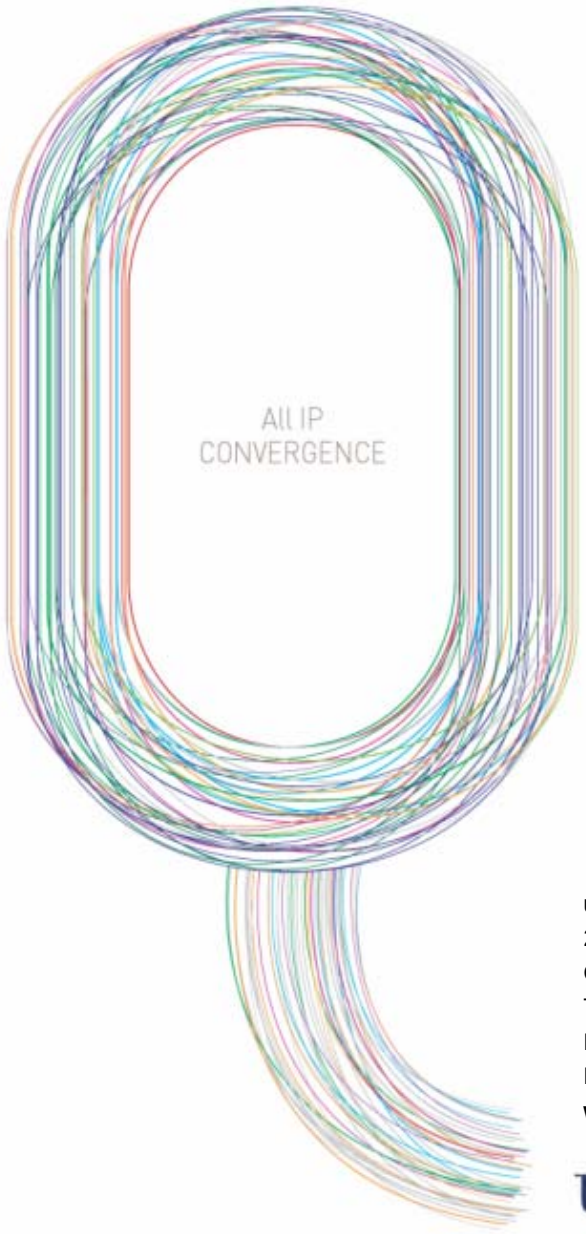
ubiQuoss Products

■ **Datasheet**



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VDSL2 Solution

U3024L

U3024L

Overview

U3024L is high performance set of DSLAM which enables highest possible traffic bandwidth of 100Mbps (both way, at peak rate). U3024L can be applied to optical fiber or ethernet base subscriber network where it executes the functions of concentration and switching. U3024L is usually placed at regional office, MDF room of MTU/MDU or various forms of outdoor containers.

U3024L is connected to user device via VDSL2 modem. By using of the layer 2 Ethernet switching function the system can be integrated into any forms of small or medium size networks. With the feature of hardware based multicasting function like IGMP (Internet Group Management Protocol) snooping. U3024L can effectively support real time streaming services which are core requirements for next generation multimedia applications.

U3024L can support differentiated Triple Play Service according to SLA (Service Level Agreement) based on its powerful bandwidth management function and QoS (Quality-of-Service) handling ability.

U3024L has equipped VDSL2 service interface based on DMT technology which guarantees 100/100 Mbps up/down symmetrical communication. The available bandwidth the system can guarantee varies according to the implemented profiles, and the highest rate is 100Mbps at maximum in both Uplink and Downlink individually (symmetrical mode).

U3024L is an IP based VDSL system having Layer2 switching function. Thus it supports all the variety of L2 switches including VLAN, Rate limit, Port trunking, Port mirroring, IGMP Snooping, Packet filtering.

