

Product Overview

QBM-S43.V8E series is a carrier-class, cost-effective, compact, high-capacity SDH & IP Network integrated transmission platform that is designed for application in metro and access networks to facilitate the efficient transport of traditional TDM and increasing Ethernet data traffic for service providers. Multiple services can be transported over SDH network and IP metro network easily via QBM-S43.V8E. Both SDH Cross-connection Matrix and Packet Switching Core are supported. It complies with Carrier Ethernet standards defined by MEF.

QBM-S43.V8E series is a card based compact SDH & IP Network integrated equipment, designed mainly as a gateway node between the core SDH/IP network and a number of remote CPE boxes. It may also be used as a multi service SDH ADM node in a typical ring or mesh network. The 3U high 19" wide chassis of the QBM-S43 has 19 slots, with 2 slots for the 1+1 power cards, 1 slot for network management card, 2 slots for TDM cross-connection cards, 2 slots for Packet switching cards, and 12 slots for universal service cards.

QBM-S43.V8E supports multiple SDH network features as follows:

- Support 1+1 MSP, SNCP protection
- Management channel can be DCC/E1/VC12
- Support up to STM-64
- E1 BERT test is embedded
- Internal clock/external clock/line clock/clock holdover
- Ethernet service supporting GFP encapsulation, VC12 virtual concatenation and LCAS, P VLAN, 801.1Q VLAN and QinQ
- Large cross-connect matrix capacity is 384*384 VC-4 level full cross connection or 136*136 VC-4 of VC-12 or VC-3 level full cross connection
- 192 remote site's Ethernet over 4*E1 aggregation
- 192 Ethernet over SDH aggregation

QBM-S43.V8E supports multiple Packet-switching network features as follows:

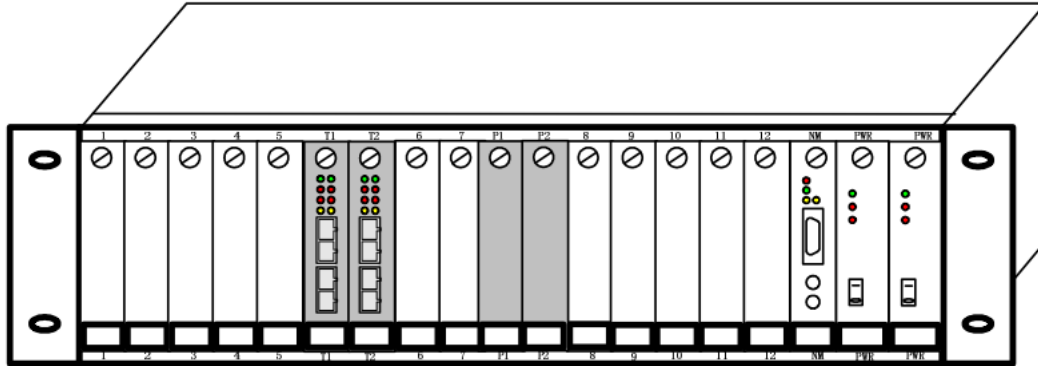
- Support up to 10 Gigabit Ethernet optical interface
- Comply with MPLS-TP standards
- Comply with ITU-T G.8031, G.8032
- Support E-Line, E-Tree, and E-LAN
- 1+1 Redundancy for Ethernet Aggregation Cards
- Support LACP, 802.1Q, QinQ, xSTP, etc.
- Support Carrier Class OAM (IEEE 802.3ah, IEEE 802.1ag, ITU-T Y.1731)
- Support SAToP
- Support RMON
- Ethernet Aggregation of 48 remote Ethernet CPEs.

QBM-S43.V8E supports the following services on different ports:

- STM-1o/STM-1e/STM-4/STM-16/STM-64
- 10GE(Optical)
- GE/FE(Optical and Electrical)
- E1/V.35/E3/DS3
- Digital subscriber line access

Hardware Architecture

QBM-S43.V8E series is composed of SDH cross-connection cards, IP packet switching cards, and tributary service cards. There are 19 slots, including 2 slots for hot standby power cards, 1 slot for management card, 2 slots for SDH cross-connection cards, 2 slots for IP packet switching cards, and 12 slots for tributary cards.



