

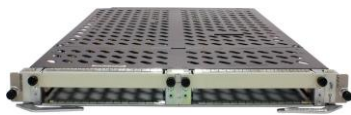
NE40E Series 50G Flexible Card Line Processing Units



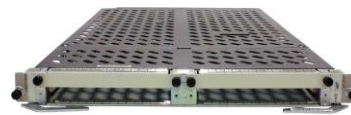
Product Overview

Huawei® NE40E Series Universal Service Routers support two kinds of 50 Gbps flexible card line processing units, LPUF-51 Series and LPUF-50 Series. The LPUF-51 Series and LPUF-50 Series line processing units handle all the network data-plane traffic-processing tasks of Huawei NE40E series universal service routers.

Figure 1. 50 Gbps flexible card line processing units



Flexible Card Line Processing Unit(LPUF-50, four sub-slots)



Flexible Card Line Processing Unit(LPUF-50, four sub-slots, 4G Memory)



2-Port 10GBase WAN/LAN-SFP+ Flexible Card A



8-Port OC-3c/STM-1c POS-SFP Flexible Card



2-Port OC-3c/STM-1c POS-SFP Flexible Card



2-Port Channelized STM-1c POS-SFP Flexible Card(P50)



4-Port Channelized STM-1 POS-SFP Flexible Card(P50)



8-Port Channelized STM-1 POS-SFP Flexible Card(P50)



2-Port OC-48c/STM-16c POS-SFP Flexible Card



1-Port OC-192c/STM-64c POS-XFP Flexible Card(Occupy two slots)



2-Port Channelized OC-3c/STM-1c POS-SFP Flexible Card



Flexible Card Line Processing Unit(LPUF-51,2 sub-slots) B



Flexible Card Line Processing Unit(LPUF-51,2 sub-slots) E



5-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P51-A, Occupy two sub-slots)



2-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P51-A)



20-Port 10/100/1000Base-RJ45 Flexible Card A(P51-A)



2-Port OC-192c/STM-64c POS-XFP Flexible Card(P51-A)



5-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P52-E, Occupy two sub-slots)



2-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P52-E)



8-Port 100/1000Base-X-SFP Flexible Card A(P10-A, Supporting 1588v2)



4-Port OC-3c/STM-1c POS-SFP Flexible Card



24-Port Channelized E1/T1-DB100 Flexible Card



4-Port OC-48c/STM-16c POS-SFP Flexible Card



4-Port OC-48c/STM-16c POS-SFP Flexible Card



24-Port 100/1000Base-X-SFP Flexible Card A(P51-A)



24-Port 1000Base-X-SFP Flexible Card E(P52-E)

Product Features

The LPUF-51 Series supports 5-port/2-port 10GE flexible cards, 24-port FE/GE flexible cards, 20-port 10/100/1000Base-RJ45 flexible cards, and 2-port POS flexible cards, for flexible solutions. A 5-port/2-port 10GE flexible card provides multiple 10 Gbit/s line-rate Ethernet interfaces and supports medium-scale 10 Gbit/s link aggregation. A 24-port FE/GE or a 20-port 10/100/1000Base-RJ45 flexible card boasts high port density and supports compatibility and communications with standard fast Ethernet. It can be used for large-scale 10M, 100M, and 1000M Ethernet interconnection. A 2-port POS flexible card can be used for transmitting IP over SONET/SDH link, which can be used in the access/aggregation layer of LAN network and the uplink of WAN network.

The LPUF-50 Series supports 2-port 10GE flexible cards, 8-port FE/GE flexible cards, 1-port/2-port/4-port/8-port POS and CPOS flexible cards. The POS and CPOS flexible cards can be used for transmitting IP over SONET/SDH link, which can be used in the access/aggregation layer of LAN network and the uplink of WAN network. These ethernet, POS and CPOS line cards can be installed in the same LPUF-50 line processing unit.