Features

- 19” Rack mountable
- Fully compliant with VDSL2 standards and band plans(8a/b, 12/a/b, 17a, 30a)
- Layer 2+/Layer 3 aware switch
- Over-voltage protection circuits
- Total 4-port Gigabit Ethernet uplink
  - 2 port fixed 10/100/1000Base-T
  - 1 uplink expansion module (2 ports/module)
- External alarms & external FAN control interface
- Uplink stacking(Daisy-chain)
- Profile auto switching
- Dying gasp
- OLR(On Line Reconfiguration)
- Low power consumption(including power supply efficiency)
  - 2.9W/port @ system total(U3024L)
  - 1.7W/port @ VDSL line(U3024L)

- IPv4/IPv6 dual stack

Types of DSLAMS

Model	Type	Interface	Deployment
U3024L	Pizza box	DOWN - 100Mbps 24Port VDSL - Champ Connector Connection UP - GEPON(TEK,PMC) - COMBO(1000B-X/100B-FX or 10/100/1000B-TX) - 2 SLOT Optional pluggable Type	MDF

Specification

Item	U3024L
Picture	
System Architecture (I/F)	DOWN - 100Mbps 24Port VDSL - Champ Connector Connection UP - GEPON(TEK,PMC) - COMBO(1000B-X/100B-FX or 10/100/1000B-TX) - 2 SLOT Optional pluggable Type LED, FAN Module, SMPS, Ground Terminal, MNG Port, Console(RJ45 Type)
Main chipset	CPU (SWITCH) : BROADCOM BCM56025 VDSL : IKANOS CO-5L
CPU Memory	128MB DDR SDRAM Main Memory 32MB Flash Memory (Boot,OS,Config, History)
Management	Management via CLI and Telnet/SSH Network management based on SNMP v1/v2/v3 Upgrade via remote TFTP
Physical Dimension	19” Rack Mount Type, 1.5U 66mm(H) x 483 mm(W, Rack Guide included) x 320mm(D)
FAN	FAN Module (50mm x 50mm x10mm, 3EA) 2SET
LED	PWR, ACT(CPU Running), MNG L/A, FAN Fail, VDSL Sync
Environment Conditions	
Input power & frequency	AC 100~240 V 1A / 50~60 Hz
Power consumption	Max. 80W
Operating temperature	-20℃~ 60℃
Storage temperature	-30℃~ 70℃
VDSL Performance	
Line modulation Way	DMT (Discrete Multi-Tone)
VDSL Framing	ITU-T 993.1 VDSL1, 993.2 VDSL2
Maximum transmutation Speed	Downstream: 100Mbps, Upstream: 100Mbps(VDSL1 & 2)
Applied Profile	8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a
Applied Function	UPBO (Upstream Power Back-Off) U0, ADSL, ISDN Band Amateur Radio(HAM) Band Data Channel: Interleave/Fast Channel INP (In case of using Slow Channel)

	U0 Band Automatic operation and selecting frequency Line MIB ADSL Friendly Trellis coding Loopback for EOC 30a Profile-8kHz Tone Spacing 8a, 8b, 8c, 8d, 12a, 12b, 17a Profile-4kHz Tone Spacing Frequency band : 6 Band(D1~D3, U1~U3) Less than 12M band : G.993.2 Annex A More than 12M band : G.993.2 Annex C OLR(On Line Reconfiguration)
SWITCH Performance	
Mac Address and VLAN numbers	Full throughput for all ports (Non-blocking) 16 K MAC, 4K VLANs
Multicast numbers	IGMP Snooping v2/v3 and IGMP proxy Max no. of groups: 1024
Layer2	IEEE 802.1p QoS IEEE802.1Q VLAN IEEE802.3ad LACP, Static Trunking DHCP simplified with option82 Mirroring STP (IEEE802.1d), RSTP (IEEE802.1w) (per VLAN, PVST)
Security	Layer 1 ~ 4 packet filtering NetBIOS/NetBEUI filtering private DHCP packet filtering MAC address limitation (255 numbers) per port Ingress & Egress limitation Broadcast/Multicast/DLF packet block TCP Sync attack protection TCP port scan attack block Abnormal source MAC Block Packet Dump for analyzing packet Loopback detection and block Port blocking and alarm function via Port Flood Guard ARP Inspection CPU Inflow packet control Unicast/ICMP/IGMP Storm Control ARP Spoofing protection ICMP packet numbers limitation
QoS	QoS including IEEE802.1p and DiffServ/TOS 8 queues per port DSCP marking/remarking CoS marking/remarking SPQ, WRR, DRR scheduling
Flow Control	HOL Blocking prevention Back pressure IEEE802.3x flow control
Multicasting	IGMP Snooping IGMP Proxy IGMP Querier IGMP Statistics
DHCP	DHCP relay with option 82 DHCP Snooping

