ROUTER 6471

The Router 6471 is a compact and temperature hardened cell site router, designed to enable high quality network service delivery while at the same time lowering operating costs through features such as a completely fan-less mechanical design.

The router 6471 provides at small footprint GE and 10GE interfaces with right cost points, and superior synchronization features. It supports VPN services over IP/MPLS networks, service provider SDN, service exposure using NETCONF/YANG and extensive quality of service features.

The Router 6471 has strong security features such as IPSec, vendor credential and vendor software authentication ensuring data security even in insecure environments.

With 30Gbps of switching capacity, the Router 6471 delivers performance needed to fully support LTE, LTE Advanced, 5G, access sites for years to come.

The compact Router 6471 is part of the Ericsson Router 6000 Series, a radio integrated, service provider SDN enabled and subscriber aware IP transport family of products. The Router 6000 offers a range of high-performance routers with resiliency features and form factors optimized for the various needs of cell sites and backhaul networks.

The Ericsson Router 6000 Series is an essential component of the Ericsson Radio system and is tightly integrated with Ericsson Radio and Microwave to provide high capacity mobile backhaul with unprecedented quality of experience.

All routers in the Ericsson Router 6000 Series run the IP Operating System (IPOS), enabling accelerated feature delivery and operational efficiencies.

Ericsson Network Manager (ENM) manages the complete end-to-end network for both Mobile and Fixed deployments: Radio, Metro and Backhaul, Mobile Core, and Data Center. This enables seamless plug and play capabilities for radio and router installation and network operation.

High capacity and compact
Provides GE, 2.5GE and 10GE support and 30Gbps of switching capacity in an ultra-compact (1RU and ½ 19in rack width) and hardened form factor enabling lower rental costs and lower OPEX.

Precise and proven synchronization
Revenue generating services like VoLTE and LTE broadcast require precise synchronization. LTE-A enhancements such as COMP and e-ICIC that enable efficient use of spectrum also have stricter synchronization requirements. The Ericsson synchronization solution comes pre-verified to work with Radio.

Cutting-edge SDN capabilities and programmability
Provides application aware traffic engineering with open and standardized interfaces, enabling network slicing and ability to tailor services for utmost agility.

Designed for low CAPEX and OPEX
Router 6000 series uses merchant silicon and a cost optimized design to lower CAPEX. Its Fan-less and sealed design increases MTBF and removes the need for costly truck rolls every 3 months to inspect the filters, resulting in $1000 yearly OPEX savings/site.

Strong Security
Strong and complete security solution for Macro cell, Small Cell and Aggregation in trusted and untrusted environments enables ubiquitous deployments.

Radio integrated Transport
Provides Radio aware transport for mobile backhaul enabling improved Quality of Experience for end users. Tight hardware and mechanical integration as part of Ericsson Radio System allows significantly easier cell site deployment and lower overall TCO.

Technical specification for Router 6471

CONNECTIVITY

Interfaces:	2x GE/10GE SFP+ ports 4x GE/2.5GE* SFP ports 4x 100/1000 Base-T RJ45 ports 1x 100/1000 Base-T Ethernet for Out-of-Band Management 1x RJ45 console port 1x RJ45 Alarm port for 3 inputs and 1 output alarm contacts 1x USB port
Synchronization interfaces:	1x RJ45 port 1PPS+TOD (ITU-T G.703 Amd1)

MECHANICAL

System weight:	2.5 kg or 5.5 Lbs: 2.8kg or 6.2lbs with fan module
Dimension (H x W x D):	1RU 41mm x 217mm x 220mm (without fan module) 1RU 41mm x 217mm x 250mm (with fan module)
Air flow:	Sealed design, Natural airflow or Front to Back with optional fan module

ELECTRICAL

Power supply DC:	-48 VDC, dual feed
Power supply AC:	100-240 VAC, single feed
Power consumption:	Typical 33 Watts, Max 55 Watts (without optional fan module), Typical 35 Watts, Max 60 Watts (with optional fan module)