LPUF-50/51 Series high-capacity line cards are designed to remove bandwidth bottlenecks that are caused by next-generation high-speed and high-requirement computing applications and technologies. These line cards provide economical, scalable, and reliable line-rate Ethernet and IP/MPLS services.

LPUF-50/51 uses Huawei-developed Solar chips and provides powerful service capability. The LPUF-50/51 supports the combination of IP, MPLS, Ethernet, L2VPN, and L3VPN services. In addition, the LPUF-50/51 supports the 1588v2 feature (-E flexible card does not support 1588v2), which allows for submicrosecond time synchronization based on specific hardware to ensure high-precision time synchronization between devices for applications and services that require 1588v2 clock synchronization, such as IP RAN and TDM migration. The LPUF-50/51 supports IPv6, which helps implement smooth IPv4-to-IPv6 transition. The LPUF-50/51 has a flexible programmable architecture. Microcode programming can be used for new service deployment, without the need to replace hardware, which reduces investments. In addition, this architecture drastically shortens the technological innovation cycle and accelerates new service rollout, helping customers build flexible and scalable networks.

LPUF-50/51 Series line processing units use Huawei-developed Solar chips and can dynamically change the number of forwarding chip processing cores, frequency, and bus bandwidth to compensate for service traffic changes, reducing boards' power consumption. The LPUF-50/51 Series line processing units also support

dynamic frequency adjustment and intelligent fan speed adjustment, which significantly reduces power consumption, with less than 0.9 W for each gigabit, lowest in the industry.

LPUF-50/51 Series line processing units and flexible cards support for online insertion and removal (OIR) without system impact, which offers maximum investment protection and flexibility by allowing operators to upgrade to future LPU on NE40E.

NOTE

Differences between the LPUF-51-B and the LPUF-51-E:

- LPUF-51-B does not support BRAS function, such as Enhanced Dynamic Service Gateway (EDSG), and does not support L3VPN by default. After being loaded with specific license, it supports L3VPN.
- LPUF-51-E support L3VPN by default and supports BRAS function by default.

Differences between the P51-A and the P51-E flexible card:

- P51-A supports 1588v2, and can be installed in LPUF-51-B and LPUF-51-E.
- P51-E does not support 1588v2, and can be installed only in LPUF-51-E.

Product Compatibility

Table 1. 50G Flexible Card Line Processing Units Compatible Chassis ("•" indicates "support", and "-" indicates "not support")

BOM	Order Name	Description	NE40E-					
			X3	X8	X16	X3A	X8A	X16A
03054447	CR5DLPUF5070	Flexible Card Line Processing Unit(LPUF-50,four sub-slots)	•	•	•	•	•	•
03057436	CR5DLPUF5071	Flexible Card Line Processing Unit(LPUF-50,four sub-slots,4G Memory)	•	•	•	•	•	•
03030NSK	CR5DoL2XFA70	2-Port 10GBase WAN/LAN-SFP+ Flexible Card A	•	•	•	•	•	•
03030JUA	CR53-P10-8xPOS/ST M1-SFP	8-Port OC-3c/STM-1c POS-SFP Flexible Card	•	•	•	•	•	•
03031JYH	CR5D00P2CF70	2-Port OC-3c/STM-1c POS-SFP Flexible Card	•	•	•	•	•	•
03031JYK	CR5D00C2CF70	2-Port Channelized STM-1c POS-SFP Flexible Card(P50)	•	•	•	•	•	•