U3108B

U3108B

Overview

Ubiquoss 3108B provides users with voice and data communication service using VDSL2 (Very high-data rate Digital Subscriber Line) technologies. It is suitable for providing more advanced services to the users in apartments, building, hotel etc since it can save cost because it uses the existing telephone lines without requiring additional category 5 cabling.
Ubiquoss 3108B provides 8 port VDSL2 service interface and 8 port 10/100Base-TX for connection to Layer 2 switch to allow enterprises or service provider's customers to build optimized network environment economically.
By implementing state-of-the-art DMT method of VDSL2 service interface, it guarantees the transfer speed of 100/100 Mbps of sync/async maximum transfer speed.
All the ports of Ubiquoss 3108B VDSL support full duplex communication. Because full duplex communication type allows the both directions of traffic to flow at the same time, the link bandwidth can be effectively extended twice. And all the 10/100Base-TX ports provide the function to set optimized communication mode automatically.

Specification

U3108B Specification	
System Architecture	Pizza box type VDSL2 DSLAM - 1 AC Power - 8 port VDSL2 - Splitter for 8 subscribers - 2 FAN
Main Processor	MIPS 32, 200MHz
Memory	16MB Memory
Physical Dimension	435mm(W) x 300mm(D) x 22mm(H) 2 Kg
Environment Conditions	
Power supply and frequency	5V DC / 2A AC Power Input : 100~240 V / 50~60 Hz DC Power Output : 5V / 2A
Power consumption	Max. 20.9 W
Operating temperature	-10℃~ 50℃
Operating humidity	5 ~ 85%
Media Interfaces	
Interface Type	Uplink: 8port 10/100Base-TX Downlink: VDSL2 8port

Management	100Base-TX(RJ-45 type)
Console	RS-232C Serial Port (RJ-45 type)
VDSL specification	
VDSL2 Standard	Line Coding : DMT Standard profile support (8a/b/c/d, 12a/b, 17a, 30a) Symmetric 4K FFT/IFFT engine Backward compatibility to VDSL1 spec Fully compliant VDSL2 standard 64/65 and HDLC support , including EFM pre-emption Multimode support (VDSL2, VDSL1, ADSL2+, ADSL)

Outdoor Cabinet and U3024BO

Outdoor Cabinet U3024BO

Overview

Outdoor Cabinet is an environmentally controlled enclosure supporting U3024BO with fan shelves, surge protector. Outdoor cabinet enables service providers to cost-effectively deploy high densities of broadband services such as ADSL and VDSL.

U3024BO is high performance set of DSLAM which enables highest possible traffic bandwidth of 100Mbps (both way, at peak rate). The system can be applied to optical fiber or ethernet base subscriber network where it executes the functions of concentration and switching. The U3024BO DSLAM is installed in outdoor cabinet.

U3024BO is connected to user device via VDSL2 modem. By using of the layer 2 ethernet switching function the system can be integrated into any forms of small or medium size networks. With the feature of hardware based multicasting function like IGMP (Internet Group Management Protocol) snooping, the system can effectively support real time streaming services which are core requirements for next generation multimedia applications.

U3024BO can support differentiated TPS services according to SLA (Service Level Agreement) based upon its powerful bandwidth management function and QoS (Quality-of-Service) handling ability.

U3024BO has equipped U3024BO service interface based upon DMT technology which guarantees 100/100 Mbps up/down symmetrical communication. The available bandwidth the system can guarantee varies according to the implemented profiles, and the highest rate is 100Mbps at maximum in both Uplink and Downlink individually (symmetrical mode).

