

FRM220-MSW404S

4x GbE, RJ45 + 4x Dual Rate SFP
L2+ Carrier Ethernet Switch (NID) with SyncE



The FRM220-MSW404S is the new generation of carrier grade Ethernet demarcation device for business connection and mobile backhaul transportation service delivered by carriers. The FRM220-MSW404S is equipped 4 SFP slots as dual rate 100/1000Base-X and 4 ports 10/100/1000Base-T RJ45 network interfaces. It is designed to enable E-Line, E-LAN, E-Tree services which are CE (Carrier Ethernet) 2.0 compliant for Metro Ethernet network deployments.

The FRM220-MSW404S device enables carriers and service providers to delivered SLA-based network service with extensive fault detection and diagnostic capabilities which are compliant with the latest Ethernet OAM standards such as IEEE 802.3ah, IEEE 802.1ag and ITU-T Y.1731. With built-in RFC2544 and ITU-T Y.1564 feature sets, The FRM220-MSW404S also enables the service providers to perform the SLA verification anytime to ensure the quantitative latency, jitter and throughput delivery performance indexes. The CE2.0 compliant functions support EVCs and 3 colors marker QoS traffic management to enable service providers managing bandwidth and enforce SLA guaranteed. This card may be controlled and monitored via an NMC in a managed chassis or used as a completely manageable device when used stand-alone. Stand-alone management supports Telnet/SSH, HTTP/HTTPS and SNMP v1, v2C or v3.

MEF 22.1 defines the standard for how Metro Ethernet service is adopted for traffic transportation in mobile backhaul applications. Mobile service is time sensitive and requires accurate packet delivery over a clocking synchronized network to transmit packetized data from a mobile device among base stations without loss. The FRM220-MSW404S supports timing synchronization features (SyncE & IEEE 1588 v2) to fulfill the IP converged services (data, voice, video) over synchronous Ethernet aware carrier Ethernet network.

Features

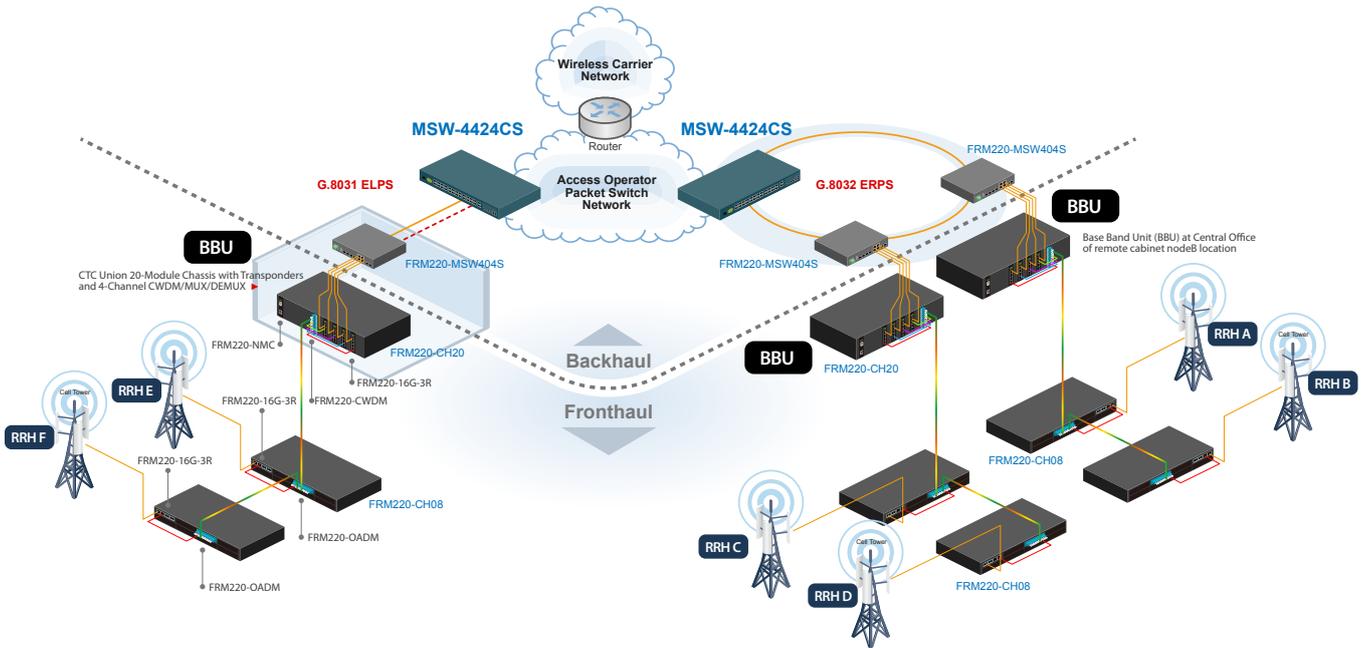
- The next generation of Ethernet demarcation device, at customer premise, fulfilling the large-scale carrier Ethernet deployment for intelligent business connection and mobile backhaul services complied to CE 2.0 standard.
- CE2.0 standards compliant product guarantees the fully interoperability with other MEF certified equipment and reduces the risks and cost of Carrier Ethernet network deployment for operators and service providers.
- Advanced clock synchronized features for carrier Ethernet network allows operators to deliver time sensitive services with optimal stability and continuity in the end-to-end connectivity.

