

# NE40E-X16 Configuration Help

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## 1. New site or Expansion

This parameter is used for the NE40E-X16 to choose to purchase a new chassis or the old chassis only expand LPU or upgrade software. If you want to purchase a new NE40E-X16, select "New site". If the software upgrade of the different version or the old chassis only expand LPU, select "Expansion".

## 2. Please select the version

Please confirm the corresponding iManager version is correct when you select the version:

V600R009: the corresponding iManager U2000 version is V200R017C50 or later;

V600R008: the corresponding iManager U2000 version is V200R014C50 or later;

V600R007: the corresponding iManager U2000 version is V100R009C00 or later;

V600R006: the corresponding iManager U2000 version is V100R008C00 or later;

V600R005: the corresponding iManager U2000 version is V100R006C02 or later;

V600R003: the corresponding iManager U2000 version is V100R005C00 or later;

V600R001: the corresponding iManager U2000 version is V100R001C00 or later;

V800R006: the corresponding iManager U2000 version is V200R014C50 or later;

V800R007: the corresponding iManager U2000 version is V200R015C50 or later;

V800R008: the corresponding iManager U2000 version is V200R016C50 or later;

V800R009: the corresponding iManager U2000 version is V200R017C50 or later;

V800R010: the corresponding iManager U2000 version is V200R018C50 or later;

V800R011: the corresponding iManager U2000 version is V200R018C60 or later;

## 3. Please select the version that after upgrading

Using the V800R008/V800R009 version, the software can support new features such as VxLAN/Segment Routing/EVPN, and better support Metro Fabric, 5G, Cloud Solution and SDN evolution. Besides, the new chassis of NE40E-X8A/X16A support 400G, and can evolve to 2T.

Please confirm the corresponding iManager version is correct when you select the version:

V600R009: the corresponding iManager U2000 version is V200R017C50 or later;

V600R008: the corresponding iManager U2000 version is V200R014C50 or later;

V600R007: the corresponding iManager U2000 version is V100R009C00 or later;

V600R006: the corresponding iManager U2000 version is V100R008C00 or later;

V600R005: the corresponding iManager U2000 version is V100R006C02 or later;

V600R003: the corresponding iManager U2000 version is V100R005C00 or later;

V600R001: the corresponding iManager U2000 version is V100R001C00 or later;

V800R006: the corresponding iManager U2000 version is V200R014C50 or later;  
V800R007: the corresponding iManager U2000 version is V200R015C50 or later;  
V800R008: the corresponding iManager U2000 version is V200R016C50 or later;  
V800R009: the corresponding iManager U2000 version is V200R017C50 or later;  
V800R010: the corresponding iManager U2000 version is V200R018C50 or later;  
V800R011: the corresponding iManager U2000 version is V200R018C60 or later;

**4. Please select the MPU/SFU type that before upgrading**

**5. Need Basic Software CD or not**

The basic software has been loaded on the equipment, and can be downloaded from <http://support.huawei.com>. The CD is not delivered by default. If the CD is required by customer, please choose 'YES'.

**6. ===Scene Parameter===**

- **6.1 Need the PPPoE/IPoE function or not(just for filtering card and license)**

This parameter is used to filtered PPPoE/IPoE function card; If Yes is selected, the board and the license(per chassis) that support PPPoE/IPoE will be display; if No is selected, the board and the license parameters that support PPPoE/IPoE will be filtered out.

**7. ===Basic Configuration===**

- **7.1 Please select the type of cabinet**

The router supporting 800mm deep cabinet has been switched to single door cabinet, please review the conditions of use, if the behind maintenance space less than 620mm, please select double door cabinet.

- **7.2 Please select the type of Slide**

The expandable guide rail can be used in third-party cabinet. This guide rail is optional. The product managers should confirm with customers whether the expandable guide rail is required.

- **7.3 Please select the Portfolio Quotation of Basic Configuration**

1. Including Chassis, Dual MPUs, 4 SFUs, 8 DC Power or 8 AC Power, without Software Charge and Document.

40G and 200G means:the maximal line rate which single slot can support is 40G/200G full-duplex.

2.If the integrated system of 40 GB can meet user requirements, you are advised to use the integrated system of 40 GB to improve profits.

- 3.SFU can't support Rainier board.
- 4.200G SFU can't support LPU A/B/G.

- 7.4 **Please select the quantity of MPU**

Double MPUs are suggested for redundant.

- 7.5 **Please select the type of SFU**

- 7.6 **Please select the quantity of SFU**

3+1 SFUs are recommended for a redundant configuration.

- 7.7 **Please select the type of AC cable**

EPS200-4850A use power cable of OT terminal;EPS200-4850B use power cable of C19.

1. An EPS200-4850A has four inputs (OT terminal inputs) and four outputs (OT terminal outputs). The input voltage range must be 180 VAC to 264 VAC.
2. An EPS200-4850B has four inputs (C20 terminal inputs, used for C19 cable adaptation) and four outputs (OT terminal outputs). The input voltage range must be 200 VAC to 264 VAC.
3. The positions of an EPS200-4850A's mounting ears are moved forward 4 cm than those of an EPS200-4850B's mounting ears .

EPS200-4850A Rear



EPS200-4850A

Rear

FPS200-4850B Rear



EPS200-4850B

Rear

EPS200-4850A/4850B Front



Front



EPS200-4850A Right Side



EPS200-4850B Right Side

Right Side

- 7.8 Please select the type of C19 power cable

- 1.PDU:Power Distribution Unit, the special main jack for the rack.
- 2.If the main jack is C19SF(as shown in figure), please select ""C19 PDU"" in the option ""Select the type of C19 power cable"", otherwise select ""ordinarily C19"".
- 3.A matching AC power cable is provided only when the AC power module is configured (or the device has the AC power module).



C19 PDU SF

Power Socket



PDU Cable C19-

C20

○ **7.9 Please select the type of C19 AC power cable**

Please select the right type of AC power cable according to the actual situation.



Australia



Brazil



Britain



BS546



China



Europe



South Africa



Japan



North America





Switzerland

- 7.10 **Please select the type of C19 PDU power cable**

1.The recommended value is the power cable type allowed in the specific country. Do not change this value unless a specific power cable type is required.

2.A matching AC power cable is provided only when the AC power module is configured (or the device has the AC power module).

- 7.11 **Need the bundle of SFU or not**

- 7.12 **Need CMU or not**

The CMU is installed in the CMU slot at the back of the chassis (only one CMU slot per-chassis) and monitors the environment of the entire device. You can configure required sensors through command lines by yourself.

- 7.13 **Need DC PDU or not**

PDU:Power Distribution Unit

1 PCS PDU support 1 PCS NE40E-X16 within a cabinet at most .

- 7.14 **Need upgrade 2G CF card or not**

1 PCS MPU configure 2 PCS 2G CF card, 4 PCS CF cards(double MPUs/SRUs) default.

1.V600R00X update to V800R00X : Please accord technology assessment to update 2G CF card.

2.V600R00X update to V600R00X : Due to the package of V600R006 and above version software is too big, it's suggested to upgrade the CF card to 2G as soon as possible

- 7.15 **Need upgrade 2G Memory module or not**

1 PCS MPU configure 1 PCS 2G memory module, 2 PCS 2G memory modules (double MPUs/SRUs) default.

V600R00X update to V800R00X : Please accord technology assessment to update 2G memory module.

8. **===LPUF-240 Flexible Line Process Card=== Profitability level :★★★★★**

- **8.1 Flexible Card Line Processing Unit(LPUF-240, 2 sub-slots)**

- 1.This card provides two sub-slots with hot-swap function.
- 2.This card supports L3VPN function.
- 3.This card does not support BRAS function.

- **8.2 Flexible Card Line Processing Unit(LPUF-240-B, 2 sub-slots)**

- 1.This card provides two sub-slots with hot-swap function.
- 2.This card does not support L3VPN function by default.
- 3.This card does not support BRAS function.

- **8.3 Flexible Card Line Processing Unit(LPUF-240-E, 2 sub-slots)**

- 1.This card provides two sub-slots with hot-swap function.
- 2.This card supports L3VPN function.
- 3.This card supports BRAS function and need to work with -E sub card to provide better BRAS performance. BRAS function also needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.



Flexible Card Line

Processing Unit(LPUF-240-E)

- **8.4 1-Port 100GBase-CFP Flexible Card (P240-A)**

- 1.This sub card occupies one sub-slot from LPUF-240.
- 2.This sub card supports 1588v2 function.
- 3.This sub card does not support HQoS function.

- **8.5 1-Port 100GBase-CFP2 Flexible Card A (P240-A)**

- 1.This sub card occupies one sub-slot from LPUF-240.
- 2.This sub card supports 1588v2 function.
- 3.This sub card does not support HQoS function.

4. When optical modules with the BOM number 02311LYG are used, 2x40G and 10x10G breakout optical fibers are not supported.

○ **8.6 1-Port 100GBase-QSFP28 Flexible Card A(P240-A)**

1. Occupy one LPUF-240/200 sub-slot.
2. This card does not support BRAS function.
3. This card support 1588v2 function.
4. This LPU can be matched with the 100G QSFP28 and 40G QSFP+ optical modules. And can be matched with the 40G breakout optical modules, one module breakouts to 4\*10G Ports.

○ **8.7 1-Port 100G OTN/ETH-CFP2 Flexible Card(P240)**

1. This sub card occupies one sub-slot.
2. This sub card does not support 1588v2 function, HQoS function and fiber Breakout.
3. When using ethernet optical module(02310WUR), this sub card only support worked in ETH mode, using ETH/OTN optical module(02311CSQ) can worked in ETH/OTN mode.

○ **8.8 2-Port 50GBase/1-Port 100GBase-QSFP28 FlexE Flexible Card (P120)**

1. This card can be used as 2\* 50G, also can be used as 1 \* 100G (only the first port support);
2. FlexE function is not enabled by default, need configure 50G FlexE Port License If you need it;

○ **8.9 3-Port 40GBase-QSFP+ Flexible Card(P240-A)**

1. This sub card occupies one sub-slot from LPUF-240.
2. This sub card supports 1588v2 function.
3. This sub card does not support HQoS function.
4. When optical modules with the BOM number 02310WUU are used, 4x10G breakout optical fibers are not supported.

○ **8.10 12-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P240-A)**

1. This sub card occupies one sub-slot from LPUF-240.
2. This sub card supports 1588v2 function.
3. This sub card does not support HQoS function.
4. This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

○ **8.11 10-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P240-E)**

- 1.This sub card occupies one sub-slot from LPUF-240.
- 2.This sub card does not support 1588v2 function in V6RX, but supports 1588v2 in V8RX.
- 3.This sub card supports HQoS function and IP Hard Pipe.
- 4.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
- 5.This card does not support GE/10GE auto-sensing.



10-Port 10GBase

LAN/WAN-SFP+ Flexible Card E(P240-E)

○ **8.12 10-Port 10GBase LAN/WAN-SFP+ Flexible Card H(P240-H)**

- 1.This sub card occupies one sub-slot from LPUF-240.
- 2.This sub card does not support 1588v2 function.
- 3.This sub card is mainly used in IP hard pipe scenario.
- 4.This card does not support GE/10GE auto-sensing.

○ **8.13 24-Port 100/1000Base-X-SFP Flexible Card A(P101-A)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card supports 1588v2 function.
- 3.Please note that the "GE" interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature, but can not support the Synchronization Ethernet Clock function and 1588v2.
- 4.This sub card does not support HQoS function.

○ **8.14 20-Port 10/100/1000Base-RJ45 Flexible Card A(P51-A)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card supports 1588v2 function.
- 3.This sub card does not support HQoS function.

○ 8.15 **24-Port 1000Base-X-SFP Flexible Card E(P51-E)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card does not support 1588v2 function.
- 3.This sub card supports HQoS function.
- 4.It is recommended to use P52-E instead of P51-E to provide HQoS function for new project(except on X3 chassis which does not support 24GE P52-E).
- 5.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:

a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)

b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)

○ 8.16 **24-Port 1000Base-X-SFP Flexible Card E(P52-E)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card does not support 1588v2 function in V6RX, but supports 1588v2 in V8RX.
- 3.This sub card supports HQoS function and IP Hard Pipe.
- 4.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:

a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)

b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)

- 5.This sub card does not support GE/10GE auto-sensing.
- 6.If used on LPU-120, it can not be mixed with 12\*10GE subcard(03030NVF).
- 7.This sub card is not supported in X3 device.
- 8.The sub-card is supported 51/120/240 series boards.And on 51 series boards,P52-E is not supported on LPUF-51/LPUF-51-B,only supported on LPUF-51-E.