U3024BO system is an IP based VDSL system having Layer2 switching function. Thus it supports all the variety of L2 switches including VLAN, Rate limit, Port trunking, Port mirroring, IGMP Snooping, Packet filtering.

Features

- IKANOS CO5 100/100 + Broadcom BCM5651 based system
- Outdoor type: U3024BO, 24 fixed VDSL2 ports
- Support VDSL2 standards & band plans (8a/b/c/d, 12a/b, 17a, 30a)
- Layer 2+/Layer 3 aware switch
- Included Splitter & over-voltage protection circuits

- Total 4-port Gigabit Ethernet uplinks
  - 2 port fixed 10/100/1000Base-Toptional uplink module supports
  - 2 additional ports
- External alarms & external FAN control interfaces
- Suitable 19” rack mountable size

Types of DSLAMS

Model	Type	Interface	Deployment
U3024BO	Outdoor	• 24-port VDSL2 Line Interface • 2-port 10/100/1000Base-TX Uplink (Option) - 2-port 100Base-FX(MMF/SMF) - 2-port 1000Base-X(SFP)	Telegraph Pole

Specification

Item	U3024BO
Picture	
System Specification	
System Architecture	Outdoor type VDSL2 DSLAM -1 AC - 24-port VDSL2 - Splitter for 24 subscribers(Modular, Hot-swap) - 1 FAN slot - 1 Uplink slot(Hot-swap)
CPU	32KB I-cache/D-Cache memory
Memory	128MB Main Memory 32MB Flash Memory 2MB Boot Memory
Physical Dimension	19” Rack Mountable 482.6 * 250 * 66mm(W*H*D) Max. 6Kg
Environment Conditions	
Input Power & Frequency	AC: 110-220VAC/50-60Hz
Power Consumption	Max. 80W
Operating Temperature	-20 ℃ ~ 60 ℃
Operating Humidity	10 ~ 90%
Storage Temperature	-20 ℃ ~ 70 ℃
Media Interface	
Interface Type	Uplink (Max. 4 ports) - Default: 2-port 10/100/1000Base-TX - Expansion: 2-port 1000Base-X(SFP)/100Base-FX, 10/100/1000Base-TX Downlink - Fixed 28 VDSL2 ports(8-ports/Module)
Management	100Base-TX(RJ-45)
Console	RS-232C Serial Port(RJ-45)
Performance	
Switching Fabric	12.8Gbps non-blocking
Throughput	9.5Mbps wire-speed L2 Switching
Capacity	
MAC Address	16K MAC Management
VLAN	256 VLANs
Filtering	Access/Security Control filters

VDSL2 Specification	
VDSL2 Standard	Fully compliant with VDSL2 standard Supports standard profiles(8a/b/c/d, 12/1/b, 17a, 30a) Line Coding: DMT Symmetric 4K FFT/IFFT engine Backward compatibility to VDSL1 specification 64/65 and HDLC support including EFM pre-emption Multimode support(VDSL2, VDSL1, ADSL2+, ADSL) UPBO(Upstream Power Back-Off) HAM band rejection control Rate Adaptive @ 64kbps step Latency Path(Fast Path, Interleave Path) INP for Slow channel
Services and Features	
L2 Functions	VLAN: 256 Multi VLAN Link Aggregation STP, PVST(per VLAN STP) Jumbo Frame Packet Support Port Trunking DHCP Relay
Multicasting Protocol	IGMP v2.0 IGMP snooping(IGMP Fast-leave, IGMP reports suppression) IGMP Proxy No. of IGMP Group: 250
QoS	802.1p 8 Queues Layer 1 ~ 4 based packet classification DSCP & CoS field Marking/Remarking 4 Queue per port SPQ WRR WFQ or DWRR
Bandwidth Management	Hardware based Symmetric and Asymmetric Bandwidth Management
Security	System access control by Packet Filtering - MAC Filtering, NetBEUI, NetBIOS, NBT Filtering, DHCP Filtering Subscriber Traffic control by ACLs(Access Control Lists) TCP Sync Attack protection TCP Port Scan Attack protection Broadcast storming prevention MAC flood guard ARP spooping
Management	CLI, Telnet, TFTP, RMON, SNMP I/II, Sys log, EMS, Port Mirroring
OA&M	Supports power saving mode-Reduced power consumption Remote modem reset and remote Firmware download Loop-back function through EOC Provides Inventory records of modem including manufacturer, barcode, F/W version, model name. etc. Remote collection and reference of statistics on modem Checking-up for VDSL line status(Link speed, SNR, Link status, profile etc) Detection of modem power status: ON/OFF
Standards	
IEEE Standards	802.1D Spanning Tree Protocol 802.1p Priority Control 802.1Q VLAN 802.3ad Link Aggregation 802.3u 100Base-X Fast Ethernet 802.3x Flow Control
IETF Standards	RFC 1112 IGMP RFC 2131 DHCP