BOM	Order Name	Description	NE40E-					
			X3	X8	X16	X3A	X8A	X16A
03030PVG	CR5D00C4CF70	4-Port Channelized STM-1 POS-SFP Flexible Card(P50)	•	•	•	•	•	•
03030PTB	CR5D00C8CF71	8-Port Channelized STM-1 POS-SFP Flexible Card(P50)	•	•	•	•	•	•
03030HNJ	CR53-P10-2xPOS/STM16-SFP	2-Port OC-48c/STM-16c POS-SFP Flexible Card	•	•	•	•	•	•
03030FSL	CR53-P10-1xPOS/STM64-XFP	1-Port OC-192c/STM-64c POS-XFP Flexible Card(Occupy two slots)	•	•	•	•	•	•
03030KBB	CR53-P10-2xcPOS/STM1-SFP	2-Port Channelized OC-3c/STM-1c POS-SFP Flexible Card	•	•	•	•	•	•
03054483	CR5DLPUF517B	Flexible Card Line Processing Unit(LPUF-51,2 sub-slots) B	•	•	•	•	•	•
03055189	CR5DLPUF517E	Flexible Card Line Processing Unit(LPUF-51,2 sub-slots) E	•	•	•	•	•	•
03030PMC	CR5DoL5XFA70	5-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P51-A, Occupy two sub-slots)	•	•	•	•	•	•
03030PME	CR5DoL2XFA71	2-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P51-A)	•	•	•	•	•	•
03030QKN	CR5DoEEGEA70	20-Port 10/100/1000Base-RJ45 Flexible Card A(P51-A)	•	•	•	•	•	•
03031LUU	CR5D00P2XX72	2-Port OC-192c/STM-64c POS-XFP Flexible Card(P51-A)	•	•	•	•	•	•
03031XPT	CR5DoL5XFE74	5-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P52-E, Occupy two sub-slots)	•	•	•	•	•	•

BOM	Order Name	Description	NE40E-					
			X3	X8	X16	X3A	X8A	X16A
03031XQD	CR5DoL2XFE75	2-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P52-E)	•	•	•	•	•	•
03030KNE	CR5MoE8GFA30	8-Port 100/1000Base-X-SFP Flexible Card A(P10-A, Supporting 1588v2)	•	•	•	•	•	•
03030JTY	CR53-P10-4xPOS/ST M1-SFP	4-Port OC-3c/STM-1c POS-SFP Flexible Card	•	•	•	•	•	•
03030KHP	CR53-P10-24xcE1/cT 1-DB100	24-Port Channelized E1/T1-DB100 Flexible Card	•	•	•	•	•	•
03030JUB	CR53-P10-8xPOS/ST M4-SFP	4-Port OC-48c/STM-16c POS-SFP Flexible Card	•	•	•	•	•	•
03030JCX	CR53-P10-4xPOS/ST M16-SFP	4-Port OC-48c/STM-16c POS-SFP Flexible Card	•	•	•	•	•	•
03030PMA	CR5DoEFGFA70	24-Port 100/1000Base-X-SFP Flexible Card A(P51-A)	•	•	•	•	•	•
03031XQJ	CR5DoEFGFE71	24-Port 1000Base-X-SFP Flexible Card E(P52-E)	-	•	•	•	•	•

Table 2. 50G Flexible Card Line Processing Units Compatible Optical/Electrical Modules

BOM	Order Name	Description	Optical type supported
03030PMA	CR5D0EFGFA70	24-Port 100/1000Base-X-SFP Flexible Card A(P51-A)	155Mbps eSFP optical module 155Mbps eSFP BIDI optical module 1Gbps electrical module 1.25Gbps eSFP optical module 1.25Gbps eSFP CWDM optical module 1.25Gbps eSFP BIDI optical module 125M~2.67Gbps eSFP DWDM optical module
03030PME	CR5D0L2XFA71	2-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P51-A)	1Gbps electrical module 1.25Gbps eSFP optical module 1.25Gbps eSFP CWDM optical module 1.25Gbps eSFP BIDI optical module 125M~2.67Gbps eSFP DWDM optical module 10Gbps SFP+ optical module 10Gbps SFP+ CWDM optical module 10Gbps SFP+ BIDI optical module 10Gbps SFP+ DWDM optical module
03031JYH	CR5D00P2CF70	2-Port OC-3c/STM-1c POS-SFP Flexible Card	155Mbps eSFP optical module
03030JUA	CR53-P10-8xPOS/STM1-SFP	8-Port OC-3c/STM-1c POS-SFP Flexible Card	155Mbps eSFP optical module
03031JYK	CR5D00C2CF70	2-Port Channelized STM-1c POS-SFP Flexible Card(P50)	155Mbps eSFP optical module
03031LUU	CR5D00P2XX72	2-Port OC-192c/STM-64c POS-XFP Flexible Card(P51-A)	10Gbps XFP optical module 10Gbps XFP CWDM optical module

