SIL SNTAplus2

SIL SNTAplus2

6-42GHz Bespoke Frequencies

SIL SNTAplus2
6-42Ghz All In One Outdoor Unit,
1-2Gbps
4-4096 QAM

OVERVIEW

The SIL SNTAplus2 is the next generation of 2/4Gbps full outdoor solutions which provide the best TCO by booting capacity and availability of the network and simplifies installation with fully integrated branching and zero indoor footprint.

Thanks to its unmatched spectrum efficiency and larger channel selection, the SIL SNTAplus2 offers the highest capacity and channel flexibility, with no restriction in channel allocations either adjacent or co-polar with best in class system gain. With integrated XPIC capability, and using 34% less power consumption, the SIL SNTAplus2 provides future proof architecture while quadrupling the throughput.

Features

- SM-OS Based Platform
- 4-4096QAM Modulation
- 6GHz to 42GHz Licenced Bands
- Up to 2x 112 MHz Channels
- Multilayer Header Compression
- L1 Radio LAG Over Multiple ODU
- In-house RF Multicore Technology
- Integrated XPIC Circuitry
- Extended Ethernet Connectivity: 10/2.5/GE Interfaces
- AES128/258 Encryption
- Multi Carrier Aggregation
- PoE and Dedicated Power Feeder Connectors
- SDN Microwave Domain Controller: SM-DC
- SilverView Network Management Software

Distributed By:

SILVERNET
WIRELESS-NETWORK-SOLUTIONS

Technical Specifications

Bespoke Frequencies	SIL SNTAplus2									
Radio										
Frequency	6L/6U GHZ	7/8 GHz	11 GHz	13/15 GHz	18/23 GHz	26 GHz	28 GHz	32 GHz	38 GHz	42 GHz
Frequency Range	5.9-7.1	7.11-8.5	10.2 - 11.7	12.7 - 15.3	17.7 – 23.6	24.5 – 26.5	27.5 – 29.5	32.8 – 33.4	37-40	40.5 – 43.5
Modulation Schemes	4 / 16 / 32 / 64 / 128 / 256 / 512 / 1024 / 2048 / 4096 QAM									
Throughput	Up to 2Gbps									
Frequency Stability	±5ppm									
Frequency Agility	20 KHz (Software Programmable)									
RTPC	Up to 30 in 1 dB steps									
ATPC	Up to 30 in 1 dB steps									
Network										
Interfaces	2xGbE copper ports, 2x 10Gb Optical									
Layer 2 Main Functionalities	MEF 2.0 Carrier Ethernet Services, 8 Queues with Flexible Scheduler (Strict Priority, WRR and Mixed), 4 Level 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 12Kbytes									
Security										
Encryption	AES 128-bit and 256-bit									
Other										
Environmental	ODU Weather Proofing Class: IP65					Operational Temperature Range: -33°C – 55°C Temperature Range Degraded Performances: -40°C – 60°C				
Power	-48 VDC (-15%, +20%) Supply					< 54W (with ATPC) Consumption				
Conformance	ETSI, FCC									
Dimensions	252 x 363 x 176 (mm)* / 9.9 x 14.3 x 6.9 (in)*									
Weight	11.5kg (< 18 GHz), 8kg (> 18 GHz)									

** SW license dependent

Technical Specifications

Bespoke Frequencies	SIL SNTAplus2									
Radio										
Frequency	6L/6U GHZ	7/8 GHz	11 GHz	13/15 GHz	18/23 GHz	26 GHz	28 GHz	32 GHz	38 GHz	42 GHz
Frequency Range	5.9-7.1	7.11-8.5	10.2 - 11.7	12.7 - 15.3	17.7 – 23.6	24.5 – 26.5	27.5 – 29.5	32.8 – 33.4	37-40	40.5 – 43.5
Output Power (dBm) at point C										
4 QAM	+32	+32	+30	+28	+23	+22	+21	+20	+19	+17
16 QAM	+29	+29	+27	+25	+21	+20	+19	+18	+17	+15
32 QAM	+29	+29	+27	+25	+21	+20	+19	+18	+17	+15
64 QAM	+28	+28	+26	+24	+19	+18	+17	+16	+15	+13
128 QAM	+28	+28	+26	+24	+19	+18	+17	+16	+15	+13
256 QAM	+27	+27	+25	+23	+18	+17	+16	+15	+14	+12
512 QAM	+27	+27	+25	+23	+18	+17	+16	+15	+14	+12
1024 QAM	+26	+26	+24	+22	+17	+16	+15	+14	+13	+11
2048 QAM	+26	+26	+24	+22	+17	+16	+15	+14	+13	+11
4096 QAM	+26	+26	+24	+22	+17	+16	+15	+14	+13	+11
Receiver Sensitivity (dBm) at BER 10-6 at point C (1+0, 28MHz BW, RF Filter Losses Included)										
4 QAM	-88.5	-88.5	-88	-88	-87.5	-87	-85.5	-85	-85.5	-84.5
16 QAM	-82.5	-82.5	-82	-82	-81.5	-81	-79.5	-79	-79.5	-78.5
32 QAM	-77.5	-77.5	-77	-77	-76.5	-76	-74.5	-74	-74.5	-73.5
64 QAM	-74.5	-74.5	-74	-74	-73.5	-73	-71.5	-71	-71.5	-70.5
128 QAM	-71	-71	-70.5	-70.5	-70	-69.5	-68	-67.5	-68	-67
258 QAM	-68	-68	-67.5	-67.5	-67	-66.5	-65	-64.5	-65	-64
512 QAM	-67	-67	-66.5	-66.5	-66	-65.5	-64	-63.5	-64	-63
1024 QAM	-64	-64	-63.5	-63.5	-63	-62.5	-61	-60.5	-61	-60
2048 QAM	-59.5	-59.5	-59	-59	-58	-58	-56.5	-56	-56.5	-55.5
4096 QAM	-56	-59.5	-55.5	-55	-55	-54.5	-53	-52.5	-53	-52

