Rikom Technologies SDN. BHD

RIKOM RI511-L Series Multi-Service CE/PTN Network Terminal

RIKOM RI511-L series CPE, as a new generation CE/PTN network terminal, is used in multi-service PSN (packet switched network) network for business leased line andmobile backhauling. It provides legacy service emulation over Ethernet/IP, transporting E1 lines over PSN. RIKOM RI511-L-4GC4E1-S is defined as a multi-Service PTN network terminal. It doesn't only guarantee intercommunication across PTN/ETH/IP/MPLS network, but also supports clock synchronizations, which is necessary in mobile backhaul applications. Moreover, zero-touch provisioning makes service activation more efficient. RIKOM RI511-L-4GC4E1-S has a variety of port morphology, such as 4 x E1 ports, 4 x GE combo ports, clock input/output port at client side and 2 x GE SFP ports at line side. Besides, the device is able to delivery hardware-based SLA performance monitoring through end-to-end or end-to-core topologies by adopting latest OAM standards including IEEE 802.3ah, IEEE 802.1agand ITU-T Y.1731. In addition, the KPIs including jitter, delay, and packet loss, reported and visualized on a per-service basis on L2 and L3 via RIKOM RI511-L-4GC4E1-S.

RI511-L-4GC4E1-BL-S

Highlights >>	
Network Security	Upgraded security with port-isolation, basic ACL, broadcast/multicast/DLF storm control, unique port loopback detection, and DHCP Client/Option82 functionality
Resiliency & Protection	ITU-T G.8031 linear and ITU-T G.8032 ring protection with switching time less than 50ms IEEE 802.1ax Link Aggregation G.8131 linear protection for MPLS-TP in LSP layer and PW layer
MPLS-TP	MPLS-TP compliant to G.8113.1, providing both scalability and service security
Ethernet OAM	IEEE 802.3ah Link OAM, IEEE 802.1ag end-to-end connectivity OAM and ITU-T Y.1731 end-to-end service and performance, SLA reporting
Management	Auto-Provisioning, Plug & Play, single IP for all the connected remote devices, end to end configuration Device management and VPN service management in NMS platform
SAT	Service activation test using Y.1564 up to 8 streams, acting as a generator or a reflector
QoS	Advanced QoS technology allows stream-marking based on CoS, DSCP, IP precedence and priority; scheduling modes including SP, WRR, SP+WRR; WRED, flow-based mirroring/rate-limit/redirection/VLAN swapping and rewriting
Clock	Carrier-class EDD with support of SyncE for mobile backhaul applications
Power Reliability	Dual hot-swappable power supply, with voltage/temperature alarms
PWE3	encapsulation protocols: SAToP and CESoPSN

Rikom Technologies SDN. BHD.
Level 15, Dpulze Cyberjaya Lingkaran Cyber point
Timur 63000 Selangor, Malaysia

Key Features >>	
Switching Mode	Store and forward mode; Supports Jumbo frame
Ethernet	MTU: 13k Bytes Up to 8k MAC Support 4,094 VLANs (C-tag), stacked VLANs (QinQ, S-tag) Layer 2 loopback on single and multiple flows Layer 2 control protocol (L2CP) handling
Synchronization	ITU-T G.8262 Synchronous Ethernet
IP Services	DHCP client, option 61 IPv4, Static management routing
Traffic Management	Service classification per port/VLAN/CoS (DSCP) Support SP, WRR and SP+WRR scheduling modes, and up to 8 queues per port color policing with color-aware and color-blind mode Bandwidth throttling per port/VLAN/CoS (DSCP), CIR/EIR per flow
Security	ACL based on VLAN, CoS, MAC, EtherType, IPv4, IPv6, or user-define RADIUS, TACACS+ Storm control (broadcast, multicast, DLF)
Reliability	Link aggregation group (LAG) Interface backup ITU-T G.8031 Ethernet link protection switching (ELPS) and G.8032 Ethernet ring protection switching (ERPS) with the automatic protection switchover time less than 50ms Port/VLAN-based Ethernet local loop detection Fault propagation AC&DC dual-feed power supplies
Ethernet OAM	IEEE 802.3ah EFM-OAM link management IEEE 802.1ag connectivity fault management (CFM) with 3.3ms CCM resolution ITU-T Y.1731 performance monitoring (PM) Hardware-based frame delay (FD) measurement Y.1564 Service Activation Test Hardware-based SLA KPIs per port or EVC, which include throughput, delay, jitter, packet loss and availability Dying gasp message in case of power failure
Auto-Provisioning	Auto-establishment of management tunnels across L2/L3 networks Easy generation and distribution of massive configuration files using GUI-based toolkit
System Management	Remote management via SNMP v1/v2/v3, Telnet and SSH v1/v2 Local management via console interface MEF 36 compliant MIB KeepAlive, RMON, LLDP, Syslog

	Port/VLAN/CoS-based statistics SFP digital diagnostic management (DDM) temperature and CPU monitoring Voltage and temperature monitoring Dual system
Fault Propagation	From line to client interface fault propagation (user configurable); Client interface fault propagation
MPLS-TP	MPLS OAM and APS MPLS L2VPN VPLS

Compliance >>

Standards & protocols	IEEE802.3, 802.3u IEEE802.3ad Link Aggregation IEEE802.1p, 802.1Q VLAN IEEE802.1ad QinQ IEEE802.3ah OAM IEEE802.1ag CFM ITU-T Y.1731 Services OAM ITU-T G.8031 ELPS ITU-T G.8032 ERPS IGMP v1/v2/v3 SNMPv1/v2c/v3 CE certified, UL RoHS compliance EMI Class A MEF6,8,9,10,11,13,14,16,17,20,31,36 CE2.0 MEF Certified ITU-T G.8262 RFC3985(PWE3) 4664(L2VPN)

Specifications >>

Performance	Switching backplane: 12Gbps;
Physical Interface	Management port: 1 console (USB); 1 out-of-band SNMP (RJ45) Client interfaces:4 x GE combo 1 x 2Mbit/2MHz clock interface (RJ45) 4 x E1 interfaces (RJ45/DB37); Network interfaces: 2 x GE SFP
Power Specs	100/240V AC, -36 to -72V DC 24V DC Full load: ≤25W
User Conditions	Operating temperature: -20 ~ +65˚C ; Storage temperature: -25 ~ +70˚C ; Humidity: 5~90% non-condensing
Dimensions	220(W)mm x 180(D)mm x 43.6(H)mm
Weight	≤ 2.5Kg

Ordering Information >>	
RI511-L-4GE-X	CE/MPLS demarcation CPE, 4x10/100/1000M RJ45 ports, 2x100/1000M SFP ports, X = AC/S, AC/D, DC/S, DC/D and AC_DC power options
RI511-L-4GC-X	CE/MPLS demarcation CPE, 4x10/100/1000M Combo ports, 2x100/1000M SFP ports, X = AC/S, AC/D, DC/S, DC/D and AC_DC power options
RI511-L-4GC4E1-S-X	CE/MPLS demarcation CPE, 4x10/100/1000M Combo ports, 2x100/1000M SFP ports, 4xE1 unbalanced ports (DB37 connector), 1 x 2Mbit/s or 2MHz external clock input/output port, X = AC/S, AC/D, DC/S, DC/D and AC_DC power options
RI511-L-4GC4E1-BL-S-X	CE/MPLS demarcation CPE, 4x10/100/1000M Combo ports, 2x100/1000M SFP ports, 4xE1 balanced ports (RJ45), 1 x 2Mbit/s or 2MHz external clock input/output port, X = AC/S, AC/D, DC/S, DC/D and AC_DC power options