BOM	Order Name	Description	Optical type supported
03030PMC	CR5DoL5XFA70	5-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P51-A, Occupy two sub-slots)	1Gbps electrical module 1.25Gbps eSFP optical module 1.25Gbps eSFP CWDM optical module 1.25Gbps eSFP BIDI optical module 125M~2.67Gbps eSFP DWDM optical module 10Gbps SFP+ optical module 10Gbps SFP+ CWDM optical module 10Gbps SFP+ BIDI optical module 10Gbps SFP+ DWDM optical module
03030NSK	CR5DoL2XFA70	2-Port 10GBase WAN/LAN-SFP+ Flexible Card A	10Gbps SFP+ optical module 10Gbps SFP+ CWDM optical module 10Gbps SFP+ BIDI optical module 10Gbps SFP+ DWDM optical module
03030PVG	CR5DooC4CF70	4-Port Channelized STM-1 POS-SFP Flexible Card(P50)	155Mbps eSFP optical module
03030PTB	CR5DooC8CF71	8-Port Channelized STM-1 POS-SFP Flexible Card(P50)	155Mbps eSFP optical module
03030FSL	CR53-P10-1xPOS/STM64-XFP	1-Port OC-192c/STM-64c POS-XFP Flexible Card(Occupy two slots)	10Gbps XFP optical module 10Gbps XFP CWDM optical module
03030HNJ	CR53-P10-2xPOS/STM16-SFP	2-Port OC-48c/STM-16c POS-SFP Flexible Card	2.5Gbps eSFP optical module
03031XPT	CR5DoL5XFE74	5-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P52-E, Occupy two sub-slots)	10Gbps SFP+ optical module 10Gbps SFP+ CWDM optical module 10Gbps SFP+ BIDI optical module 10Gbps SFP+ DWDM optical module

BOM	Order Name	Description	Optical type supported
03031XQD	CR5DoL2XFE75	2-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P52-E)	10Gbps SFP+ optical module 10Gbps SFP+ CWDM optical module 10Gbps SFP+ BIDI optical module 10Gbps SFP+ DWDM optical module
03031XQJ	CR5DoEFGFE71	24-Port 1000Base-X-SFP Flexible Card E(P52-E)	1Gbps electrical module 1.25Gbps eSFP optical module 1.25Gbps eSFP CWDM optical module 1.25Gbps eSFP BIDI optical module 125M~2.67Gbps eSFP DWDM optical module
03030KBB	CR53-P10-2xcPOS/STM1-SFP	2-Port Channelized OC-3c/STM-1c POS-SFP Flexible Card	155Mbps eSFP optical module
03030KNE	CR5MoE8GFA30	8-Port 100/1000Base-X-SFP Flexible Card A(P10-A,Supporting 1588v2)	155Mbps eSFP optical module 155Mbps eSFP BIDI optical module 1Gbps electrical module 1.25Gbps eSFP optical module 1.25Gbps eSFP CWDM optical module 1.25Gbps eSFP BIDI optical module 125M~2.67Gbps eSFP DWDM optical module
03030JTY	CR53-P10-4xPOS/STM1-SFP	4-Port OC-3c/STM-1c POS-SFP Flexible Card	155Mbps eSFP optical module
03030JUB	CR53-P10-8xPOS/STM4-SFP	4-Port OC-48c/STM-16c POS-SFP Flexible Card	622Mbps eSFP optical module
03030JCX	CR53-P10-4xPOS/STM16-SFP	4-Port OC-48c/STM-16c POS-SFP Flexible Card	2.5Gbps eSFP optical module

Product Specifications

Table 3. Flexible Card Line Processing Unit(LPUF-50,four sub-slots) Specifications

Item	Specification
Order Name	CR5DLPUF5070
Silkscreen	LPUF-50
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	8.2 kg (18.08 lb)
Typical power consumption	169.0 W
Typical heat dissipation	548.3 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Reliability and availability	Hot swappable.