9. **===LPUI-240 Integrated Line Process Card=== Profitability level :★★★★**

○ 9.1 **2-Port 100GBase-CFP Integrated Line Processing Unit (LPUI-240)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.This card is not supported in X3.
- 4.This card supports 1588v2 function.

5.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.

○ **9.2 2-Port 100GBase-CFP2 Integrated Line Processing Unit (LPUI-240)**

1.This card supports L3VPN function.  
2.This card does not support BRAS function.  
3.This card is not supported in X3.  
4.This card supports 1588v2 function.  
5.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.

○ **9.3 2-Port 100GBase-QSFP28 Integrated Line Processing Unit (LPUI-240)**

1.This card supports L3VPN function.  
2.This card does not support BRAS function.  
3.This card supports 1588v2.  
4.This LPU can be matched with the 100G QSFP28 and 40G QSFP+ optical modules.And can be matched with the 40G breakeout optical modules, one module breakouts to 4\*10G Ports.

○ **9.4 6-Port 40GBase-QSFP+ Integrated Line Processing Unit (LPUI-240)**

1.This card supports L3VPN function.  
2.This card does not support BRAS function.  
3.This card is not supported in X3.  
4.This card supports 1588v2 function.  
5.This card is not recommended in any scenario that may need HQoS function.

○ **9.5 24-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-240)**

1.This card supports L3VPN function.  
2.This card does not support BRAS function.  
3.This card is not supported in X3.  
4.This card supports 1588v2 function.  
5.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.  
6.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

○ **9.6 1-Port 100GBase-CFP + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-240)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.This card is not supported in X3.
- 4.This card supports 1588v2 function.
- 5.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.
- 6.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

- **9.7 1-Port 100GBase-CFP2 + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-240)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.This card is not supported in X3.
- 4.This card supports 1588v2 function.
- 5.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.
- 6.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

- **9.8 1-Port 100GBase-QSFP28 + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-240)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2.
- 4.This card does not support GE/10GE auto-sensing.
- 5.This LPU can be matched with the 100G QSFP28 and 40G QSFP+ and 10G SFP+ optical modules.And can be matched with the 40G breakout optical modules, one module breakouts to 4\*10GE Ports.

- **9.9 2-Port 100GBase LAN-CFP Integrated Line Processing Unit B(LPUI-240-B)**

- 1.This card does not support L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card is not supported in X3.
- 4.This card supports 1588v2 function.
- 5.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.

- **9.10 2-Port 100GBase-CFP2 Integrated Line Processing Unit B(LPUI-240-B)**

- 1.This card does not support L3VPN function by default.
  - 2.This card does not support BRAS function.
  - 3.This card is not supported in X3.
  - 4.This card supports 1588v2 function.
  - 5.This card is not recommended in any scenario that may need HQoS function.
- Please use -E line card instead.

○ **9.11 2-Port 100GBase-QSFP28 Integrated Line Processing Unit B(LPUI-240-B)**

- 1.This card does not supports L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2.
- 4.This LPU can be matched with the 100G QSFP28 and 40G QSFP+ optical modules.And can be matched with the 40G breakeout optical modules, one module breakouts to 4\*10G Ports.

○ **9.12 6-Port 40GBase-QSFP+ Integrated Line Processing Unit (LPUI-240-B)**

- 1.This card does not support L3VPN function by default.
  - 2.This card does not support BRAS function.
  - 3.This card is not supported in X3.
  - 4.This card supports 1588v2 function.
  - 5.This card is not recommended in any scenario that may need HQoS function.
- Please use -E line card instead.

○ **9.13 24-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-240-B)**

- 1.This card does not support L3VPN function by default.
  - 2.This card does not support BRAS function.
  - 3.This card is not supported in X3.
  - 4.This card supports 1588v2 function.
  - 5.This card is not recommended in any scenario that may need HQoS function.
- Please use -E line card instead.
- 6.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

○ **9.14 1-Port 100GBase-CFP + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-240-B)**

- 1.This card does not support L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card is not supported in X3.
- 4.This card supports 1588v2 function.



- 5.This card is not recommended in any scenario that may need HQoS function. Please use -E line card instead.
- 6.This card supports GE/10GE auto-sensing in 10GE interface.

- **9.15 1-Port 100GBase-CFP2 + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-240-B)**

- 1.This card does not support L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card is not supported in X3.
- 4.This card supports 1588v2 function.
- 5.This card is not recommended in any scenario that may need HQoS function. Please use -E line card instead.
- 6.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

- **9.16 1-Port 100GBase-QSFP28 + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-240-B)**

- 1.This card does not supports L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2.
- 4.This card does not support GE/10GE auto-sensing.
- 5.This LPU can be matched with the 100G QSFP28 and 40G QSFP+ and 10G SFP+ optical modules.And can be matched with the 40G breakout optical modules, one module breakouts to 4\*10GE Ports.

**10. ===LPUF-120 Flexible Line Process Card=== Profitability level :★★★★★**

- **10.1 Flexible Card Line Processing Unit(LPUI-120)**

- 1.This card provides two sub-slots with hot-swap function.
- 2.This card supports L3VPN function.
- 3.This card does not support BRAS function.
- 4.Total bandwidth of sub-card cannot exceed bandwidth of mother-card.

- **10.2 Flexible Card Line Processing Unit(LPUI-120) B**

- 1.This card provides two sub-slots with hot-swap function.
- 2.This card does not support L3VPN function by default.
- 3.This card does not support BRAS function.

- **10.3 Flexible Card Line Processing Unit(LPUI-120) E**

- 1.This card provides two sub-slots with hot-swap function.
- 2.This card supports L3VPN function.
- 3.This card supports BRAS function and need to work with -E sub card to provide

better BRAS performance. BRAS function also needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.



Flexible Card Line

Processing Unit(LPUF-120) E

- **10.4 1-Port 100GBase-CFP Flexible Card (P120-A)**

- 1.This sub card occupies one sub-slot from LPUF-120, and only one sub-card can be supported on LPUF-120.
- 2.This sub card supports 1588v2 function.
- 3.This sub card does not support HQoS function.

- **10.5 1-Port 100GBase-CFP2 Flexible Card A(P120-A)**

- 1.This sub card occupies one sub-slot from LPUF-120, and only one sub-card can be supported on LPUF-120.
- 2.This sub card supports 1588v2 function.
- 3.This sub card does not support HQoS function.
- 4.When optical modules with the BOM number 02311LYG are used, 2x40G and 10x10G breakout optical fibers are not supported.

- **10.6 1-Port 100GBase-QSFP28 Flexible Card A(P120-A)**

- 1.Occupy one LPUF-120 sub-slot, and only one sub-card can be supported in LPUF-120.
- 2.This LPU can be matched with the 100G QSFP28 and 40G QSFP+ optical modules.And can be matched with the 40G breakeout optical modules, one module breakouts to 4\*10GE Ports.

- **10.7 1-Port 100G OTN/ETH-CFP2 Flexible Card(P240)**

1. This sub card occupies one sub-slot.
2. This sub card does not support 1588v2 function, HQoS function and fiber

Breakout.

3. When using ethernet optical module(02310WUR), this sub card only support worked in ETH mode, using ETH/OTN optical module(02311CSQ) can worked in ETH/OTN mode.

- **10.8 2-Port 50GBase/1-Port 100GBase-QSFP28 FlexE Flexible Card (P120)**

1.This card can be used as 2\* 50G, also can be used as 1 \* 100G (only the first port support);

2.FlexE function is not enabled by default, need configure 50G FlexE Port License If you need it;

- **10.9 1-Port 40GBase LAN-CFP Flexible Card A (P101-A)**

1.This sub card occupies one sub-slot from LPUF-120.

2.This sub card supports 1588v2 function.

3.This sub card does not support HQoS function.

4.When optical modules with the BOM number 02310WUU are used, 4x10G breakout optical fibers are not supported.

- **10.10 12-Port 10G Base LAN/WAN-SFP+ Flexible Card A(P120-A)**

1.This sub card occupies one sub-slot from LPUF-120, and only one sub-card can be supported on LPUF-120.

2.This sub card supports 1588v2 function.

3.This sub card does not support HQoS function.

4.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

5.This 12\*10GE subcard can be mixed with 24GE(P101-A) subcard in LPUF-120, but the total capacity can be used will not exceed 120G.

- **10.11 6-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P120-A)**

1.This sub card occupies one sub-slot from LPUF-120.

2.This sub card supports 1588v2 function.

3.This sub card does not support HQoS function.

4.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

- **10.12 6-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P120-E)**

This card does not support GE/10GE auto-sensing.

- **10.13 5-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P101-A)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card supports 1588v2 function.
- 3.This sub card does not support HQoS function.
- 4.This card supports GE/10GE auto-sensing,but can not supports 10GE/GE auto-sensing optical transceiver(34061042).

○ 10.14 **5-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P101-E)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card does not support 1588v2 function.
- 3.This sub card supports HQoS function.
- 4.It is recommended to use P120-E instead of P101-E to provide HQoS function for new project.
- 5.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
- 6.This card does not support GE/10GE auto-sensing.



5-Port 10GBase

LAN/WAN-SFP+ Flexible Card E(P101-E)

○ 10.15 **5-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P120-E)**

- 1.This sub card occupies one sub-slot from.
- 2.This sub card does not support 1588v2 function in V6RX, but supports 1588v2 in V8RX.
- 3.This sub card supports HQoS function and IP Hard Pipe.
- 4.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:

a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)

b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)

5.This card does not support GE/10GE auto-sensing.

- 10.16 **5-Port 10GBase LAN/WAN-SFP+ Flexible Card H(P120-H)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card does not support 1588v2 function.
- 3.This sub card is mainly used in IP hard pipe scenario.
- 4.This sub card does not support GE/10GE auto-sensing.

- 10.17 **24-Port 100/1000Base-X-SFP Flexible Card A(P101-A)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card supports 1588v2 function.
- 3.Please note that the "GE" interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature, but can not support the Synchronization Ethernet Clock function and 1588v2.
- 4.This sub card does not support HQoS function.

- 10.18 **20-Port 10/100/1000Base-RJ45 Flexible Card A(P51-A)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card supports 1588v2 function.
- 3.This sub card does not support HQoS function.
- 4.12\*10GE subcard(03030NVF) can only be mixed with 24GE(P101-A) subcard on LPUF-120, and can not be mixed with 20GE(P51-A) subcard.

- 10.19 **24-Port 1000Base-X-SFP Flexible Card E(P51-E)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card does not support 1588v2 function.
- 3.This sub card supports HQoS function.
- 4.It is recommended to use P52-E instead of P51-E to provide HQoS function for new project(except on X3 chassis which does not support 24GE P52-E).
- 5.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:

a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)

b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)

6.12\*10GE subcard(03030NVF) can only be mixed with 24GE(P101-A) subcard and can not be mixed with 24GE(P51-E) subcard.



24-Port 1000Base-

X-SFP Flexible Card E(P51-E)

○ 10.20 **24-Port 1000Base-X-SFP Flexible Card E(P52-E)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card does not support 1588v2 function in V6RX, but supports 1588v2 in V8RX.
- 3.This sub card supports HQoS function and IP Hard Pipe.
- 4.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQoS)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQoS)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
- 5.This sub card does not support GE/10GE auto-sensing.
- 6.If used on LPU-120, it can not be mixed with 12\*10GE subcard(03030NVF).
- 7.This sub card is not supported in X3 device.
- 8.The sub-card is supported 51/120/240 series boards.And on 51 series boards,P52-E is not supported on LPUF-51/LPUF-51-B,only supported on LPUF-51-E.