Specifications

Interface	100/1000Mbps SFP slots x 4 + 10/100/1000Base-T RJ45 x 4
Filter & Forward Rate	14880pps at 10Mbps, 148800pps at 100Mbps, 1488000pps at 1Gbps
Switching Fabric Capacity	16Gbps
Transmission Method	Store and Forward Switching
Standard	IEEE 802.3u, IEEE 802.3z, IEEE 802.3ae, IEEE 802.3x, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1ad, IEEE 802.1D, IEEE 802.1w, IEEE 802.1s, IEEE 802.1x, IEEE 802.3ad
Packet Buffer	8M bits
MAC Table Size	8K
Max. Packet Size	10K Bytes
VLAN Feature	IEEE 802.1Q tagged VLAN(Max. 4K VLAN groups), port based VLAN, MAC based VLAN, protocol based VLAN, private VLAN, IEEE 802.1ad Q-in-Q, VLAN Translation, GVRP
QoS Feature	IEEE 802.1p 8 priority queues per port, CoS based on switch port; VLAN ID; DSCP; TCP/UDP port, IEEE 802.1p priority tag remarking, DSCP remarking, Port based ingress/egress rate limit 3 colors marker-CIR/EIR/Burst bandwidth control
L2 switching protection	STP, RSTP, MSTP, ITU-T G.8031/G.8032 Ethernet ring protection
Trunking	IEEE 802.3ad LACP(Max. 4 trunking group, Max. 8 ports per trunking group)

Security	IEEE 802.1x port based access control, MAC based access control authentication, RADIUS authentication, limited MAC address learning, IP/MAC binding, ACL rule based filtering, TACACS+, IP source guard, DHCP snooping/relay option 82, ARP inspection
IP Multicasting	IGMP throttling, IGMP filtering, IGMP fast leave, IGMP snooping v1/v2/v3, MVR, MLD snooping v1/v2
Storm Control	Unknown Unicast/Broadcast/Multicast storm suppression
Management	Web/Telnet CLI/SNMP/console interface, Web/CLI authentication, SSH v2, HTTPS, port mirroring, syslog, IPv6 management, NTP, SNTP
SNMP Agent	SNMP v1/v2c/v3, RMON Group 1,2,3 and 9
Software Upgrade	TFTP/HTTP
Ethernet OAM	IEEE 802.3ah, IEEE 802.1ag, ITU-T Y.1731, RFC2544, ITU-T Y.1564
Timing Synchronization	ITU-T G.8262, SyncE, IEEE 1588 v2
MPLS feature	MPLS-TP compliant to ITU-T G.8113.1
LED Display	Power, System, Console, Link, Speed/Act
Power Input	100V ~ 240VAC, -18 ~ -72VDC
Power Consumption	< 20W
Operating Temperature	0 ~ 50°C
Humidity	5% ~ 90% (non-condensing)
Dimensions	Card: 155 x 42.1 x 88 mm (D x W x H)
Regulatory	FCC, CE

Application



- Carrier Ethernet with multiple class of service
- Traffic Synchronization
- Precisely delivery of time-sensitive service

Ordering Information

Model Name	Description
FRM220-MSW404S	4x 100/1000Base-x SFP slots + 4x 10/100/1000Base-T RJ45 Carrier Ethernet Switch with SyncE

Note: To support console Interface management, this card must be placed in CH02M chassis.