Table 4. Flexible Card Line Processing Unit(LPUF-50,four sub-slots,4G Memory) Specifications

Item	Specification
Order Name	CR5DLPUF5071
Silkscreen	LPUF-50
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	8.2 kg (18.08 lb)
Typical power consumption	171.0 W
Typical heat dissipation	554.8 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Reliability and availability	Hot swappable.

Table 5. 8-Port 100/1000Base-X-SFP Flexible Card A(P10-A,Supporting 1588v2) Specifications

Item	Specification
Order Name	CR5MoE8GFA30
Silkscreen	P10-8xGE/FE-SFP-A
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)
Weight	0.5 kg (1.17 lb)
Typical power consumption	19.5 W
Typical heat dissipation	63.3 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 6. 2-Port 10GBase WAN/LAN-SFP+ Flexible Card A Specifications

Item	Specification
Order Name	CR5DoL2XFA70
Silkscreen	P50-2x10GBase LAN/WAN-SFP+ -A
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)
Weight	0.5 kg (1.1 lb)
Typical power consumption	18.4 W
Typical heat dissipation	59.7 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP+

Item	Specification
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 7. 8-Port OC-3c/STM-1c POS-SFP Flexible Card Specifications

Item	Specification
Order Name	CR53-P10-8xPOS/STM1-SFP
Silkscreen	FPIC-8xOC3-POS
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)
Weight	0.5 kg (1.17 lb)
Typical power consumption	19.5 W
Typical heat dissipation	63.3 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	PPP and HDLC
Reliability and availability	Hot swappable.

Table 8. 4-Port OC-3c/STM-1c POS-SFP Flexible Card Specifications

Item	Specification
Order Name	CR53-P10-4xPOS/STM1-SFP
Silkscreen	FPIC-4xOC3-POS
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)

Item	Specification
Weight	0.5 kg (1.15 lb)
Typical power consumption	16.6 W
Typical heat dissipation	53.9 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	PPP and HDLC
Reliability and availability	Hot swappable.

Table 9. 2-Port OC-3c/STM-1c POS-SFP Flexible Card Specifications

Item	Specification
Order Name	CR5D00P2CF70
Silkscreen	FPIC-2xOC3-POS
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)
Weight	0.5 kg (1.15 lb)
Typical power consumption	16.6 W
Typical heat dissipation	53.9 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	PPP and HDLC
Reliability and availability	Hot swappable.

Table 10. 24-Port Channelized E1/T1-DB100 Flexible Card Specifications

Item	Specification
Order Name	CR53-P10-24xE1/cT1-DB100
Silkscreen	24xE1/cT1-DB100
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)
Weight	0.5 kg (1.15 lb)
Typical power consumption	26.7 W
Typical heat dissipation	86.6 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	DB100
Working mode	Full-duplex
Frame format	Supports E1/CE1, which supports non-framed, CRC4, and NO-CRC4.
Reliability and availability	Hot swappable.

Table 11. 2-Port Channelized OC-3c/STM-1c POS-SFP Flexible Card Specifications

Item	Specification
Order Name	CR53-P10-2xPOS/STM1-SFP
Silkscreen	FPIC-2xOC3c CPOS
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)
Weight	0.5 kg (1.17 lb)
Typical power consumption	31.2 W
Typical heat dissipation	101.2 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP

Item	Specification
Working mode	Full-duplex
Frame format	The 155M interface supports SDH; the channelized e1 supports non-framed, CRC4, and NO-CRC4.
Reliability and availability	Hot swappable.