○ 10.21 **2-Port OC-192c/STM-64c POS-XFP Flexible Card(P51-A)**

- 1.This sub card occupies one sub-slot.
- 2.10GE XFP optical modules need to be additionally prepared.
- 3.This sub card is supported on LPUF-51/120 series boards. And for 50G boards, it can only be used in LPUF-51-E flexible card but not on LPUF-51-B.

○ 10.22 **8-Port OC-48c/STM-16c POS-SFP Flexible Card(P120)**

- 1.This sub card occupies one sub-slot.
- 2.The interface supports 2.5G/622M self-adaption using optical module with the same rate.

11. **===LPUI-120 Integrated Line Process Card=== Profitability level :★★★★**

○ 11.1 **1-Port 100GBase-CFP Integrated Line Processing Unit (LPUI-120)**

- 1.This card supports L3VPN function.
  - 2.This card does not support BRAS function.
  - 3.This card supports 1588v2 function.
  - 4.This card is not recommended in any scenario that may need HQoS function.
- Please use -E line card instead.

○ 11.2 **1-Port 100GBase-CFP2 Integrated Line Processing Unit (LPUI-120)**

- 1.This card supports L3VPN function.
  - 2.This card does not support BRAS function.
  - 3.This card supports 1588v2 function.
  - 4.This card is not recommended in any scenario that may need HQoS function.
- Please use -E line card instead.

○ 11.3 **1-Port 100GBase-QSFP28 Integrated Line Processing Unit (LPUI-120)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2.
- 4.This LPU can be matched with the 100G QSFP28 and 40G QSFP+ optical modules.And can be matched with the 40G breakeout optical modules, one module breakouts to 4\*10GE Ports.

○ 11.4 **2-Port 40GBase LAN-CFP Integrated Line Processing Unit(LPUI-120)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function.

○ 11.5 **12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-120)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.This card supports 80G line-rate forwarding in X3, and full line-rate forwarding in other chassis.

- 4.This card supports 1588v2 function.
- 5.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.
- 6.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

- **11.6 1-Port 100GBase-CFP Integrated Line Processing Unit B(LPUI-120-B)**

- 1.This card does not support L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.

- **11.7 1-Port 100GBase-CFP2 Integrated Line Processing Unit B(LPUI-120-B)**

- 1.This card does not support L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead

- **11.8 1-Port 100GBase-QSFP28 Integrated Line Processing Unit B(LPUI-120-B)**

- 1.This card does not supports L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2.
- 4.This LPU can be matched with the 100G QSFP28 and 40G QSFP+ optical modules.And can be matched with the 40G breakeout optical modules, one module breakouts to 4\*10GE Ports.

- **11.9 2-Port 40GBase LAN-CFP Integrated Line Processing Unit B(LPUI-120-B)**

- 1.This card does not support L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function.

- **11.10 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-120-B)**



- 1.This card does not support L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.
- 5.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

○ **11.11 10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-102-E)**

- 1.This card supports L3VPN function.
- 2.This card does not support 1588v2 function.
- 3.This card supports BRAS function which needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.
- 4.It is recommended to use LPUI-120-E instead of LPUI-102-E to provide HQoS function for new project.
- 5.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
- 7.This card does not support GE/10GE auto-sensing.



10-Port 10GBase  
LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-102-E)

○ **11.12 10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-120-E)**

- 1.This card supports L3VPN function.
- 2.This card supports 80G line-rate forwarding in X3, and full line-rate forwarding in other chassis.
- 3.This sub card does not support 1588v2 function in V6RX, but supports 1588v2 in V8RX.
- 4.This card supports BRAS function which needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.
- 5.This sub card supports HQoS function and IP Hard Pipe.
- 6.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQoS)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQoS)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
- 7.This card does not support GE/10GE auto-sensing.

**12. ===LPUF-101 Flexible Line Process Card=== Profitability level :★**

○ **12.1 Flexible Card Line Processing Unit(LPUF-101)**

- 1.Provide two sub-slots which support hot-swap of the sub card. It can support L3VPN.
- 2.Support 256K QoS queue.

○ **12.2 Flexible Card Line Processing Unit(LPUF-101) B**

- 1.80G wire speed under X3.
- 2.Provide two sub-slots which support hot-swap of the sub card. It cannot support L3VPN, need to configure L3VPN license for LPUF-101-B to support.
- 3.Support 256K QoS queue.

○ **12.3 5-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P101-A)**

- 1.Occupy one LPUF-101 sub-slot. And optical modules need to be additionally prepared. Support fragment function(Mother Board provide)
- 2.All the ports Support sending the Ethernet Synchro Clock signal;But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software;

○ **12.4 1-Port 40GBase LAN-CFP Flexible Card A (P101-A)**

- 1.Occupy one LPUF-101 sub-slot. And optical modules need to be additionally prepared. Support fragment function(Mother Board provide)
- 2.All the ports Support sending the Ethernet Synchro Clock signal;But simultaneously

only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software;

- **12.5 24-Port 100/1000Base-X-SFP Flexible Card A(P101-A)**

- 1.Occupy one LPUF-101 sub-slot. And optical or electrical modules need to be additionally prepared. Support fragment function(Mother Board provide)
- 2.All the ports Support sending the Ethernet Synchro Clock signal;But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software;
- 3.Please note that the "GE" interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function and 1588v2.

**13. ===LPUI-101 Integrated Line Process Card=== Profitability level :★**

- **13.1 1-Port 100GBase-CFP Integrated Line Processing Unit (LPUI-101)**

- 1.Optical modules need to be additionally prepared.
- 2.Support L3VPN.
- 3.Not support 1588v2 function
- 4.Support 128K QoS queue.

- **13.2 2-Port 40GBase LAN-CFP Integrated Line Processing Unit (LPUI-101)**

- 1.Optical modules need to be additionally prepared.
- 2.Support L3VPN.
- 3.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.
- 4.Support 128K QoS queue.

- **13.3 10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-101)**

- 1.Optical modules need to be additionally prepared.80G wire speed under X3.
- 2.Support L3VPN.
- 3.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.
- 4.Support 128K QoS queue.

- **13.4 2-Port 40GBase LAN-CFP Integrated Line Processing Unit B(LPUI-101-B)**

- 1.Optical modules need to be additionally prepared.
- 2.Cannot Support L3VPN, need to configure L3VPN for LPUI-101-B License to support.

- 3.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.
- 4.Support 128K QoS queue.

- **13.5 10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-101-B)**

- 1.Optical modules need to be additionally prepared.80G wire speed under X3.
- 2.Cannot Support L3VPN, need to configure L3VPN for LPUI-101-B License to support.
- 3.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.
- 4.Support 128K QoS queue.

**14. ===LPUF-100 Flexible Line Process Card=== Profitability level :★**

- **14.1 Flexible Card Line Processing Unit(LPUF-100,4 sub-slots)**

- 1.Provide four sub-slots which support hot-swap of the sub card.
- 2.All of the LPUF-100 Ethernet sub-card can support sending the Ethernet Synchro Clock signal;  
But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software.  
if LPUF-100 configure two sub-card that support the Ethernet Synchro Clock signal resume function,only one sub-card and only port can be set the Ethernet Synchro Clock signal resume port.
- 3.100G card can't support MPLS-TP,Y.1731,PPPoE,IPoE function of Session level.
- 4.support 512K QOS queue.

- **14.2 5-Port 10GBase LAN/WAN-XFP Flexible Card A(P100-A,Supporting 1588v2,Occupy two sub-slots)**

- 1.Occupy two LPUF-100 sub-slot. And XFP optical modules need to be additionally prepared.
- 2.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.

- **14.3 48-Port 100/1000Base-X-CSFP Flexible Card(P100,Occupy two sub-slots)**

- 1.Occupy two slots for LPUF-100. CSFP optical modules are mandatory and a maximum of 24 CSFP optical modules can be configured.  
Each CSFP optical module supports two channels; therefore total 48 ports are provided.  
SFP optical modules and electrical modules are not allowed.  
At the peer end, 1310 (TX)/1490 (TX) BIDI optical modules are mandatory and a

maximum of 48 BIDI optical modules can be configured.

2.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.

- **14.4 24-Port 100/1000Base-X-SFP Flexible Card(P100,Occupy two sub-slots)**

1.Occupy two LPUF-100 sub-slots. And optical modules or electrical modules need to be additionally prepared,the interface on which the electrical modules are configured, can support 10M/100M/1000M electrical interface feature.

2.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.

- **14.5 1-Port OC-768c/STM-256c POS-2KM-LC Flexible Card(P100,Occupy 2 sub-slots)**

1.Occupy two LPUF-100 sub-slot. And card include optical module, optical modules not need to be additionally prepared.

2.can not support the Synchronization Ethernet Clock function.

- **14.6 2-Port OC-192c/STM-64c POS-XFP Flexible Card(P100,Occupy one sub-slot)**

1.Occupy one LPUF-100 sub-slot. And optical modules need to be additionally prepared.

2.can not support the Synchronization Ethernet Clock function.

**15. ===LPUI-100 Integrated Line Process Card===**

- **15.1 10-Port 10GBase LAN/WAN-XFP Integrated Line Processing Unit (LPUI-100,Supporting 1588v2)**

1.XFP Optical modules need to be additionally prepared.

2.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.

3.100G card can't support MPLS-TP,Y.1731,PPPoE,IPoE function of Session level.

4.can support line rate.

5.support 256K QOS queue.

**16. ===LPUF-51 Flexible Line Process Card=== Profitability level :★★★★★**

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

1.This card provides two sub-slots with hot-swap function.

2.This card supports L3VPN function.

3.This card does not support BRAS function.

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

- 1.This card provides two sub-slots with hot-swap function.It is the substitute for LPUF-51(03054393)
- 2.This card supports L3VPN function.
- 3.This card supports BRAS function and need to work with -E sub card to provide better BRAS performance. BRAS function also needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.

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

- 1.This card provides two sub-slots with hot-swap function.
- 2.This card does not support L3VPN function by default.
- 3.This card does not support BRAS function.

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

- 1.This card provides two sub-slots with hot-swap function.It is the substitute for LPUF-51(03054393)
- 2.This card supports L3VPN function.
- 3.This card supports BRAS function and need to work with -E sub card to provide better BRAS performance. BRAS function also needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.

- **16.5 20-Port 10/100/1000Base-RJ45 Flexible CardA(P51-A)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card supports 1588v2 function.
- 3.This sub card does not support HQoS function.
- 4.12\*10GE subcard(03030NVF) can only be mixed with 24GE(P101-A) subcard on LPUF-120, and can not be mixed with 20GE(P51-A) subcard.

- **16.6 5-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P51-A, Occupy two slots)**

- 1.This sub card occupies two sub-slots.
- 2.This sub card supports 1588v2 function.
- 3.This sub card does not support HQoS function.
- 4.This card supports GE/10GE auto-sensing,but can not supports 10GE/GE auto-sensing optical transceiver(34061042).

- **16.7 5-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P51-E, Occupy two slots)**

- 1.This sub card occupies two sub-slot.
- 2.This sub card does not support 1588v2 function.

- 3.This sub card supports HQoS function.
- 4.It is recommended to use P120-E instead of P52-E to provide HQoS function for new project.
- 5.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
- 6.This card does not support GE/10GE auto-sensing.
- 7.This sub card supports 40G wire speed under X8/X16 40G Basic Bundle(V6R6&V6R7), and full line-rate forwarding in other chassis.



5-Port 10GBase

LAN/WAN-SFP+ Flexible Card E(P51-E, Occupy two sub-slots)

- **16.8 5-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P52-E, Occupy two sub-slots)**

- 1.This sub card occupies two sub-slot.
- 2.This sub card does not support 1588v2 function in V6RX, but supports 1588v2 in V8RX.
- 3.This sub card supports HQoS function and IP Hard Pipe.
- 4.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
- 5.This card does not support GE/10GE auto-sensing.
- 6.P52-E is not supported on LPUF-51/LPUF-51-B, only supported on LPUF-51-E.

7.This sub card supports 40G wire speed under X8/X16 40G Basic Bundle(V6R6&V6R7), and full line-rate forwarding in other chassis.

○ **16.9 2-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P51-A)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card supports 1588v2 function.
- 3.This sub card does not support HQoS function.
- 4.This card supports GE/10GE auto-sensing,but can not supports 10GE/GE auto-sensing optical transceiver(34061042).

