

SDMSU™

Key Features

- 1RU Standalone for up to 4 Carriers up to 500 MHz each
- Modulations up to 4096 QAM
- Low Latency
- Aggregate Data rates over 10 Gbps
- Dual XPIC Pairs
- Carrier Aggregation
- AES Security
- Header and Data Compression
- Powerful Carrier Ethernet MPLS, L2, L3 Features
- 10G/2.5G/1G/100M CPRI/E1/T1/STM-1 Interfaces
- Co-Processors for Applications development
- Supports Customized NMS, SNMP

Applications

- Macrocell Backhaul
- Small-cell Aggregation
- Trunking or Access Networks
- Emerging Fronthaul Applications
- Mobile Backhaul
- ISPs
- Utilities, Large Enterprises, Private

SDMSU™ Overview

This SDMSU™ is a flexible, low-cost, feature-rich Multi-Services and Signal Processing Unit solution for microwave and millimeter-wave radios in the global telecommunications market. The SDMSU™ platform delivers ultra-high capacities while supporting multiple radio transmission technologies, network topologies and deployment configurations. It incorporates a unique System-On-a-Chip (SOC) resulting superior radio performance with reduced power consumption and form-factor. Modulation and data throughput rates are QPSK-4096 QAM and 1-2500 Mbps per carrier, respectively. It allows full support for IP and TDM services, featuring advanced Carrier Ethernet capabilities, as well as TDM processing and enhanced security features. Standard interfaces include 16x E1/T1, 10/100/1000/2500 Ethernet, and 2xSTM-1/OC-3. Optional interfaces are 4x10/100/1000/2500 and 10 Gbps Ethernet SFP and CPRI ports with an aggregate capacity of 10 Gbps.

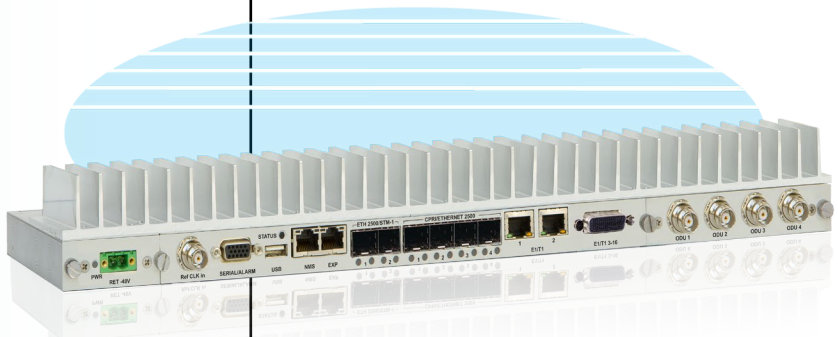
For hybrid requirements, the SDMSU™ nodal configuration supports a rich set of Carrier Ethernet advanced switching capabilities as well as multi-service TDM transport, enabling operators to boost performance in today's networks, while providing a cost-effective path to emerging requirements.

CarrierComm's SDMSU™ is designed to support flexible payload types and data rates, as well as payload switching, in 1+0 unprotected, 2+0 east/west, 4+0 east/east, and 1+1 protected configurations. Complex trunking networks in 8+0/N+1 configurations are supported. Two pairs of Cross Polarization Interference Cancellation (XPIC) are also supported.

Nodal architectures are accommodated, with a maximum of 4 ODUs interfaced in a 1RU chassis. In addition to supporting standard microwave ODUs, optional interfaces include millimeter wave ODU and multi-channel ODUs. Support of non-contiguous channels with carrier aggregation is a leading market product feature. Technology leading differentiators such as Spectrally Efficient LDPC (SE-LDPC) is incorporated, which translates to increased radio range and data throughput.

Reasons to Buy the SDMSU™

The SDMSU™ offers volume capacity and proven performance for applications worldwide. The SDMSU™ is designed to simplify product logistics and spare parts management while minimizing overall product life cycle costs. The passive cooling design addresses the challenges of harsh environments and increases product reliability.