Table 12. 2-Port Channelized STM-1c POS-SFP Flexible Card(P50) Specifications

Item	Specification
Order Name	CR5D00C2CF70
Silkscreen	P50-2xSTM1 cPOS-SFP
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)
Weight	0.5 kg (1.1 lb)
Typical power consumption	18.0 W
Typical heat dissipation	58.4 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	The 155M interface supports SDH; the channelized e1 supports non-framed, CRC4, and NO-CRC4.
Reliability and availability	Hot swappable.

Table 13. 4-Port Channelized STM-1 POS-SFP Flexible Card(P50) Specifications

Item	Specification
Order Name	CR5D00C4CF70
Silkscreen	P50-4xSTM1 cPOS-SFP
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)

Item	Specification
Weight	0.5 kg (1.1 lb)
Typical power consumption	18.0 W
Typical heat dissipation	58.4 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	The 155M interface supports SDH; the channelized e1 supports non-framed, CRC4, and NO-CRC4.
Reliability and availability	Hot swappable.

Table 14. 8-Port Channelized STM-1 POS-SFP Flexible Card(P50) Specifications

Item	Specification
Order Name	CR5D00C8CF71
Silkscreen	P50-8xSTM1 cPOS-SFP
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)
Weight	0.6 kg (1.43 lb)
Typical power consumption	22.4 W
Typical heat dissipation	72.7 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	The 155M interface supports SDH; the channelized e1 supports non-framed, CRC4, and NO-CRC4.
Reliability and availability	Hot swappable.

Table 15. 8-Port OC-12c/STM-4c POS-SFP Flexible Card Specifications

Item	Specification
Order Name	CR53-P10-8xPOS/STM4-SFP
Silkscreen	FPIC-8xOC12-POS
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)
Weight	0.5 kg (1.17 lb)
Typical power consumption	22.4 W
Typical heat dissipation	72.7 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	PPP and HDLC
Reliability and availability	Hot swappable.

Table 16. 2-Port OC-48c/STM-16c POS-SFP Flexible Card Specifications

Item	Specification
Order Name	CR53-P10-2xPOS/STM16-SFP
Silkscreen	FPIC-2xOC48-POS
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)
Weight	0.5 kg (1.12 lb)
Typical power consumption	17.3 W
Typical heat dissipation	56.1 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)

Item	Specification
Connector type	SFP
Working mode	Full-duplex
Frame format	PPP and HDLC
Reliability and availability	Hot swappable.

Table 17. 4-Port OC-48c/STM-16c POS-SFP Flexible Card Specifications

Item	Specification
Order Name	CR53-P10-4xPOS/STM16-SFP
Silkscreen	FPIC-4xOC48-POS
Dimensions (H x W x D)	18.4 mm x 169 mm x 189.9 mm (0.72 in. x 6.65 in. x 7.48 in.)
Weight	0.5 kg (1.15 lb)
Typical power consumption	20.3 W
Typical heat dissipation	65.9 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	PPP and HDLC
Reliability and availability	Hot swappable.

Table 18. 1-Port OC-192c/STM-64c POS-XFP Flexible Card(Occupy two slots) Specifications

Item	Specification
Order Name	CR53-P10-1xPOS/STM64-XFP
Silkscreen	FPIC-1xOC192-POS

Item	Specification
Dimensions (H x W x D)	38.0 mm x 169 mm x 189.9 mm (1.5 in. x 6.65 in. x 7.48 in.)
Weight	0.6 kg (1.23 lb)
Typical power consumption	20.0 W
Typical heat dissipation	64.9 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	XFP
Working mode	Full-duplex
Frame format	PPP and HDLC
Reliability and availability	Hot swappable.