○ **16.10 2-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P51-E)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card does not support 1588v2 function.
- 3.This sub card supports HQoS function.
- 4.It is recommended to use P52-E instead of P51-E to provide HQoS function for new project.
- 5.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:  
a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)  
b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
- 6.This card does not support GE/10GE auto-sensing.



2-Port 10GBase

LAN/WAN-SFP+ Flexible Card E(P51-E)

○ **16.11 2-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P52-E)**



- 1.This sub card occupies one sub-slot.
- 2.This sub card does not support 1588v2 function in V6RX, but supports 1588v2 in V8RX.
- 3.This sub card supports HQoS function and IP Hard Pipe.
- 4.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQoS)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQoS)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
- 5.This card does not support GE/10GE auto-sensing.
- 6.P52-E is not supported on LPUF-51/LPUF-51-B, only supported on LPUF-51-E.

○ **16.12 2-Port 10GBase LAN/WAN-SFP+ Flexible Card H(P51-H)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card does not support 1588v2 function.
- 3.This sub card is mainly used in IP hard pipe scenario.
- 4.This sub card does not support GE/10GE auto-sensing.
- 5.This sub card is not supported on LPUF-51/LPUF-51-B, only supported on LPUF-51-E.

○ **16.13 24-Port 100/1000Base-X-SFP Flexible Card A(P51-A)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card supports 1588v2 function.
- 3.Please note that the "GE" interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature, but can not support the Synchronization Ethernet Clock function and 1588v2.
- 4.This sub card does not support HQoS function.

○ **16.14 24-Port 1000Base-X-SFP Flexible Card E(P51-E)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card does not support 1588v2 function.
- 3.This sub card supports HQoS function.
- 4.It is recommended to use P52-E instead of P51-E to provide HQoS function for new project(except on X3 chassis which does not support 24GE P52-E).
- 5.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQoS)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced

HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)

6.12\*10GE subcard(03030NVF) can only be mixed with 24GE(P101-A) subcard and can not be mixed with 24GE(P51-E) subcard.

7.Please note that the "GE" interface on which the electrical module was configured, cannot support the Synchronization Ethernet Clock function anymore. Only support 1000M electrical interface feature.



24-Port 1000Base-

X-SFP Flexible Card E(P51-E)

○ 16.15 **24-Port 1000Base-X-SFP Flexible Card E(P52-E)**

- 1.This sub card occupies one sub-slot.
- 2.This sub card does not support 1588v2 function in V6RX, but supports 1588v2 in V8RX.
- 3.This sub card supports HQoS function and IP Hard Pipe.
- 4.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
- 5.This sub card does not support GE/10GE auto-sensing.
- 6.If used on LPU-120, it can not be mixed with 12\*10GE subcard(03030NVF).
- 7.This sub card is not supported in X3 device.
- 8.The sub-card is supported 51/120/240 series boards.And on 51 series boards,P52-E is not supported on LPUF-51/LPUF-51-B,only supported on LPUF-51-E.

○ 16.16 **2-Port OC-192c/STM-64c POS-XFP Flexible Card(P51-A)**

- 1.This sub card occupies one sub-slot.
- 2.10GE XFP optical modules need to be additionally prepared.

3.This sub card is supported on LPUF-51/120 series boards. And for 50G boards, it can only be used in LPUF-51-E flexible card but not on LPUF-51-B.

- **16.17 8-Port OC-48c/STM-16c POS-SFP Flexible Card(P120)**

- 1.This sub card occupies one sub-slot.
- 2.The interface supports 2.5G/622M self-adaption using optical module with the same rate.

**17. ===LPUI-51 Integrated Line Process Card=== Profitability level :★★★★**

- **17.1 5-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-51)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function. Please use -E line card instead.
- 5.This card supports GE/10GE auto-sensing.

- **17.2 5-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-51-E)**

- 1.This card is the substitute for 03054395 and 03054397 (LPUI-51).
- 2.This card supports L3VPN function.
- 3.This card supports 1588v2 function.
- 4.This card should not be used in BRAS scenario and please use LPUI-52-E(Enhanced HQos) instead.
- 5.This card supports GE/10GE auto-sensing,but can not supports 10GE/GE auto-sensing optical transceiver(34061042).

- **17.3 5-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-51-E)**

- 1.This card is the substitute for 03054395 and 03054397 (LPUI-51).
- 2.This card supports L3VPN function.
- 3.This card supports 1588v2 function.
- 4.This card should not be used in BRAS scenario and please use LPUI-52-E(Enhanced HQos) instead.
- 5.This card supports GE/10GE auto-sensing,but can not supports 10GE/GE auto-sensing optical transceiver(34061042).

- **17.4 4-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-51)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.
- 5.This card supports GE/10GE auto-sensing.

- **17.5 3-Port 10GBase LAN/WAN-SFP+ + 24-Port 100/1000Base-X-SFP  
Integrated Line Processing Unit(LPUI-51-E)**

- 1.This card is the substitute for 03054395 and 03054397 (LPUI-51).
- 2.This card supports L3VPN function.
- 3.This card supports 1588v2 function.
- 4.This card should not be used in BRAS scenario and please use LPUI-52-E(Enhanced HQoS) instead.
- 5.This card does not support GE/10GE auto-sensing.

- **17.6 3-Port 10GBase LAN/WAN-SFP+ + 24-Port 100/1000Base-X-SFP  
Integrated Line Processing Unit(LPUI-51-E)**

- 1.This card is the substitute for 03054395 and 03054397 (LPUI-51).
- 2.This card supports L3VPN function.
- 3.This card supports 1588v2 function.
- 4.This card should not be used in BRAS scenario and please use LPUI-52-E(Enhanced HQoS) instead.
- 5.This card does not support GE/10GE auto-sensing.

- **17.7 2-Port 10GBase LAN/WAN-SFP+ + 24-Port 100/1000Base-X-SFP  
Integrated Line Processing Unit (LPUI-51)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.
- 5.This card supports GE/10GE auto-sensing.
- 6.Please note that the "GE" interface on which the electrical module was configured,  
can support 10M/100M/1000M electrical interface feature,can not support the  
Synchronization Ethernet Clock function and 1588v2 any more.

- **17.8 2-Port 10GBase LAN/WAN-SFP+ + 24-Port 10/1000Base-X-SFP  
Integrated Line Processing Unit E(LPUI-51-E)**

- 1.This card is the substitute for 03054412(LPUI-51).
- 2.This card supports L3VPN function.
- 3.This card supports 1588v2 function.

- 4.This card should not be used in BRAS scenario and please use LPUI-52-E(Enhanced HQos) instead.
- 5.This card supports GE/10GE auto-sensing.

- **17.9 2-Port 10GBase LAN/WAN-SFP+ + 24-Port 10/1000Base-X-SFP Integrated Line Processing Unit E(LPUI-51-E)**

- 1.This card is the substitute for 03054412(LPUI-51).
- 2.This card supports L3VPN function.
- 3.This card supports 1588v2 function.
- 4.This card should not be used in BRAS scenario and please use LPUI-52-E(Enhanced HQos) instead.
- 5.This card supports GE/10GE auto-sensing.

- **17.10 48-Port 100/1000Base-X-SFP Integrated Line Processing Unit (LPUI-51)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function. Please use -E line card instead.
- 5.Please note that the "GE" interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function and 1588v2 any more.

- **17.11 48-Port 100/1000Base-X-SFP Integrated Line Processing Unit E(LPUI-51-E)**

- 1.This card is the substitute for 03054400(LPUI-51).
- 2.This card supports L3VPN function.
- 3.This card supports 1588v2 function.
- 4.This card should not be used in BRAS scenario and please use LPUI-52-E(Enhanced HQos) instead.

- **17.12 48-Port 100/1000Base-X-SFP Integrated Line Processing Unit E(LPUI-51-E)**

- 1.This card is the substitute for 03054400(LPUI-51).
- 2.This card supports L3VPN function.
- 3.This card supports 1588v2 function.
- 4.This card should not be used in BRAS scenario and please use LPUI-52-E(Enhanced HQos) instead.

- **17.13 5-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-51-B)**

- 1.This card does not support L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.
- 5.This card does not support GE/10GE auto-sensing.

- **17.14 4-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-51-B)**

- 1.This card does not support L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.
- 5.This card supports GE/10GE auto-sensing.

- **17.15 2-Port 10GBase LAN/WAN-SFP+ + 24-Port 100/1000Base-X-SFP Integrated Line Processing Unit B(LPUI-51-B)**

- 1.This card does not support L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.
- 5.This card supports GE/10GE auto-sensing.
- 6.Please note that the "GE" interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function and 1588v2 any more.

- **17.16 48-Port 100/1000Base-X-SFP Integrated Line Processing Unit B(LPUI-51-B)**

- 1.This card does not support L3VPN function by default.
- 2.This card does not support BRAS function.
- 3.This card supports 1588v2 function.
- 4.This card is not recommended in any scenario that may need HQoS function.  
Please use -E line card instead.
- 5.Please note that the "GE" interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function and 1588v2 any more.

- **17.17 5-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-51-E,Enhanced HQoS)**

- 1.This card supports L3VPN function.
- 2.This card does not support 1588v2 function.
- 3.This card supports BRAS function which needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.
- 4.It is recommended to use LPUI-52-E(Enhanced HQoS) instead of LPUI-51-E(Enhanced HQoS) to provide HQoS function for new project.
- 5.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQoS)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQoS)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
- 7.This card does not support GE/10GE auto-sensing.



5-Port 10GBase

LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-51-E,Enhanced HQoS)

- **17.18 5-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit E(LPUI-52-E,Enhanced HQoS)**

- 1.This card supports 50G line-rate forwarding.
- 2.This card supports L3VPN function.
- 3.This card does not support 1588v2 function in V6RX, but supports 1588v2 in V8RX.
- 4.This card supports BRAS function which needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.
- 5.This card supports HQoS function and IP Hard Pipe.
- 6.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQoS)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)

b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)  
7.This card does not support GE/10GE auto-sensing.

o **17.19 2-Port 10GBase LAN/WAN-SFP+ + 24-Port 100/1000Base-X-SFP Integrated Line Processing Unit E(LPUI-51-E,Enhanced HQos)**

1.This card supports L3VPN function.  
2.This card does not support 1588v2 function.  
3.This card supports BRAS function which needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.  
4.It is recommended to use LPUI-52-E(Enhanced HQos) instead of LPUI-51-E(Enhanced HQos) to provide HQoS function for new project.  
5.If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:

a)P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQos)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)

b)P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQos)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)

6.This card does not support GE/10GE auto-sensing.



2-Port 10GBase

LAN/WAN-SFP+ + 24-Port 1000Base-X-SFP Integrated Line Processing Unit E(LPUI-51-E,Enhanced HQos)

o **17.20 2-Port 10GBase LAN/WAN-SFP+ + 24-Port 100/1000Base-X-SFP Integrated Line Processing Unit E(LPUI-52-E,Enhanced HQos)**

1.This card supports L3VPN function.  
2.This card does not support 1588v2 function in V6RX, but supports 1588v2 in V8RX.  
3.This card supports BRAS function which needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.



4. This card supports HQoS function and IP Hard Pipe.
5. If configure HQoS function, the sub cards listed in a) & b) below cannot be used in the same trunk:
  - a) P52-E(03031XQJ/03031XPT/03031XQD)/LPUI-52-E(Enhanced HQoS)(03057085/03057086)/P120-E(03031XPV)/LPUI-120-E(03057087)/P240-E(03030TUQ)
  - b) P51-E(03030PYE/03030PYG/03030PYF)/LPUI-51-E(Enhanced HQoS)(03054626/03054625)/P101-E(03030QKM)/LPUI-102-E(03054627)
6. This card does not support GE/10GE auto-sensing.
7. This card is not supported in X3 chassis
8. Not support X3 device.