** SW license dependent

SIL AGS20

SIL AGS20
SIL AGS20L
SIL AGS20M

6-42GHz Bespoke Frequencies

SIL AGS20
7-42GHz Split Mount,
46Gbps Full Duplex

SIL AGS20M
7-42GHz Split Mount,
53Gbps Full Duplex

SIL AGS20L
7-42GHz Split Mount,
100Gbps Full Duplex

OVERVIEW

The SIL AGS20 is a Universal Microwave Aggregation Platform which efficiently addresses the different RAN generation needs over a common wireless transport infrastructure, including LTE-Advanced and 5G new stringent requirements.

The SIL AGS20 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 SIL ASNK ODU is compact in size with less than 2 litres volume and with a benchmarking power consumption of 10W, help operators in diminishing C02 emissions.

Features

- SM-OS Based Platform
- 4-4096QAM Modulation
- Hitless Adaptive Code and Modulation
- Multilayer Header Compression
- L1 Radio LAG Over Multiple ODU
- Extended Ethernet Connectivity: 10/2.5/GE Interfaces
- AES128/258 Encryption
- Mixed TDM/Ethernet Interfaces for Duel Native Transport
- Multi Carrier Aggregation
- PWE3 TDM Services Defined by Software for Full Packet Networks
- Power over Ethernet (PoE)
- Single Universal ODU for any Capacity and Modulation
- WEB Management
- SilverView Network Management Software

Distributed By:

Technical Specifications

SIL ASNK

SIL ASNK
7-42GHz Split Mount,
Full Outdoor Unit compatible
with SIL AGS20 range.

Bespoke Frequencies	SIL ASNK ODU												
Radio													
Frequency	4 GHz	6L/6U GHz	7/8 GHz	10/11 GHz	13 GHz	15 GHz	18 GHz	23 GHz	26 GHz	28 GHz	32 GHz	38 GHz	42 GHz
Frequency Range	4.4-5	5.9-7.1	7.11-8.5	10.2-11.7	12.7-13.2	14.4-15.3	17.7-19.7	21.2-23.6	24.5-26.5	27.5-29.5	32.8-33.4	37-39.5	40.5-43.5
Modulation Schemes	4 QAM / 16 QAM / 32 QAM / 64 QAM / 128 QAM / 256 QAM / 512QAM / 1024 QAM / 2048 QAM / 4096 QAM												
Channel Spacing	7 MHz / 14 MHz / 28 MHz / 40 MHz / 56 MHz / 112 MHz												
Throughput	Up to 1Gbs per radio channel												
Frequency Stability	±5 ppm												
Frequency Agility	250 KHz (software programmable)												
RTPC	Up to 30 in 1 dB steps												
ATPC	Up to 30 in 1 dB steps												
IDU/ODU Interconnection per terminal	50Ω Coaxial Cable												
Other													
Dimensions (WxHxD)	254 x 254 x 114 (mm) / 10 x 10 x 4.5 (in) (Below 18GHz) 182 x 182 x 65 (mm) / 7.1 x 7.1 x 2.5 (in) (Above 18GHz)												
Overall Power Consumption	1+0 terminal ≤ 45W 1+1 terminal ≤ 60 W												
Environmental Performance	ODU weather proofing class: IP67 Operating Temperature Range -35°C to +55°												
Altitude	3000m												
Compliant with	ETSI EN302 217 / FCC Part 101												