Table 19. Flexible Card Line Processing Unit(LPUF-51,2 sub-slots) B Specifications

Item	Specification
Order Name	CR5DLPUF517B
Silkscreen	LPUF-51-B
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	6.6 kg (14.44 lb)
Typical power consumption	180.0 W
Typical heat dissipation	584.0 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Reliability and availability	Hot swappable.

Table 20. Flexible Card Line Processing Unit(LPUF-51,2 sub-slots) E Specifications

Item	Specification
Order Name	CR5DLPUF517E
Silkscreen	LPUF-51-E
Dimensions (H x W x D)	40.1 mm x 399.2 mm x 535.6 mm (1.58 in. x 15.72 in. x 21.09 in.)
Weight	7.2 kg (15.77 lb)
Typical power consumption	180.0 W
Typical heat dissipation	584.0 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Reliability and availability	Hot swappable.

Table 21. 24-Port 100/1000Base-X-SFP Flexible Card A(P51-A) Specifications

Item	Specification
Order Name	CR5DoEFGFA70
Silkscreen	P51-24xFE/GE-SFP-A
Dimensions (H x W x D)	37.2 mm x 178.7 mm x 193.3 mm (1.46 in. x 7.04 in. x 7.61 in.)
Weight	1 kg (2.2 lb)
Typical power consumption	37.0 W
Typical heat dissipation	120.0 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 22. 24-Port 1000Base-X-SFP Flexible Card E(P52-E) Specifications

Item	Specification
Order Name	CR5DoEFGFE71
Silkscreen	P52-24xGE-SFP-E
Dimensions (H x W x D)	37.2 mm x 178.7 mm x 193.3 mm (1.46 in. x 7.04 in. x 7.61 in.)
Weight	1.2 kg (2.65 lb)
Typical power consumption	77.1 W
Typical heat dissipation	250.2 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable

Table 23. 5-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P51-A, Occupy two sub-slots) Specifications

Item	Specification
Order Name	CR5DoL5XFA70
Silkscreen	P51-5x10GBase LAN/WAN-SFP+ -A
Dimensions (H x W x D)	37.2 mm x 358.2 mm x 193.3 mm (1.46 in. x 14.1 in. x 7.61 in.)
Weight	0.9 kg (1.98 lb)
Typical power consumption	29.0 W
Typical heat dissipation	94.1 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)

Item	Specification
Connector type	SFP/SFP+
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 24. 5-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P52-E, Occupy two sub-slots) Specifications

Item	Specification
Order Name	CR5DoL5XFE74
Silkscreen	P52-5x10GBase LAN/WAN-SFP+ -E
Dimensions (H x W x D)	37.2 mm x 357.8 mm x 193.3 mm (1.46 in. x 14.09 in. x 7.61 in.)
Weight	1 kg (2.2 lb)
Typical power consumption	65.0 W
Typical heat dissipation	210.9 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP+
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 25. 2-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P52-E) Specifications

Item	Specification
Order Name	CR5DoL2XFE75
Silkscreen	P52-2x10GBase LAN/WAN-SFP+ -E

Item	Specification
Dimensions (H x W x D)	37.2 mm x 178.7 mm x 193.3 mm (1.46 in. x 7.04 in. x 7.61 in.)
Weight	1 kg (2.2 lb)
Typical power consumption	59.0 W
Typical heat dissipation	191.4 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP+
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 26. 2-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P51-A) Specifications

Item	Specification
Order Name	CR5DoL2XFA71
Silkscreen	P51-2x10GBase LAN/WAN-SFP+ -A
Dimensions (H x W x D)	37.2 mm x 178.7 mm x 193.3 mm (1.46 in. x 7.04 in. x 7.61 in.)
Weight	0.9 kg (1.94 lb)
Typical power consumption	25.0 W
Typical heat dissipation	81.1 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	SFP/SFP+
Working mode	Full-duplex
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable.