**18. ===LPUI-51-L Integrated Line Processing Card===**

○ **18.1 5-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit L(LPUI-51-L)**

1. This card supports L3VPN function.
2. This card does not support BRAS function.
3. All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source. The interface on which the electrical modules are configured, can not support the Synchronization Ethernet Clock function and 1588V2.
4. This card is not recommended in any scenario that may need HQoS function. Please use -E line card instead.
5. This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

○ **18.2 48-Port 100/1000Base-X-SFP Integrated Line Processing Unit L(LPUI-51-L)**

1. This card supports L3VPN function.
2. This card does not support BRAS function.
3. All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source. The interface on which the electrical modules are configured, can not support the Synchronization Ethernet Clock function and 1588V2.
4. This card is not recommended in any scenario that may need HQoS function. Please use -E line card instead.
5. Please note that the "GE" interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature, can not support the Synchronization Ethernet Clock function and 1588v2.

○ **18.3 4-Port 10GBase LAN/WAN-SFP+ + 12-Port 100/1000Base-X-SFP Integrated Line Processing Unit L(LPUI-51-L)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.The interface on which the electrical modules are configured,can not support the Synchronization Ethernet Clock function and 1588V2.
- 4.This card is not recommended in any scenario that may need HQoS function. Please use -E line card instead.
- 5.This card does not support GE/10GE auto-sensing.



4-Port 10GBase

LAN/WAN-SFP+ + 12-Port 100/1000Base-X-SFP Integrated Line Processing Unit L(LPUI-51-L)

- **18.4 2-Port 10GBase LAN/WAN-SFP+ + 32-Port 100/1000Base-X-SFP Integrated Line Processing Unit L(LPUI-51-L)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.The interface on which the electrical modules are configured,can not support the Synchronization Ethernet Clock function and 1588V2.Among 32-port GE interfaces, just 24 ports support GE/FE self-adjustment and can configure FE optical module; the other 8 ports can only support GE and cannot support FE optical module.
- 4.This card is not recommended in any scenario that may need HQoS function. Please use -E line card instead.
- 6.This card does not support GE/10GE auto-sensing.

**19. ===LPUF-50 Flexible Line Process Card=== Profitability level :★★★★**

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

1.This card provides four sub-slots which support hot-swap of the sub card. Maximum 50G capacity.

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

1.This card is the substitute for 03054447(LPUF-50), with 4G memory.

2.This card provides four sub-slots which support hot-swap of the sub card. Maximum 50G capacity.

○ **19.3 2-Port 10GBase LAN/WAN-SFP+ Flexible Card A**

1.LPUF-50 can configure 2 PCS this Flexible Card(only can be plugged in the lower two sub-slots of LPUF-50). Need to configure 1588v2 License for the whole chassis to enable 1588v2 function.

2.This card occupies one LPUF-50 sub-slot.And optical modules need to be additionally prepared.

3.This card does not support GE/10GE auto-sensing.

○ **19.4 8-Port 100/1000Base-X-SFP Flexible Card A(Supporting 1588v2)**

1.This card occupies one LPUF-50 sub-slot.And optical or electrical modules need to be additionally prepared.

2.This card needs to configure 1588v2 License for the whole chassis to enable 1588v2 function.

○ **19.5 1-Port OC-192c/STM-64c POS-XFP Flexible Card**

1.Occupy two LPUF-50 sub-slots. Optical modules need to be additionally prepared.

2.Can not support the Synchronization Ethernet Clock function.

○ **19.6 4-port OC-48c/STM-16c POS-SFP Flexible Card**

1.Occupy one LPUF-50 sub-slot. And optical modules need to be additionally prepared.

2.Can not support the Synchronization Ethernet Clock function.

○ **19.7 2-port OC-48c/STM-16c POS-SFP Flexible Card**

1.Occupy one LPUF-50 sub-slot. And optical modules need to be additionally prepared.

2.Can not support the Synchronization Ethernet Clock function.

○ **19.8 8-port OC-12c/STM-4c POS-SFP Flexible Card**

1.Occupy one LPUF-50 sub-slot.And optical modules need to be additionally prepared.

2.Can not support the Synchronization Ethernet Clock function.

- **19.9 4-port OC-12c/STM-4c POS-SFP Flexible Card**

- 1.Occupy one LPUF-50 sub-slot. And optical modules need to be additionally prepared.
- 2.Can not support the Synchronization Ethernet Clock function.
- 3.It can support 155M/622M.

- **19.10 8-port OC-3c/STM-1c POS-SFP Flexible Card**

- 1.Occupy one LPUF-50 sub-slot. And optical modules need to be additionally prepared.
- 2.Can not support the Synchronization Ethernet Clock function.

- **19.11 4-port OC-3c/STM-1c POS-SFP Flexible Card**

Occupy one LPUF-50 sub-slot. And optical modules need to be additionally prepared.

- **19.12 2-Port OC-3c/STM-1c POS-SFP Flexible Card**

Occupy one LPUF-50 sub-slot. And optical modules need to be additionally prepared.

- **19.13 1-Port Channelized STM-4 POS-SFP Flexible Card(P50)**

- 1.Occupy one LPUF-50 sub-slot. And optical modules need to be additionally prepared.
- 2.Can not support the Synchronization Ethernet Clock function.

- **19.14 8-Port Channelized STM-1 POS-SFP Flexible Card**

- 1.Occupy one LPUF-50 sub-slot. And optical modules need to be additionally prepared.
- 2.Can not support the Synchronization Ethernet Clock function.
- 3.not support HDLC,FR,cRTP.

- **19.15 4-Port Channelized STM-1 POS-SFP Flexible Card**

- 1.Occupy one LPUF-50 sub-slot. And optical modules need to be additionally prepared.
- 2.Can not support the Synchronization Ethernet Clock function.
- 3.not support HDLC,FR,cRTP.

- **19.16 2-Port Channelized STM-1c POS-SFP Flexible Card(P50)**

- 1.Occupy one LPUF-50 sub-slot.
- 2.Link layer protocol supports ATM / IMA, PPP / MP, TDM; Frame format supports SDH.

- **19.17 2-Port Channelized OC-3c/STM-1c POS-SFP Flexible Card**

- 1.Occupy one LPUF-50 sub-slot.
- 2.Link layer protocol supports PPP / MP, HDLC, TDM; Frame format supports SDH, SONET.

- **19.18 24-Port Channelized E1/T1-DB100 Flexible Card**

- 1.Occupy one LPUF-50 sub-slot. And must be worked with the Conversion Box together.Please select the correct length and remote end interface type of the E1 cable.
- 2.Can not support the Synchronization Ethernet Clock function.
- 3.Attention: this card can't support T1.

**20. ===LPUF-40 Flexible Line Process Card=== Profitability level :★**

- **20.1 Flexible Card Line Processing Unit(LPUF-40,2 sub-slots) A (L3VPN,MVPN,IPv6 Enhanced)**

- 1.Provide two sub-slots which support hot-swap of the sub card. It can support L3VPN, MVPN, and Enhanced IPV6.
- 2.Support 512K QoS queue.

- **20.2 Flexible Card Line Processing Unit(LPUF-40,2 sub-slots) E**

- 1.Used to the User side connect and use PPPoE/IPoE,PPPoE/IPoE function need config with PPPoE/IPoE license(per chassis). Can not support Wifi Gateway enhancement.
- 2.Single stack can support 32K Subscribers at most,reducing half when dual stack.
- 3.Provide two sub-slots,support hot-swap of the sub card.

- **20.3 20-Port 10/100/1000Base-RJ45 Flexible Card(P40)**

- 1.Occupy one LPUF-40 sub-slot.
- 2.Can not support the Synchronization Ethernet Clock function.

- **20.4 4-Port 10GBase LAN/WAN-XFP Flexible Card(P40,Occupy one sub-slot)**

- 1.Occupy one LPUF-40 sub-slot. And optical modules need to be additionally prepared.
- 2.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.
- 3.Convergence board from 40G to 20G.

- **20.5 2-Port 10GBase LAN/WAN-XFP Flexible Card**

- 1.Occupy one LPUF-40 sub-slot. And optical modules need to be additionally prepared.
- 2.All the ports Support sending the Ethernet Synchro Clock signal;But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software.
- 3.Can't support fragment function;if need the fragment function please configure P40-B.

○ **20.6 2-Port 10GBase LAN/WAN-XFP Flexible Card A(Supporting 1588v2)**

- 1.Occupy one LPUF-40 sub-slot.And optical modules need to be additionally prepared.
- 2.All the ports Support sending the Ethernet Synchro Clock signal;But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software.

○ **20.7 2-Port 10GBase LAN/WAN-XFP Flexible Card B(P40-B)**

- 1.Occupy one LPUF-40 sub-slot. And optical modules need to be additionally prepared.
- 2.All the ports Support sending the Ethernet Synchro Clock signal;But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software.
- 3.Support fragment function;Support BRAS function in V600R005.

○ **20.8 2-Port 10GBase LAN/WAN-XFP Flexible Card E(P40-E)**

- 1.Occupy one LPUF-40 sub-slot. And optical modules need to be additionally prepared.
- 2.All the ports Support sending the Ethernet Synchro Clock signal;But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software.
- 3.support 1588v2,fragment function,BRAS,enhanced QoS.

○ **20.9 20-Port 100/1000Base-X-SFP Flexible Card**

- 1.Occupy one LPUF-40 sub-slot. And optical or electrical modules need to be additionally prepared.
- 2.All the ports Support sending the Ethernet Synchro Clock signal;But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software;Note that, the interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function.
- 3.Can't support fragment function;if need the fragment function please configure P40-B.

- 20.10 **20-Port 100/1000Base-X-SFP Flexible Card A(Supporting 1588v2)**

- 1.Occupy one LPUF-40 sub-slot. And optical or electrical modules need to be additionally prepared.
- 2.All the ports Support sending the Ethernet Synchro Clock signal;But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software;Note that, the interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function and 1588v2.

- 20.11 **20-Port 100/1000Base-X-SFP Flexible Card B(P40-B)**

- 1.Occupy one LPUF-40 sub-slot. And optical or electrical modules need to be additionally prepared.
- 2.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source;Note that, the interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function.
- 3.Support fragment function;Support BRAS function in V600R005.

- 20.12 **20-Port 1000Base-X-SFP Flexible Card E(P40-E)**

- 1.Occupy one LPUF-40 sub-slot. And optical or electrical modules need to be additionally prepared.
- 2.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source;Note that, the interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function.
- 3.support 1588v2,fragment function,BRAS,enhanced QoS.

**21. ===LPUF-21 Flexible Line Process Card=== Profitability level :★**

- 21.1 **Flexible Card Line Processing Unit(LPUF-21,2 sub-slots) A (L3VPN, MVPN, IPv6 Enhanced)**

Provide two sub-slots,support hot-swap of the sub card.Support L3VPN,MVPN and IPV6.

- 21.2 **Flexible Card Line Processing Unit(LPUF-21,2 sub-slots) E**

- 1.Used to the User side connect and use PPPoE/IPoE,PPPoE/IPoE function need config with PPPoE/IPoE license(per chassis). Can not support Wifi Gateway enhancement.

2. Single stack can support 32K Subscribers at most, reducing half when dual stack.
3. Provide two sub-slots, support hot-swap of the sub card.

- **21.3 12-Port 10/100/1000Base-TX-RJ45 Flexible Card**

1. Occupy one LPUF-21 sub-slot.
2. Can not support the Synchronization Ethernet Clock function.

- **21.4 4-Port 10GBase WAN/LAN-XFP Flexible Card**

1. Occupy two LPUF-21 sub-slots. And optical modules need to be additionally prepared.
2. All the ports Support sending the Ethernet Synchro Clock signal; But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software.
3. Convergence board from 40G to 20G.
4. LPUF-21 support this flexible card. LPUF-20 can't support this flexible card.

- **21.5 1-Port 10GBase WAN/LAN-XFP Flexible Card**

1. Occupy one LPUF-21 sub-slot. And optical module need to be additionally prepared.
2. Support receiving and sending the Ethernet Synchro Clock signal.
3. Can't support fragment function, if need the fragment function please configure P20-B.

- **21.6 1-Port 10GBase WAN/LAN-XFP Flexible Card A(Supporting 1588v2)**

1. Occupy one LPUF-21 sub-slot. And optical module need to be additionally prepared.
2. Support receiving and sending the Ethernet Synchro Clock signal.