	RFC 2236 IGMP v2
Management Standards & MIB	RFC 783 TFTP RFC 854 Telnet RFC 1157 SNMP vI RFC 1213 MIB-II RFC 1493 Bridge-MIB RFC 1757 RMON-MIB RFC 1902 SNMP v2 RFC 1907 SNMP-MIB
Software	
Security	Packet Filtering, Access List, VLAN
User Access Control	MAC Address filtering, Client number limit
IP Management	DHCP Server, DHCP Relay, DHCP Option 82(Circuit-ID, Remote-ID), DHCP Filtering
Transmission Mode	Half-Duplex and Full-Duplex
Switching	Store and forwarding
Management	CLI, ftp, Telnet, SNMP, RMON

VDSL2 Modem - C301N

Overview

ubiQuoss C301N is a VDSL2 modem that provides high speed Internet, multimedia service, and file downloading and uploading services utilizing the existing PSTN. It allows users to use telephone while using these services. C301N is easy to install and use for normal users. It provides subscribers in home, business area hotel, hospitals with high speed Internet access, Internet broadcasting, remote diagnosis, video conference, VoD, and provides data and call service using the same line as the existing telephone subscribers at the same time.

Specification

C301N Specification	
System Architecture	VDSL2 Modem Supports 100M in both direction
Physical Dimension	160 x 110 x 35mm(W x D x H)
Max. Transfer Rate	Sync or Async Downlink: Max. 100Mbps, Uplink: Max. 100Mbps
Max. Transfer Distance	3Km (0.4mm F/S line, FTTCab M1applied, U0 : 25K ~276KHz not used) For CO use: FTTX mode For normal use: FTTC mode U0 band: Not use
Modulation	DMT(Discrete Multi-Tone)
Environment Conditions	
Power Input	5V, 2A
Power Consumption	Max. 7.5 Watts
Power	Rated Input: AC 110 ~ 220V, 50/60Hz Rated Output: DC 5V / 2A
Operating Temperature	0℃~ 40℃
Operating Humidity	20 ~ 80%
Storage Temperature	-20℃~ 70℃
Media Interfaces	
Interface Type	CO Line : RJ-11 LAN(PC) : RJ-45 Tel.(Phone) : RJ-11
Power Switch	On, Off, Auot 3 step
Surge	Separate surge terminal to be connected
VDSL specification	
VDSL2	ETSI VDSL2 Standard

Standard	ITU ITU-T G.993.2 Line Coding : DMT Standard profile support (8a/b/c/d, 12a/b, 17a, 30a) Symmetric 4K FFT/IFFT engine Backward compatibility to VDSL1 spec Fully compliant VDSL2 standard Dual Interleaver, Dual latency for TPS service 64/65 and HDLC support , including EFM pre-emption

Environment Conditions

Operating Temperature: 0~40 °C
Relative Humidity: 20% ~ 80% (non-condensing)
Power consumption: 10 Watts (Max)
Input Voltage

- Adaptor: AC 110~220V
- C301N: 5V, 2A
- Frequency: 60Hz