** SW license dependent

Technical Specifications

Bespoke Frequencies	SIL ASNK ODU									
Radio										
Frequency	6L/6U GHZ	7/8 GHz	11 GHz	13/15 GHz	18/23 GHz	26 GHz	28 GHz	32 GHz	38 GHz	42 GHz
Frequency Range	5.9-7.1	7.11-8.5	10.2 - 11.7	12.7 - 15.3	17.7 – 23.6	24.5 – 26.5	27.5 – 29.5	32.8 – 33.4	37-40	40.5 – 43.5
Output Power (dBm) at point C										
4 QAM	+32	+32	+30	+28	+23	+22	+21	+20	+19	+17
16 QAM	+29	+29	+27	+25	+21	+20	+19	+18	+17	+15
32 QAM	+29	+29	+27	+25	+21	+20	+19	+18	+17	+15
64 QAM	+28	+28	+26	+24	+19	+18	+17	+16	+15	+13
128 QAM	+28	+28	+26	+24	+19	+18	+17	+16	+15	+13
256 QAM	+27	+27	+25	+23	+18	+17	+16	+15	+14	+12
512 QAM	+27	+27	+25	+23	+18	+17	+16	+15	+14	+12
1024 QAM	+26	+26	+24	+22	+17	+16	+15	+14	+13	+11
2048 QAM	+26	+26	+24	+22	+17	+16	+15	+14	+13	+11
4096 QAM	+26	+26	+24	+22	+17	+16	+15	+14	+13	+11
Receiver Sensitivity (dBm) at BER 10-6 at point C (1+0, 28MHz BW, RF Filter Losses Included)										
4 QAM	-88.5	-88.5	-88	-88	-87.5	-87	-85.5	-85	-85.5	-84.5
16 QAM	-82.5	-82.5	-82	-82	-81.5	-81	-79.5	-79	-79.5	-78.5
32 QAM	-77.5	-77.5	-77	-77	-76.5	-76	-74.5	-74	-74.5	-73.5
64 QAM	-74.5	-74.5	-74	-74	-73.5	-73	-71.5	-71	-71.5	-70.5
128 QAM	-71	-71	-70.5	-70.5	-70	-69.5	-68	-67.5	-68	-67
258 QAM	-68	-68	-67.5	-67.5	-67	-66.5	-65	-64.5	-65	-64
512 QAM	-67	-67	-66.5	-66.5	-66	-65.5	-64	-63.5	-64	-63
1024 QAM	-64	-64	-63.5	-63.5	-63	-62.5	-61	-60.5	-61	-60
2048 QAM	-59.5	-59.5	-59	-59	-58	-58	-56.5	-56	-56.5	-55.5
4096 QAM	-56	-59.5	-55.5	-55	-55	-54.5	-53	-52.5	-53	-52

** SW license dependent

Technical Specifications

Bespoke Frequencies	SIL AGS20		
Split Mount	**1xIF**	**2xIF**	**4xIF**
Configuration	1+0	1+0 / 1+1 / 2+0 XPIC Radio LAG	1+0 / 1+1 / 2+0 / 4+0 XPIC Radio LAG
Switching Capability	46 Gbps Full Duplex		
TDM Transmission Capability	Up to 126 x E1 (Per Radio Direction)		
Modulation	4 QAM to 4096 QAM with Hitless ACM		
Ethernet / Radio Interfaces	1 x IF (ODU) 2 x GE Electrical 4 x GE SFP (1 / 2.5 Gbps) 2 X GE Combo (Electrical / Optical)	2 x IF (ODU) 2 x GE Electrical 4 x GE SFP (1 / 10 / 2.5 Gbps) 2 x GE Combo (Electrical / Optical)	4 x IF (ODU) 2 x GE Electrical 2 x GE SFP (1 / 10 / 2.5 Gbps) 2 x GE Combo (Electrical / Optical)
TDM Interfaces (Optional)	16 x E1 Native / PWE3 Mode Software Selectable 2 x STM-1 Native NBUS (Nodal Expansion)		
Synchronization Interfaces	1pps / ToD / 2048 KHz		
Local Maintenance Interfaces	Console Port / LAN Port		
Network			
Layer 2 Functionalities	MEF 2.0 Certified, 8 Queues with Flexible Scheduler (Strict Priority, WRR and Mixed), 4 Level 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 Functionalities	LDP (Label Distribution Protocol) / TLDP, RSVP/RSVP-TE, MPLS LVPN / VPLS, MPLS L3VPN, MPLS TE using RSVP-TE, OSPFv2 and OSPF with TE Extension, BGPv4, MP-BGP, IS-IS, eBGP, BDP Bidirectional Forwarding Detection for PW VCCV, FRR Fast Re-Route, LSP RSVP-TE Protection 1:1, MPLS-OAM (with MPLS-TP)		
Security			
Encryption	AES 128-bit and 256-bit **		
Other			
Environmental	ODU Weather Proofing Class: IP67	IDU Temperature Range: -5°C to +55°C ODU Temperature Range: -35°C to +55°C	
Conformance	ETSI EN 302 217 / FCC Part 101		
Dimensions	442 x 44 x 223 (mm_ - 17.4 x 1.7 x 8.7 (in)		