- **21.7 1-Port 10GBase LAN/WAN-XFP Flexible Card B(P20-B)**

1. Occupy one LPUF-21 sub-slot. And optical modules need to be additionally prepared.
2. Support receiving and sending the Ethernet Synchro Clock signal.
3. Support fragment function; Support BRAS function in V600R005.
4. LPUF-21 support this flexible card. LPUF-20 can't support this flexible card.

- **21.8 1-Port 10GBase LAN/WAN-XFP Flexible Card E(P20-E)**

1. Occupy one LPUF-21 sub-slot. And optical modules need to be additionally prepared.
2. Support receiving and sending the Ethernet Synchro Clock signal.
3. Support the enhanced QoS and downstream traffic management; Support BRAS



function in V600R005.

4.LPUF-21 support this flexible card. LPUF-20 can't support this flexible card.

- **21.9 40-Port 100/1000Base-SFP Flexible Card**

1.Occupy two LPUF-21 sub-slots.And optical modules or electrical modules need to be additionally prepared.

2.All the ports Support sending the Ethernet Synchro Clock signal;But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal,arbitrarily port can be configured by software.The interface on which the electrical modules are configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function.

3.Convergence board from 40G to 20G.

4.LPUF-21 support this flexible card. LPUF-20 can't support this flexible card.

- **21.10 12-Port 100/1000Base-X-SFP Flexible Card**

1.Occupy one LPUF-21 sub-slot. And optical modules or electrical modules need to be additionally prepared.

2.All ports support the transmission of the synchronization Ethernet clock information. Only Port 0 and Port 1 can receive the synchronization Ethernet clock information. Note that, the interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function.

3.Can't support fragment function,if need the fragment function please configure P20-B.

- **21.11 12-Port 100/1000Base-SFP Flexible Card A(Supporting 1588V2)**

1.Occupy one LPUF-21 sub-slot. And optical modules or electrical modules need to be additionally prepared.

2.All the ports Support sending the Ethernet Synchro Clock signal;But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software;Note that, the interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function and 1588v2.

- **21.12 12-Port 100/1000Base-X-SFP Flexible Card B(P20-B)**

1.Occupy one LPUF-21 sub-slot. And optical or electrical modules need to be additionally prepared.

2.Support receiving and sending the Ethernet Synchro Clock signal;Note that, the interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function.

- 3.Support fragment function;Support BRAS function in V600R005.
- 4.LPUF-21 support this flexible card. LPUF-20 can't support this flexible card.

- **21.13 10-Port 1000Base-X-SFP Flexible Card E(P20-E)**

- 1.Occupy one LPUF-21 sub-slot. And optical or electrical modules need to be additionally prepared.
- 2.Support receiving and sending the Ethernet Synchro Clock signal;Note that, the interface on which the electrical module was configured, can support 1000M electrical interface feature,can not support the Synchronization Ethernet Clock function.
- 3.Support the enhanced QoS and downstream traffic management;Support BRAS function in V600R005.
- 4.LPUF-21 support this flexible card. LPUF-20 can't support this flexible card.

- **21.14 1-Port OC-192c/STM-64c POS-XFP Flexible Card**

- 1.Occupy one LPUF-21 sub-slot.And optical modules need to be additionally prepared.
- 2.Can not support the Synchronization Ethernet Clock function.

- **21.15 2-Port 10GBase LAN/WAN-XFP + 20-Port 100/1000Base-X-SFP Flexible Card**

- 1.Occupy two LPUF-21 sub-slots. And optical or electrical modules need to be additionally prepared.
- 2.All the ports Support sending the Ethernet Synchro Clock signa;But simultaneously only one port could be select constitute receiving the Ethernet Synchro Clock signal, arbitrarily port can be configured by software;Note that, the interface on which the electrical module was configured, can support 10M/100M/1000M electrical interface feature,can not support the Synchronization Ethernet Clock function.
- 3.Convergence board to 20G.
- 4.LPUF-21 support this flexible card. LPUF-20 can't support this flexible card.

## **22. ===LPUI-21-L Integrated Line Processing Card===**

- **22.1 1-Port 10GBase LAN/WAN-SFP+ + 16-Port 100/1000Base-X-SFP Integrated Line Processing Unit L(LPUI-21-L)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.The interface on which the electrical modules are configured,can not support the Synchronization Ethernet Clock function and 1588V2.
- 4.This card is not recommended in any scenario that may need HQoS function. Please use -E line card instead.

- 5.This card supports GE/10GE auto-sensing.
- 6.This card has limited specification and can only be used in IPRAN scenario.

- **22.2 24-Port 100/1000Base-X-SFP Integrated Line Processing Unit L(LPUI-21-L)**

- 1.This card supports L3VPN function.
- 2.This card does not support BRAS function.
- 3.All the ports support receiving and sending the Synchro Ethernet Clock signal. But simultaneously only one port could be select constitute clock source.The interface on which the electrical modules are configured,can not support the Synchronization Ethernet Clock function and 1588V2.
- 4.This card is not recommended in any scenario that may need HQoS function. Please use -E line card instead.
- 5.This card has limited specification and can only be used in IPRAN scenario.

**23. ===LPUF-10 Flexible Line Process Card=== Profitability level :★**

- **23.1 Flexible Card Line Processing Unit(LPUF-10,4 sub-slots)**

- 1.Provide four sub-slots,support hot-swap of the sub card.
- 2.The total bandwidth of the LPUF-10 is 10 Gbit/s. Only the 8-Port 100/1000Base-X-SFP FPIC is the convergence FPIC, and other FPICs are non-convergence FPICs.Therefore, the total bandwidth of the non-convergence FPICs on the LPUF-10 cannot exceed 10 Gbit/s. If the total bandwidth of the non-convergence FPICs exceeds 10 Gbit/s, the non-convergence FPIC newly plugged on the LPUF-10 cannot be registered, whereas the convergence FPIC newly plugged on the LPUF-10 can be registered, but can not switch data at wire speed, only using the remaining bandwidth. For example, in the FPIC combination, 10G POS FPIC + 8xGE FPIC or 4x2.5G POS FPIC+ 8xGE FPIC, if the 10G POS FPIC or the 4x2.5G POS FPIC switch data at wire speed, the 8xGE FPIC has no available bandwidth; if the 10G POS FPIC or the 4x2.5G POS FPIC does not switch data at wire speed, the 8xGE FPIC uses the remaining bandwidth.

- **23.2 8-Port 100/1000Base-X-SFP Flexible Card A (Supporting 1588v2)**

- 1.Occupy one LPUF-10 sub-slot.
- 2.Support receiving and sending the Ethernet Synchro Clock signal,Note that, the port on which the electrical SFP module is configured, can not support the Synchronization Ethernet Clock function and 1588v2.

- **23.3 1-Port OC-192c/STM-64c POS-XFP Flexible Card**

- 1.Occupy two LPUF-10 sub-slots. Recommend to configure only one of this sub card on each LPUF-10 board. Optical modules need to be additionally prepared.
- 2.Can not support the Synchronization Ethernet Clock function.

- **23.4 4-Port OC-48c/STM-16c POS-SFP Flexible Card**

1. Occupy one LPUF-10 sub-slot. Recommend to configure only one of this sub card on each LPUF-10 board. And optical modules need to be additionally prepared.
2. Can not support the Synchronization Ethernet Clock function.

- **23.5 2-Port OC-48c/STM-16c POS-SFP Flexible Card**

1. Occupy one LPUF-10 sub-slot. Recommend to configure only two of this sub card on each LPUF-10 board. And optical modules need to be additionally prepared.
2. Can not support the Synchronization Ethernet Clock function.

- **23.6 1-Port OC-48c/STM-16c POS-SFP Flexible Card**

1. Occupy one LPUF-10 sub-slot. And optical modules need to be additionally prepared.
2. Can not support the Synchronization Ethernet Clock function.

- **23.7 8-Port OC-12c/STM-4c POS-SFP Flexible Card**

1. Occupy one LPUF-10 sub-slot. Recommend to configure only two of this sub card on each LPUF-10 board. And optical modules need to be additionally prepared.
2. Can not support the Synchronization Ethernet Clock function.

- **23.8 4-Port OC-12c/STM-4c POS-SFP Flexible Card**

1. Occupy one LPUF-10 sub-slot. And optical modules need to be additionally prepared.
2. Can not support the Synchronization Ethernet Clock function.

- **23.9 8-Port OC-3c/STM-1c POS-SFP Flexible Card**

1. Occupy one LPUF-10 sub-slot. And optical modules need to be additionally prepared.
2. Can not support the Synchronization Ethernet Clock function.

- **23.10 4-Port OC-3c/STM-1c POS-SFP Flexible Card**

1. Occupy one LPUF-10 sub-slot. And optical modules need to be additionally prepared.
2. Can not support the Synchronization Ethernet Clock function.

- **23.11 2-Port Channelized OC-3c/STM-1c POS-SFP Flexible Card**

1. Occupy one LPUF-10 sub-slot. And optical modules need to be additionally prepared.
2. Can not support the Synchronization Ethernet Clock function.

- 23.12 **2-Port OC-12c/STM-4c ATM-SFP Flexible Card**

1. Occupy one LPUF-10 sub-slot. And optical modules need to be additionally prepared.
2. Can not support the Synchronization Ethernet Clock function.

- 23.13 **4-Port OC-3c/STM-1c ATM-SFP Flexible Card**

1. Occupy one LPUF-10 sub-slot. And optical modules need to be additionally prepared.
2. Can not support the Synchronization Ethernet Clock function.

- 23.14 **4-Port Clear Channel E3/Channelized T3-SMB Flexible Card**

1. Occupy one LPUF-10 sub-slot; please select the E3/T3 cable.
2. Can not support the Synchronization Ethernet Clock function.

- 23.15 **24-Port Channelized E1/T1-DB100 Flexible Card**

1. Occupy one LPUF-10 sub-slot. And must be worked with the Conversion Box together. Please select the correct length and remote end interface type of the E1 cable.
2. Can not support the Synchronization Ethernet Clock function.

**24. ===CGN/HAAP/IPSEC Card and License===**

- 24.1 **Please input the Flexible Card Versatile Service Unit 80(VSUF-80)**

1. VSUF board can support both CGN and IPSEC (V800R008 and later). CGN function need to configure session license and capacity of license. IPSec function need to configure IPSec feature license and tunnel number license.
2. In V800R008, this card only supports NAT44. In V800R009 and later it supports NAT64/DS-Lite, which need NAT64/DS-Lite license to work properly.
3. VSUF-80 card mother-card provides one sub-slot, the default capacity of VSUF-80 mother-card is 20G.
4. VSUF-80 can support up to 80G combined with a sub-card (SP80) and 1 PCS 20Gbps capacity License.
5. One PCS VSUF-80 card can support 16M NAT sessions at most, and can be expanded to 32M sessions when combined with a sub card (SP80).

- 24.2 **Please input the Versatile Service Flexible Card(SP80)**

1. SP80 occupies one sub-slot of VSUF-80 mother-card, and it has the ability of 40G capacity (no need to configure License) and 16M NAT sessions (need configure NAT Session License).

- 24.3 **Please input the Flexible Card Versatile Service Unit 160(VSUF-160)**

1. VSUF board can support both CGN and IPSEC (V800R008 or later).CGN function need to configure session license and capacity of license. IPSec function need to configure IPSec feature license and tunnel number license.
2. In V800R008,this card only supports NAT44. In V800R009 and later it supports NAT64/DS-Lite, which need NAT64/DS-Lite license to work properly.
3. VSUF-160 card mother-card provides two sub-slots, the default capacity of VSUF-160 mother-card is 40G.
4. VSUF-160 can support up to 160G combined with two sub-cards (SP160) and 2 PCS 20Gbps capacity License.
5. One PCS VSUF-160 card can support 32M NAT sessions at most, and can be expanded to 64M sessions when combined with two sub cards (SP160).

- **24.4 Please input the Versatile Service Flexible Card (SP160)**

1. SP160 occupies one sub-slot of VSUF-160 mother-card, and it has the ability of 40G capacity (no need to configure License) and 16M NAT sessions (need configure NAT Session License).