ENVIRONMENTAL

Operating Temperature:	-40°C to 55°C (without optional fan module) or -40°C to 65°C (with optional fan module)
Relative Humidity:	5 - 95% Non-condensing
GR-3108-CORE Class 1:	Controlled Protected Environments
GR-3108-CORE Class 2:	Protected Equipment in Outside Environments
EN 300 019-1-3 Class 3.3:	Not temperature-controlled locations

KEY FEATURES

IP Routing MPLS:	IPv4, IPv6, BGP-4, MP-BGP, BGP FRR, BGP-LS*, IS-IS, OSPF v2/v3, VRRPv2/v3, LFA/RLFA, RSVP-TE including FRR, LDP, T-LDP, mLDP, Segment Routing, PCEP*, Seamless MPLS, CSPF, Policy Based Forwarding, DHCP relay/Server
Ethernet:	802.1Q virtual LAN (VLAN), IEEE 802.3ad Link Aggregation Control Protocol, BVI – Bridged Virtual Interface, QinQ, G.8032 Ethernet Ring Protection Switching, Broadcast storm protection, LLDP*, Jumbo Frames up to 9600 bytes
Layer-2/Layer-3 Virtual Private Networking:	L3 MPLS VPNs, 6VPE, Inter-autonomous-system MPLS VPN (options A, B, C), VPWS for E-Line Services, VPLS/H-VPLS for E-LAN Services, Pseudowire redundancy, MEF CE 1.0/2.0 Compliant
Multicast Protocols:	IPv4/IPv6 multicast, PIM-SM/SSM, IGMP v1/v2/v3, MLDv2, MVPN
Timing and Synchronization:	IEEE 1588-2008 Precision Time Protocol, ITU-T Profiles for Frequency (G.8265.1 SOOC) and Time/Phase (G.8275.1 T-BC/GM & G.8275.2 T-BC/GM), NTP, SyncE with ESMC, Stratum 3E clock (6471/2)
Operation and Maintenance:	IEEE 802.1ag Connectivity Fault Management, ITU-T Y.1731 (DM, SLM and Throughput), Microwave Bandwidth Notification, MACSWAP, MPLS Ping /Traceroute, BFD IPv4 & IPv6 Single Hop, BFD IPv4 & IPv6 Multi Hop, TWAMP Reflector, TWAMP Initiator, Port Mirroring
Security:	Secure boot, Vendor credential, Secured storage, Access control lists, RADIUS, TACACS+, LDAP, SSH v1/v2, MD5 support for routing protocols, Reverse-path forwarding, IGMP filtering, IPSec up to 10 Gbps, IKEv2, CMPv2, CRL
Quality of Service:	Strict-queuing, weighted fair queuing, priority-weighted fair queuing, Multi-tier Hierarchical QoS, 8Gb of packet buffers, RED/Weighted RED, Ingress policing, Egress shaping, 802.1p, MPLS EXP bits, Differentiated Services
Network Management:	Management by Ericsson Network Manager (ENM), Management by Ericsson OSS-RC, Management by Ericsson ServiceOn Element Manager (SoEM), CLI, SNMP v2c/v3, NETCONF, YANG models, Syslog, RMON, Bulkstats, Zero touch provisioning with auto-integration

STANDARDS AND SPECIFICATIONS

Safety:	LVD Directive 2014/35/EU, IEC/EN 60950-1; CFR 29 Part 1910, UL/CSA 60950-1
EMC:	EMC Directive 2014/30/EU, EN 300386, EN 301489-1, CISPR 32, EN 55032, CISPR 24, EN 55024, EN 50121-1, EN 50121-4, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 300132-2, EN 300132-3, ES 201468, DTAG 1 TR 9; CFR 47 Part 15, ICES-003; VCCI V-3
ENV:	RoHS Directive 2011/65/EU, WEEE Directive 2012/19/EU, EN 300 019-2-1, EN 300 019-2-2, EN 300 019-2-3, EN 300 753, ECE-C1.1
NEBS:	GR-1089-CORE, GR-63-CORE, SR-3580 (NEBS Level 3), GR-3108-CORE, ATT-TP-76200, VZ.TPR.9203, VZ.TPR.9205, VZ.TPR.9305

*Future release