** SW license dependent

Technical Specifications

Bespoke Frequencies	SIL AGS20M	
Split Mount		
Configuration	1+0 / 2+0 / 4+0 / 1+1 / 2+2/ XPIC / Radio LAG	
Switching Capability	53 Gbps full duplex	
TDM Transmission Capability	Up to 126 x E1 (per radio direction)	
Modulation	4 QAM to 4096 QAM with Hitless ACM	
Ethernet / Radio Interfaces	Main Board Unit 2 x IF Module 4 x 10 Gbps, 4 x GE, 2 x GE SFP 8 x E1 Native or PWE3 Expansion Unit 2 x IF Module	
TDM Interfaces (Optional)	16 x E1 Native / PWE3 Mode Software Selectable 2 x STM-1 Native NBUS (Nodal Expansion)	
Synchronization Interfaces	1pps / ToD / 2048 KHz	
Local Maintenance Interfaces	Console Port / LAN Port	
Network		
Layer 2 Functionalities	MEF 2.0 Certified, 8 Queues with Flexible Scheduler (Strict Priority, WRR and Mixed), 4 Level 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 Functionalities	LDP (Label Distribution Protocol) / TLDP, RSVP/RSVP-TE, MPLS LVPN / VPLS, MPLS L3VPN, MPLS TE using RSVP-TE, OSPFv2 and OSPF with TE Extension, BGPv4, MP-BGP, IS-IS, eBGP, BDP Bidirectional Forwarding Detection for PW VCCV, FRR Fast Re-Route, LSP RSVP-TE Protection 1:1, MPLS-OAM (with MPLS-TP)	
Security		
Encryption	AES 128-bit and 256-bit **	
Other		
Environmental	ODU Weather Proofing Class: IP67	IDU Temperature Range: -5°C to +55°C ODU Temperature Range: -35°C to +55°C
Conformance	ETSI EN 302 217 / FCC Part 101	
Dimensions	442 x 44 x 223 (mm_ - 17.4 x 1.7 x 8.7 (in)	

** SW license dependent

Technical Specifications

Bespoke Frequencies	SIL AGS20L
Split Mount	
Configuration	1+0 / 2+0 / 4+0 / 8+0 / 1+1 / 2+2/ 4+4/ XPIC / Radio LAG
Switching Capability	100 Gbps full duplex
TDM Transmission Capability	Up to 126 x E1 (per radio direction)
Modulation	4 QAM to 4096 QAM with Hitless ACM
Ethernet / Radio Interfaces	Core card 2 x 10 Gbps + 2 x 100Base T for DCN DRI-2 card 2 x 10 Gbps Module ARI-2 card 2 x IF Module / 2 x IF Module +1 x10Gbps ETH card 2 x 10 Gbps / 4 x GE electrical + 4 x GE SFP / 8 x GE SFP TDM card 8 x E1+2 STM-1 / 16 x E1 FAN card Up to 2 module per IDU PSU card Nominal -48VDC
TDM Interfaces (Optional)	16 x E1 Native / PWE3 Mode Software Selectable 2 x STM-1 Native NBUS (Nodal Expansion)
Synchronization Interfaces	1pps / ToD / 2048 KHz
Local Maintenance Interfaces	Console Port / LAN Port
Network	
Layer 2 Functionalities	MEF 2.0 Certified, 8 Queues with Flexible Scheduler (Strict Priority, WRR and Mixed), 4 Level 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 Functionalities	LDP (Label Distribution Protocol) / TLDP, RSVP/RSVP-TE, MPLS LVPN / VPLS, MPLS L3VPN, MPLS TE using RSVP-TE, OSPFv2 and OSPF with TE Extension, BGPv4, MP-BGP, IS-IS, eBGP, BDP Bidirectional Forwarding Detection for PW VCCV, FRR Fast Re-Route, LSP RSVP-TE Protection 1:1, MPLS-OAM (with MPLS-TP)
Security	
Encryption	AES 128-bit and 256-bit **
Other	
Environmental	ODU Weather Proofing Class: IP67	IDU Temperature Range: -5°C to +55°C ODU Temperature Range: -35°C to +55°C
Conformance	ETSI EN 302 217 / FCC Part 101
Dimensions	442 x 44 x 223 (mm_ - 17.4 x 1.7 x 8.7 (in)

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