- **24.5 Please input Integrated Versatile Service Unit(VSUI-160-E)**

1. The default capacity of VSUI-160-E is 80G, VSUI-160-E can support up to 160G combined with 4 PCS 20Gbps capacity License.
2. One PCS VSUI-160-E card can support 128M NAT sessions at most.

- **24.6 Please input the quantity of 2M NAT Session License**

- 1.2M NAT Session License needs to work with Service Processing Unit and 20Gbps capacity license.
- 2.Each VSUF-80 (mother-card) can support 16M NAT Sessions;Each SP80 sub-card can support 16M NAT Sessions;VSUF-80 mother-card combined with a SP80 sub-card can support totally 32M NAT sessions;
- Each VSUF-160 (mother-card) can support 32M NAT Sessions;Each SP160 sub-card can support 16M NAT Sessions;VSUF-160 mother-card combined with two SP160 sub-cards can support totally 64M NAT sessions.

- **24.7 Please input the quantity of 16M NAT session License for Versatile Service Unit**

Include 8PCS 2M NAT Session License.

- **24.8 Please input the quantity of DS-Lite Function License for Versatile Service Unit**

- 1.If DS-Lite function is required, please choose DS-Lite License after the NAT session licenses have been configured.
- 2.DS-Lite License is resource license for board. Each VSU can configure 1PCS DS-

Lite License.

3.DS-Lite: NAT session license is required because DS-Lite function is achieved by translating addresses(NAT) based on the subscriber IPv6 stream.

- **24.9 Please input the quantity of NAT64 Function License for Versatile Service Unit**

1.If NAT64 function is required, please choose NAT64 License after the NAT session licenses have been configured.

2.NAT64 License is resource license for board. Each VSU can configure 1PCS NAT64 License.

- **24.10 Please input the quantity of PCP Function License for Versatile Service Unit**

1.If PCP function is required, please choose PCP License after the NAT session licenses have been configured.

2.PCP License is resource license for board. Each VSU can configure 1PCS PCP License.

- **24.11 Please input the quantity of 20Gbps capacity License for Versatile Service Unit**

1.CGN 20Gbps capacity License needs to work with VSUF-80/160 mother-card and NAT Session License.

2.Each VSUF-80 mother-card can only configure 1 PCS 20Gbps capacity License.

3.Each VSUF-160 mother-card can only configure 2 PCS 20Gbps capacity License.

4.Each VSUI-160-E can only configure 4 PCS 20Gbps capacity License.

- **24.12 Please input the quantity of IPSec Function License for Versatile Service Unit**

1.IPSec Function License needs to work with VSUF-80/160 mother-card and IPSec Tunnels (500) License.

- **24.13 Please input the quantity of IPSec Tunnels (500) License for Versatile Service Unit**

1.IPSec Tunnels (500) License needs to work with VSUF-80/160 mother-card and IPSec Function License.

2.Maximum equipment number of IPsec tunnels 20000,up to 40 license configuration

- **24.14 Please input the quantity of Hybrid Access Aggregation Function License for VSUF-80/VSUF-160**

- 1.VSUI-160-E not support HAAP License;
- 2.Need to work with VSUF-80/160 mother-card. Each VSUF-80/160 mother-card can only configure 1 PCS HAAP License.

- 24.15 **Please input the quantity of Hybrid Access Function License for 51 Series Units**

Each 51(-E) Series Units can only configure 1 PCS HAAP Access License

- 24.16 **Please input the quantity of Hybrid Access Function License for 120 Series Units**

Each 120 Series Units can only configure 1 PCS HAAP Access License

- 24.17 **Please input the quantity of Hybrid Access Function License for 240 Series Units**

Each 240 Series Units can only configure 1 PCS HAAP Access License

- 24.18 **Please input the quantity of Hybrid Access 1k Tunnel License**

1.Dual-host standby mode means double configuration.

For example, we need 1 PCS NE40E-X+2 ports+4K subscribers, there will be 2 PCS NE40E-X+4 ports+8K subscribers after we choose dual-host standby mode.

2.X16: Total support 112K Tunnel. Each board support 8K tunnels. Each VSUF sub-card can support 32K tunnels.

VSUF-80 mother-card can support 32K tunnels at most, and it can support up to 64K tunnels combined with a sub-card(SP80).

VSUF-160 mother-card can support 64K tunnels at most, and it can support up to 128K tunnels combined with two sub-cards(SP160).

3.The quantity of Tunnel license is based on the actual number of subscribers, one subscriber takes up two Tunnels.

## 25. **===Service Processing Unit===**

- 25.1 **Please input the quantity of Versatile Service Process Unit C (For details on the mapping between the SPUC licenses, refer to the sales guide)**

The service of Netstream is mutually exclusive with Tunnel and MVPN,namely one SPUC can not support the service combination of Netstream and Tunnel,Netstream and MVPN;the service combination of Tunnel and MVPN is supported. The reification configuration please refer to the sales guide.

- 25.2 **Please input the quantity of NetStream License for SPU C**



The service of Netstream is mutually exclusive with Tunnel and MVPN,namely one SPUC can not support the service combination of Netstream and Tunnel,Netstream and MVPN;the service combination of Tunnel and MVPN is supported.The reification configuration Please refer to the Sales Guide.

- **25.3 Please input the quantity of Tunnel License for SPU C**

The service of Netstream is mutually exclusive with Tunnel and MVPN,namely one SPUC can not support the service combination of Netstream and Tunnel,Netstream and MVPN;the service combination of Tunnel and MVPN is supported.The reification configuration Please refer to the Sales Guide.

- **25.4 Please input the quantity of MVPN License for SPU C**

The service of Netstream is mutually exclusive with Tunnel and MVPN,namely one SPUC can not support the service combination of Netstream and Tunnel,Netstream and MVPN;the service combination of Tunnel and MVPN is supported.The reification configuration Please refer to the Sales Guide.

- **25.5 Please input the quantity of Integrated Versatile Service Unit(VSUI-20-A) for IPSec**

- 1.CGN scene use VSUF-80/160 board first. Need to replace VSUI-20-A by VSUF-80/160 if expand VSUI-20-A.
- 2.Need use with IPSec License.
- 3.Flexible Line Process Card of POS, E1, CPOS interface for LPUF-10/LPUF-21 can not support IPSec function.
- 4.For CX600-16/NE80E, need update to 8KW chassis to configure VSUI-20-A board.

- **25.6 Please input the quantity of IPSec Function License for VSUI-20-A**

Each VSUI-20-A card need configure with one IPSec license.

- **25.7 Please input the quantity of Flexible Card SNC Service Unit A(SNC-A)**

One SNC card can manage 1K AtomEngines.

- **25.8 Please input the quantity of Network Element Management License for 100 AtomEngines**

One license needed per 100 AtomEngines or less 100 .

- **25.9 Please input the quantity of TWAMP Function Management License for 100 AtomEngines**

One license needed per 100 AtomEngines or less 100 .

- 25.10 **Please input the quantity of IP FPM Function Management License for 100 AtomEngines**

One license needed per 100 AtomEngines or less 100 .

**26. ===100G CFP Optical Transceiver===**

- 26.1 **High Speed Transceiver,CFP,1310nm,103.125Gb/s,Straight LC,SMF,40km**
- 26.2 **High Speed Transceiver,CFP,1310nm,103.125Gb/s,Straight LC,SMF,80km**

This optical module is researched and developed by HUAWEI, due to the industry standard, the optical module can only be connected with HUAWEI's same optical module.

- 26.3 **Optical Transceiver,CFP,850nm,10\*10.3125Gb/s,MPO,MM,0.1km**

Can only work with MPO fiber,please select the right length of fiber at fiber-length parameter.

**27. ===100G CFP2 Optical Transceiver===**

- 27.1 **High Speed Transceiver,CFP2,850nm,10\*10Gb,103.125Gb/s,MPO,MM,0.1km**

1.Can only work with MPO fiber,please select the right length of fiber at fiber-length parameter.

2.This optical transceiver is not supported on 100GE CFP2 card of LPUF-480 or LPUI-480.

- 27.2 **High Speed OTN Transceiver,CFP2,1310nm,103.125&111.81Gb/s,LC straight,SMF,10km**

1. This optical module only used for OTN sub-card (CR5D00T1NC70).

2. This optical module can be configured within ETH, OTN mode.

- 27.3 **High Speed Transceiver,CFP2,1310nm,103.125Gb/s,Straight LC,SMF,40km,OMA**

1.It should be used with Fixed Optical Attenuator(5dB/10dB) if the transmission distance is less than 10km.

**28. ===40G QSFP+ Optical Transceiver===**

- 28.1 **Optical Transceiver,QSFP+,850nm,41.25Gbps,MPO,MMF,0.15km**

Can only work with MPO fiber, please select the right length of fiber at fiber-length parameter.

**29. ===40G CFP Optical Transceiver===**

- 29.1 **High Speed Transceiver,CFP,850nm,4\*10.3125Gb/s,MPO,MM,0.1km**

Can only work with MPO fiber, please select the right length of fiber at fiber-length parameter.

**30. ===40G Breakout Optical Transceiver===**

- 30.1 **Please select the length of Breakout Patch Cord for 40G QSFP+ multimode Breakout**

1 PCS breakout optical transceiver need to configure 1 PCS breakout patch cord.

- 30.2 **Please select the length of MPO Patch Cord for 40G QSFP+ singlemode Breakout Box**

10 PCS 40G QSFP+ breakout optical transceiver need to configure 1 PCS breakout box. 1 PCS 40G QSFP+ breakout optical transceiver need to configure 1 PCS MPO patch cord and 8 PCS ordinary patch cord.

- 30.3 **Please select the length of Breakout Patch Cord for 40G QSFP+ singlemode Breakout**

1 PCS breakout optical transceiver need to configure 1 PCS breakout patch cord.

**31. ===10G XFP Optical Transceiver===**

- 31.1 **Optical Transceiver,XFP,850nm,10.3Gb/s,LC,MM,0.3km**

Only for 10G LAN. The transmission distance of the optical module depends on the type of the optical fibers adopted. To support a transmission distance of 300 m, special optical fibers must be purchased additionally.

1. For the optical fiber with the 50-um core and 500-MHz\*km modal bandwidth, the transmission distance is 2 m to 82 m. In Huawei's formal BOM, a transmission distance of 30 m can be supported by this type of optical fibers. If you need a longer transmission distance, you can specify your requirement in the remarks.
2. For the optical fiber with the 62.5-um core and 200-MHz\*km modal bandwidth, the transmission distance is 2 m to 33 m.
3. For the optical fiber with the 50-um core and 2000-MHz\*km modal bandwidth, the transmission distance is 2 m to 300 m. This is a special type of optical fibers, which must be purchased additionally if required.

**32. ===10G SFP+ Optical Transceiver===**

- **32.1 Optical Transceiver,SFP+,1310nm,10Gb/s,LC,SM,40km**

This optical module can only communicate with the 1310nm optical module, can't communicate with the 1550nm optical module.

**33. ===10G/1G SFP+ Optical Transceiver===**

- **33.1 XFP SFP+ Transceiver-SFP+-1310nm-10G/1G-LC-SM-10km**

Only below boards supporting 10GE/GE auto-sensing optical transceiver:

03030QDD 12-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P240-A)

03030QDE 6-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P120-A)

03030NVF 12-Port 10G Base LAN/WAN-SFP+ Flexible Card A(P120-A)

03030TUL 10-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P240-A)

03056863 20-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200)

03056864 1-Port 100GBase-CFP + 10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200)

03057448 1-Port 100GBase-CFP2 + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-240)

03054692 24-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-240)

03054693 1-Port 100GBase-CFP + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-240)

03054695 24-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-240-B)

03054696 1-Port 100GBase-CFP + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-240-B)

03057450 1-Port 100GBase-CFP2 + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-240-B)

03054681 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-120)

03054684 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-120-B)

**34. ===2.5G eSFP Optical Transceiver===**

- **34.1 Optical Transceiver,eSFP,1310nm,155M~2.67G,LC,SM,2km**

Only used at 2.5G speed

- **34.2 Optical Transceiver,eSFP,1310nm,155M~2.67G,LC,SM,15km**

Only used at 2.5G speed

**35. ===1G SFP/eSFP Optical Transceiver===**

- 35.1 **1000BASE-T (RJ45) SFP Electrical Module,Auto Negotiate,100m**

It can support 10M/100M/1000M self-adjustment, not support 1588v2.