Features

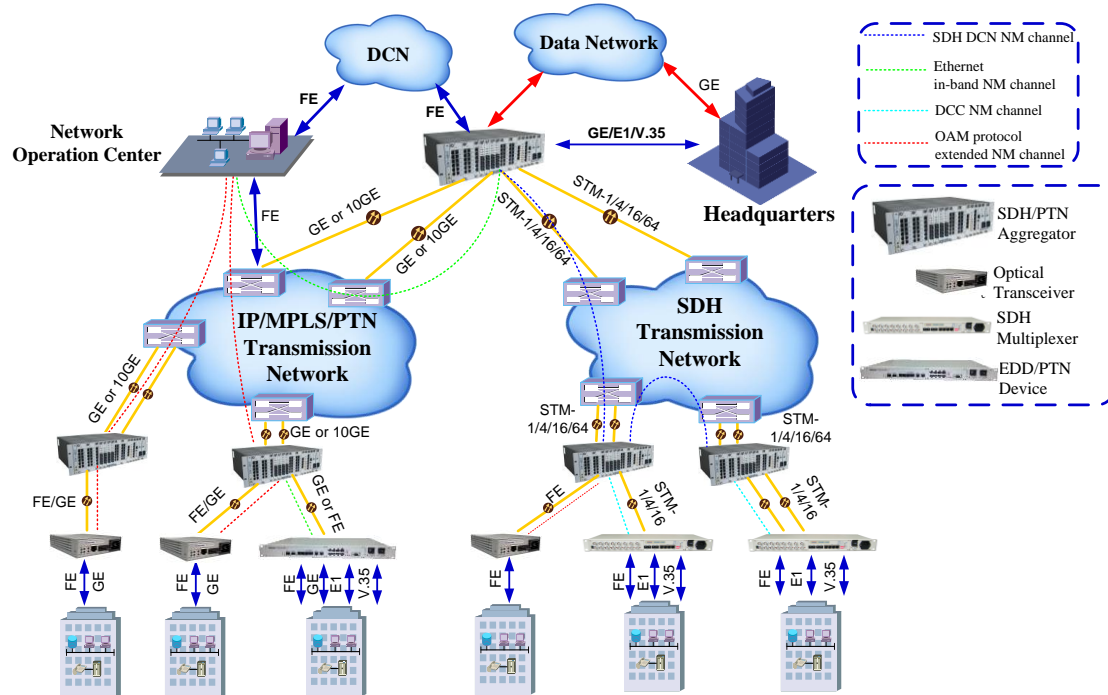
Cross-connection Capacity	High Order: 384*384 VC4s Low Order: 8568*8568 VC12s
Cross-connection mode	Bidirectional, Unidirectional, Multicast/broadcast and loopback
Packet Switching Capacity	64Gbps
High Light Features	<ul style="list-style-type: none"> ✓ Comply to both SDH Standards and MPLS-TP Standards ✓ Both STM-64 and 10 Gigabit Ethernet interface supported ✓ Carrier-class OAM, IEEE 802.3ah, 802.1ag, ITU-T Y.1731 supported ✓ Full redundancy design, including power supply, cross-connection matrixes, Ethernet switching cores ✓ Pseudo Wire Emulation Edge to Edge supported ✓ E-Line, E-Tree, and E-LAN supported ✓ SNMP, in-band/out-band management supported ✓ Sync-E supported

Specifications

Index		Performance Parameter
SDH Uplink Interface (NNI)	Uplink Capacity	8×STM-1o, or 4×STM-1e, or 4×STM-4, or 4×STM-16, or 4×STM-64
	Connector	SC/PC or FC/PC
	Spec.	S1.1, S1.2, L1.1, L1.2, S4.1, S4.2, L4.1, L4.2, S16.1, S16.2, L16.1, L16.2, S64.1, S64.2, L64.1, L64.2 Dual/Single fiber bi-directional interface are optional
Ethernet Uplink Interface (NNI)	Uplink Capacity	2×10GE optical interfaces(1+1 Redundancy)
	Connector	SFP+ Optical Module, LC/PC
PDH interface	Max E1 Qty	288
	Max E3/DS3 Qty	12
	Max V.35 Qty	24
Ethernet	Max GE(Electrical) Qty	24
	Max FE(Electrical) Qty	72
	Max GE(Optical) Qty	144
Cross-connect & Switching Capacity	Uplink by STM-1	High order: 20×20 VC-4s Low order: 1260×1260 VC12s
	Uplink by STM-4	High order: 32×32 VC-4s Low order: 2016×2016 VC-12s
	Uplink by STM-16	High order: 96×96 VC-4s Low order: 3024×3024 VC-12s
	Uplink by STM-64	High order: 384×384 VC-4s Low order: 8568×8568 VC-12s
	Uplink by 10GX	IP Switching capacity of 64Gbps
Management	Interface	10/100 Base-T (can be cascaded)
EOW interface		Standard socket RJ11
Physical Dimension(H/D/W)		3U: 136 ×240 ×440 (mm)
Power	Supply	-48V DC or dual power supply
	Consumption	≤100W
Environment	Temperature	0℃~50℃
	Humidity	≤90 %(non-condensing)
Weight		≤8 kg

Typical Application

Integrated Services Access over SDH and IP Carrier Network



Standard Compliance

Items	Standards and Protocols
SDH Interface	ITU-T G.957, G.707
E1 port	ITU-T G.703, G.704
Clock port	ITU-T G.823
Ethernet port	IEEE 802 G.7041/G.704 2/G.7043 and G.8040