Table 27. 20-Port 10/100/1000Base-RJ45 Flexible Card A(P51-A) Specifications

Item	Specification
Order Name	CR5D0EEGEA70
Silkscreen	P51-20x10/100/1000 Base-RJ45
Dimensions (H x W x D)	37.2 mm x 178.7 mm x 193.3 mm (1.46 in. x 7.04 in. x 7.61 in.)
Weight	0.6 kg (1.43 lb)
Typical power consumption	31.0 W
Typical heat dissipation	100.6 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)
Connector type	RJ45
Working mode	10M/100M/1000M auto-sensing, supports the full-duplex mode.
Frame format	Ethernet_II, Ethernet_SAP and Ethernet_SNAP
Reliability and availability	Hot swappable

Table 28. 2-Port OC-192c/STM-64c POS-XFP Flexible Card(P51-A) Specifications

Item	Specification
Order Name	CR5D00P2XX72
Silkscreen	P51-2xOC192c/STM64c POS-XFP
Dimensions (H x W x D)	37.2 mm x 178.7 mm x 193.3 mm (1.46 in. x 7.04 in. x 7.61 in.)
Weight	0.5 kg (1.1 lb)
Typical power consumption	24.7 W
Typical heat dissipation	80.1 BTU/hour
Ambient temperature	Long terms: 0 °C to 45 °C (32°F to 113°F) Short terms: -5 °C to 55 °C (23°F to 131°F)

Item	Specification
Connector type	XFP
Working mode	Full-duplex
Frame format	PPP and HDLC
Reliability and availability	Hot swappable

Product Performance

Table 29. Product Performance of the LPUF-50

Feature	Specification
FIB	IPv4: up to 1,638,400 routes IPv6: up to 716,800 routes for short-entries or 36,864 routes for long-entries Mixed: up to 512,000 IPv4 routes and 512,000 IPv6 routes
Multicast	IPv4: up to 16,000 routes IPv6: up to 8,000 routes
QoS	Up to 32,000 queues in the upstream Up to 96,000 queues in the downstream Up to 5 levels of hierarchy Up to 100ms packet buffer time
Access Control List (ACL) rules	ACLv4: up to 32 * 1,024/slot ACLv6: up to 8 * 1,024/slot

Table 30. Product Performance of the LPUF-51-B

Feature	Specification
FIB	IPv4: up to 3,379,200 routes IPv6: up to 1,433,600 routes for short-entries or 1,433,600 routes for long-entries Mixed: up to 1,024,000 IPv4 routes and 1,024,000 IPv6 routes

Feature	Specification
Multicast	IPv4: up to 64,000 routes IPv6: up to 8,000 routes
QoS	Up to 256,000/slot queues in total Up to 5 levels of hierarchy Up to 100ms packet buffer time
Access Control List (ACL) rules	ACLv4: up to 128 * 1024/slot ACLv6: up to 16 * 1024/slot

Table 31. Product Performance of the LPUF-51-E

Feature	Specification
FIB	IPv4: up to 4,096,000 routes IPv6: up to 2,048,000 routes Mixed: up to 2,048,000 IPv4 routes and 1,024,000 IPv6 routes
Multicast	IPv4: up to 64,000 routes IPv6: up to 8,000 routes
QoS	Up to 512,000/slot queues Up to 5 levels of hierarchy Up to 100ms packet buffer time
Access Control List (ACL) rules	ACLv4: up to 128 * 1,024/slot ACLv6: up to 16 * 1,024/slot
IPv4 NAT sessions	Up to 1,024,000 sessions
IPSec tunnels	Up to 10,000 tunnels
IPoE/PPPoE subscribers	Up to 32,000 subscribers/slot
L2TP sessions	64,000/slot
L2TP tunnels	16,000/slot

For More Information

For more information about the Huawei NE40E Series Routers, visit <http://e.huawei.com> or contact us in the following ways:

- Global service hotline: <http://e.huawei.com/en/service-hotline>
- Logging into the Huawei Enterprise technical support web: <http://support.huawei.com/enterprise/>
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