SPECIFICATION SUMMARY

Network Interface	Network	Modem	Intermediate Frequency
<p>Standard Configuration 4x10/100/1000 Eth (RJ-45) 2x10/100/1000/2500 Eth (SFP) or 2xSTM-1/OC-3 16xE1/T1</p> <p>Options 4xSFP (replaces 4xRJ-45): 4x10/100/1000/2500 Eth or 4x1228.8/2457.6/3072.0 CPRI 1x10G Ethernet or CPRI</p>	<p>Standard Configuration Flexible Platform Processor SNMP Full Featured MIB Built-in Web-based GUI Embedded HTML Server Security CLI Crosspoint Switch STM-1 to E1/T1 Mux/Demux Ethernet Switch Ethernet Compression: Packet Data Packet Header Synchronization: SyncE, IEEE 1588, SONET/SDH, E1, T1 Link Aggregation</p> <p>Options Synchronization Master with GPS</p>	<p>Standard Configuration Flexible modulation: QPSK - 4096-QAM Flexible Forward Error Correction: Spectrally Efficient - LDPC Trellis Coded Modulation Reed-Solomon Hitless Adaptive Modulation and Coding with Transmit Power Control Low-Latency Operation Cross Polarization Operation (XPIC) Carrier Aggregation Pre-distortion Compression (Ethernet only) Encryption (AES) Up to Four Channel Operation (4+0, 3+1, 2+0, etc)</p> <p>Options Interconnect with 2nd SDIDU (8+0, 7+1, etc) 4x4 MIMO</p>	<p>Standard Configuration Transmit: 350 MHz Receive: 140 MHz Bandwidth: 7-112 MHz</p> <p>Options High Bandwidth IF Module Bandwidth: 7-500 MHz per Carrier Tx/Rx IF: Variable Baseband I & Q Outputs</p>

SPECIFICATION SUMMARY

PAYLOAD CAPACITY

Payload Capacity:	3000Mbps per Carrier (500 MHz BW)
Ethernet (80 MHz):	700Mbps (1+0) 1400Mbps (2+0 or XPIC); 2800Mbps (4+0)
Ethernet (250 MHz):	2000Mbps (1+0); 4000Mbps (2+0 or XPIC); 8000Mbps (4+0)
Ethernet (500 MHz)	3000Mbps (1+0); 6000Mbps (2+0 or XPIC); 10,000Mbps (4+0)
TDM:	16xE1/T1 + Ethernet
SDH:	2xSTM-1 + 16xE1/T1 + Ethernet
CPRI (500 MHz, 4+0):	4xCPRI (3072.0 Mbps) + Ethernet
CPRI (250 MHz, 4+0):	4xCPRI (2457.6 Mbps) + Ethernet
CPRI (125 MHz, 4+0):	4xCPRI (1228.8 Mbps) + Ethernet
Max. Packet Size:	16000 bytes
XPIC Support	Two XPIC channel pairs supported
Carrier Aggregation BW:	Up to 2000 MHz
Protection Modes:	n + 1 (n = 1 to 7)
Multinodal:	4+0 in a single chassis; 8+0 with two chassis

FRONT PANEL CONNECTORS

STM-1/OC3	SFP
14x E1/T1	Molex DB60F
2x E1/T1	RJ-48C
CPRI	SFP
Scalable Ethernet	RJ-45/SFP/SFP+
IF Cable Connector	TNC Female
NMS	RJ-45

PAYLOAD INTERFACE OPTIONS

STM-1 + E1/T1 + Ethernet	2xSTM-1 + 16xE1/T1 + 6xEthernet
CPRI + Ethernet:	4xCPRI + 2xEthernet

LOCAL MANAGEMENT

Support	SNMP, Fully featured MIB, Web-based GUI, Embedded HTML server, CLI
Interface	10/100 Ethernet, RS-232, USB

MECHANICAL

Size	445Wx238.5x44.5 mm (1RU)
Weight	3.4 kg

ETHERNET FEATURES

RSTP & MSTP	RSTP Complies with IEEE 802.1D-2004; MSTP Complies with IEEE 802.1Q-2003 Complies with IEEE 802.3ad
LACP	Complies with MEF 6, 9, 10.1, 11, 14 Complies with IEEE 1588v2; ITU-T G.8262
Metro Ethernet Forum	CFM complies with IEEE 802.1ag & ITU-T Rec. Y.1731
SyncE/1588	OAM complies with IEEE 802.3ah Complies with IEEE 802.1D-2004
Connectivity Fault Management	Complies with ITU-T G.8031/G.8032 Port-based, 802.1Q VLAN TAG, IPv4/6 DiffServ, MPLS; Eight-level priority queue (SP/WFQ/WRR); WRED
Operation, Admin. & Maint.	Classification; Forwarding
Bridging	Layer 2; Layer 3
Ethernet Linear/Ring Protection	Port; Buffer
QoS	Low-latency class; high-priority precedence Packet header; Packet data
Congestion Management:	
MPLS/MPLS-TP	
Forwarding:	
Statistics:	
Packet Fragmentation:	
Compression:	

ELECTRICAL

Input Voltage	±20 to ±72 VDC
Power Consumption	
Nonprotected	57-65 W (typical/depending on ODU frequency)
Protected	114-130 W (typical/depending on ODU frequency)

ENVIRONMENTAL

Temperature	-30°C to +60°C
Relative Humidity	0 to 95%, non-condensing
Altitude	4500 meters
Cooling:	Conductive (no fan)

OUTDOOR UNIT INTERFACE

Intermediate Freq. Range	Tx: 350 MHz, Rx: 140 MHz
Emissions Bandwidths	ETSI, FCC
ODU Command Interface	ODU Specific
Connector	TNC or SMA
Female	

INDOOR INTERFACE

Baseband I,Q	Connector Quad SFP
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