highly compact solution supporting up to 4 carrier configuration for 4 Gbps transport capacity in a single unit (ACCP; ACAP; CCDP)



ASNK Q

ASNK HP

- High Power
- Modulation up to 4096 QAM
- Channel spacing up to 112 MHz
- 6.5 liters volume
- Offering extra power compared to the standard ASNK for higher system gain performances, +3 dB



ASNK HP

ASNK / ASNKD UHP

- Ultra High Power
- Modulation up to 4096 QAM
- Channel spacing up to 112 MHz
- 7.5 liters volume
- Offering extra power compared to the standard ASNK for extended performances, +6 dB



ASNK UHP

ALFOplus80MBLX series

- E-Band transceiver single carrier and dual carrier
- Modulation up to 1024 QAM
- Channels Spacing up to 2 GHz
- Single network element with AGS20 family
- Optimized for Multi Band Link



ALFOplus80MBLX

MAIN FEATURES

- SM-OS based platform
- 4 to 4096 QAM modulation
- Hitless Adaptive Code and Modulation
- Multi Layer Header Compression
- L1 radio LAG over multiple ODU with XPIC
- Extended Ethernet connectivity: multiple 25/10/2.5/GE interfaces
- Multi carrier aggregation up to 25 Gbps
- Single NE in multiband link with E-Band
- Mixed TDM/Ethernet interfaces for dual native transport
- PWE3 TDM services defined by software for full packet networks
- AES128/256 Encryption
- Extended buffer for maximum TCP/IP efficiency in LTE networks
- Integrated antennas up to 1.8m (6ft)
- Single universal ODU for any capacity and modulation
- Network Management System: NMS5
- SDN Microwave Domain Controller: SM-DC

LAYER 2 MAIN FUNCTIONALITIES

- MEF 2.0 certified
- 8 queues with flexible scheduler (Strict Priority, WRR and mixed)
- 4 levels hierarchical scheduler (H-QoS)
- Flexible QoS definition based on VLAN, IPv4, IPv6, MPLS exp bits
- Per queue WRED congestion avoidance
- Flow Based Ingress Policing (CIR & EIR definition)
- Egress shaping
- Ethernet ring protection G.8032
- RMON statistics per service VLAN stacking (IEEE 802.1ad QinQ)
- Link aggregation IEEE 802.3ad
- Ethernet OAM 802.3ah/ 802.1ag/ Y.1731
- Jumbo frames up to 12 Kbytes

LAYER 3 MAIN FUNCTIONALITIES

- LDP (Label Distribution Protocol) / TLDP
- RSVP/RSVP-TE
- MPLS L2VPN / VPLS
- MPLS L3VPN
- MPLS TE using RSVP-TE
- OSPFv2 and OSPF with TE extension
- BGPv4, MP-BGP
- IS-IS
- eBGP
- BDF bidirectional forwarding detection for PW VCCV
- FRR (Fast Re-route)
- LSP RSVP-TE protection 1:1
- MPLS-OAM (with MPLS-TP)

AGS25M	2xIF	4xIF
Configuration	1+0 / 1+1 / 2+0 / MBL XPIC radio LAG	1+0 / 1+1 / 2+0 / 4+0 / MBL XPIC radio LAG
Switching capability	100 Gbps full duplex	
Modulation	4 QAM to 4096 QAM	
Ethernet/Radio interfaces	2 x IF (ODU) 4 x GE (electrical / optical) 4 x GE SFP + (1/10 Gbps) 6 x GE SFP28 (1/10/25 Gbps)	4 x IF (ODU) 4 x GE (electrical / optical) 4 x GE SFP + (1/10 Gbps) 6xGE SFP28 (1/10/25 Gbps)
TDM interfaces (optional)	8/16 x E1 native / PWE3 mode software selectable	
Local maintenance interfaces	Console port / LAN port	
Synchronization interfaces	1pps / ToD / 2048 KHz	