- 35.2 **Optical Transceiver,eSFP,850nm,2.125Gb/s Series ,LC,MM,0.5Km**

For GE SFP. Up to 300m on 62.5um/125um MMF(MultiMode Fiber), Up to 550m on 50um/125um MMF. MMF of Huawei default 62.5um/125um.

- 35.3 **Optical Transceiver,eSFP,1310nm,1.25Gb/s,LC,SM,40km**

It can work with HuaWei's 1550nm GE module but not sure to work with other company's 1550nm GE module.

- 35.4 **Optical Transceiver,eSFP,1471nm,100M~2.67Gbps,LC,SM,80Km**

- 1.Only use GE line card;the wavelength of two ends must be the same
- 2.When the CWDM optical transceiver is used in networking, the multiplexer and demultiplexer are required. The products of Transmission Network are recommended.

- 35.5 **Optical Transceiver,eSFP,1491nm,100M~2.67Gbps,LC,SM,80Km**

- 1.Only use GE line card;the wavelength of two ends must be the same
- 2.When the CWDM optical transceiver is used in networking, the multiplexer and demultiplexer are required. The products of Transmission Network are recommended.

- 35.6 **Optical Transceiver,eSFP,1511nm,100M~2.67Gbps,LC,SM,80Km**

- 1.Only use GE line card;the wavelength of two ends must be the same
- 2.When the CWDM optical transceiver is used in networking, the multiplexer and demultiplexer are required. The products of Transmission Network are recommended.

- 35.7 **Optical Transceiver,eSFP,1531nm,100M~2.67Gbps,LC,SM,80Km**

- 1.Only use GE line card;the wavelength of two ends must be the same
- 2.When the CWDM optical transceiver is used in networking, the multiplexer and demultiplexer are required. The products of Transmission Network are recommended.

- 35.8 **Optical Transceiver,eSFP,1551nm,100M~2.67Gbps,LC,SM,80Km**

- 1.Only use GE line card;the wavelength of two ends must be the same
- 2.When the CWDM optical transceiver is used in networking, the multiplexer and

demultiplexer are required. The products of Transmission Network are recommended.

- **35.9 Optical Transceiver,eSFP,1571nm,100M~2.67Gbps,LC,SM,80Km**

- 1.Only use GE line card;the wavelength of two ends must be the same
- 2.When the CWDM optical transceiver is used in networking, the multiplexer and demultiplexer are required. The products of Transmission Network are recommended.

- **35.10 Optical Transceiver,eSFP,1591nm,100M~2.67Gbps,LC,SM,80Km**

- 1.Only use GE line card;the wavelength of two ends must be the same
- 2.When the CWDM optical transceiver is used in networking, the multiplexer and demultiplexer are required. The products of Transmission Network are recommended.

- **35.11 Optical Transceiver,eSFP,1611nm,100M~2.67Gbps,LC,SM,80Km**

- 1.Only use GE line card;the wavelength of two ends must be the same
- 2.When the CWDM optical transceiver is used in networking, the multiplexer and demultiplexer are required. The products of Transmission Network are recommended.

**36. ===BIDI eSFP Optical Transceiver===**

- **36.1 Optical Transceiver,eSFP,Tx1310/Rx1550,155M,LC,SM,40km**

This Optical Transceiver only uses for FE BIDI 40KM,can not used for GE.

- **36.2 Optical Transceiver,eSFP,Tx1550/Rx1310,155M,LC,SM,40km**

This Optical Transceiver only uses for FE BIDI 40KM,can not used for GE.

**37. ===CSFP Optical Transceiver===**

- **37.1 Optical Transceiver,CSFP,1.25Gb/s,Tx1490/Rx1310,LC,SM,10km**

1. Only used in "48-Port 100/1000Base-X-CSFP Flexible Card".
- 2.Maximum 24 of CSFP optical modules can be configured on 48-Port 100/1000Base-X-CSFP Flexible Card

**38. ===License(Base SW is provided automatically)===**

- **38.1 Need software bundle(Basic software+PPPoE/IPoE) or not**

Include the Basic software and the PPPoE/IPoE Function License(per chassis)

- **38.2 Need 1588v2 Function or not**

V6R8 and before version: Chassis-level 1588v2 Function License is only for LPUF-10/21/40/50/100 (with 1588v2 sub-card) and LPUI-40/41/100 (supporting 1588v2 card). Other cards need board licenses to active 1588v2 properly.

V6R9 and after version: Config 1 PCS License per chassis.

V8R7 and before version: Chassis-level 1588v2 Function License is only for LPUF-50 (with 1588v2 sub-card). Other cards need board licenses to active 1588v2 properly.

V8R8 and after version: Config 1 PCS License per chassis.

- **38.3 Need PPPoE/IPoE Function or not**

1. This license is used to provide PPPoE/IPoE function per chassis. It needs to work with BRAS access subscriber license.

2. This license need to work with -E flexible line process card and -E sub card, or -E integrated line process card(LPUI-51-E must be "Enhanced HQos") to provide better BRAS performance.

- **38.4 Need On-Board Netstream Function or not**

To use the LPUF On-board NetStream function, one of this license must be configured for each equipment.

- **38.5 Need On-Board MVPN Function or not**

1. To use the LPUF-21-A/LPUF-40-A On-board MVPN function, one of this license must be configured for each equipment;

2. The LPUF-21-B/LPUF-40-B does not support the MVPN function though it is configured with the MVPN License but the LPUF-21-B/LPUF-40-B can support the MVPN function after being upgraded to the LPUF-21-A/LPUF-40-A through the LPUF-21-B/LPUF-40-B Upgrade to LPUF-21-A/LPUF-40-A License and configured with the MVPN License.

- **38.6 Need L2TP Function or not**

1. This license needs to work with PPPoE/IPoE function license.

2. This license need to work with -E flexible line process card and -E sub card, or -E integrated line process card(LPUI-51-E must be "Enhanced HQos") can support L2TP function license.

- **38.7 Need Cross-chassis HAG Function or not**

1. To use the Cross-chassis HAG(High Availability Group) function, one of this license must be configured for each equipment.

2. On load-balance scene, the original subscribers license needs to be doubled.

- **38.8 Need IP Hard Pipe Function or not**

1.To use the IP hard-pipe function, one of this license must be configured for each equipment.

2. This license need to work with -E flexible line process card and -E sub card, or -E integrated line process card(LPUI-51-E must be "Enhanced HQos") can support IP hard-pipe.

○ **38.9 Need DAA Function or not**

1.Need to configure PPPoE/IPoE Function License for whole chassis at first.

2. This license need to work with -E flexible line process card and -E sub card, or -E integrated line process card(LPUI-51-E must be "Enhanced HQos") to support DAA.

3.DAA function License is just in control of DAA function,but not EDSG function.EDSG is supported in V6R9/V8V9 or later, and should be used with -E mother card, -E sub card, EDSG function license and OTT Service Boost Quantity License Annual Fee(per 1k OTT services).

○ **38.10 Need Lawful Interception Function License or not**

This is a Sensitive Feature, Product manager should confirm that the customer indeed requires this feature after risks are sufficiently communicated with the customer.

○ **38.11 Need Video Monitoring Function or not**

LPUF-21 or LPUF-40 can support with board.

○ **38.12 Need IP Performance Measure License (IP FPM) or not**

config 1 PCS License per chassis.

○ **38.13 Need Ethernet Performance Test License or not**

Need 1 PCS License per chassis to provide ethernet performance test function.

○ **38.14 Need NG-MVPN Function License or not**

Need 1 PCS License per chassis to provide NG-MVPN Function .

○ **38.15 Need Wifi Gateway Enhance Function License or not**

Need to configure PPPoE/IPoE Function License for chassis at first.

○ **38.16 Need Virtual System Function License or not**

Need 1 PCS License per chassis to provide Virtual System Function .

○ **38.17 Need Remote Mirroring Function License or not**



This is a Sensitive Feature, Product manager should confirm that the customer indeed requires this feature after risks are sufficiently communicated with the customer.

- **38.18 Need Radius-proxy Function or not**

Need 1 PCS License per chassis to provide Radius-proxy Function .

- **38.19 Need EDSG Function License or not**

1.EDSG is supported in V6R9/V8V9 or later, it needs to configure PPPoE/IPoE Function License and BRAS access subscriber license at first.and then should be used with -E mother card, -E sub card, EDSG function license and OTT Service Boost Quantity License Annual Fee(per 1k OTT services).

2. This license need to work with -E flexible line process card and -E sub card, or -E integrated line process card(LPUI-51-E must be "Enhanced HQos") can support EDSG.

3.Just in control of EDSG function,but not DAA function.

- **38.20 Need VxLAN Function License or not**

Need 1 PCS License per chassis to provide VxLAN Function .

- **38.21 Need MAP Function License or not**

1. LPUI-21-L, LPUF-50, LPUF-51, LPUI-51, LPUS-51, LPUF-101, LPUI-101, LPUS-101 and LPUF-102 can not support MAP function.

2. When all LPUs of device are configured as the above LPUs, the device is not supported this license. Only when device configure other LPUs, this license and MAP function can be supported.

- **38.22 Please input the quantity of LPUF-21-B Upgrade to LPUF-21-A License(IPv6,L3VPN,MVPN)**

1.By this upgrade, the LPUF-21-B board could offer the same function as LPUF-21-A board, support IPv6, L3VPN, MVPN. Each LPUF-21-B needs to be configured with one of this license.

2.Please keep the discount of the license equal to the discount of LPUF-B/A, make sure that the final price of B to A license plus LPUF-B is no less than that of LPUF-A.

- **38.23 Please input the quantity of LPUF-40-B Upgrade to LPUF-40-A License(L3VPN,Ability of MVPN,IPv6 Enhanced)**

1.By this upgrade, the LPUF-40-B board could offer the same function as LPUF-40-A board, support IPv6, L3VPN, MVPN. Each LPUF-40-B needs to be configured with one of this license.

2. Please keep the discount of the license equal to the discount of LPUF-B/A, make sure that the final price of B to A license plus LPUF-B is no less than that of LPUF-A.

- **38.24 Please input the quantity of the BRAS function access subscribers(K)**

1. This license needs to configure PPPoE/IPoE Function license with -E mother card and -E sub card to work properly.

2. V6RX: Each host can increase the quantity of subscribers to 256K(4G memory module) or 128K(2G memory module) at most. Each SRU includes 2G memory.

3. V8RX: Each host can increase the quantity of subscribers to 1024K(16G memory module) or 256K(4G memory module) at most.

- **38.25 Please input the quantity of SoftGRE 4k Tunnel License**

1. Need to configure PPPoE/IPoE Function License and Wifi Gateway Enhance Function License for chassis at first.

2. 32K Tunnels per board at most. 128K tunnels per chassis at most.

- **38.26 Please input the quantity of IP Performance Measure License for 50G Series Units**

Each 50G card can be configured one of this license at most.

- **38.27 Please input the quantity of IP Performance Measure License for 100G Series Units**

Each 100G card can be configured one of this license at most.

- **38.28 Please input the quantity of IP Performance Measure License for 200G Series Units**

Each 200G card can be configured one of this license at most.

- **38.29 Please input the quantity of L3VPN&EVPN Function License for LPUF-51-B**

1:1 configure with the board, to enable LPUF-51-B board L3VPN&EVPN function

- **38.30 Please input the quantity of L3VPN&EVPN Function License for LPUF-101-B**

1:1 configure with the board, to enable LPUF-101-B board L3VPN&EVPN function

- **38.31 Please input the quantity of L3VPN&EVPN Function License for LPUF-120-B**

1:1 configure with the board,to enable LPUF-120-B board L3VPN&EVPN function

- **38.32 Please input the quantity of L3VPN&EVPN Function License for LPUF-240-B**

1:1 configure with the board,to enable LPUF-240-B board L3VPN&EVPN function

- **38.33 Please input the quantity of L3VPN&EVPN Function License for LPUI-51-B**

1:1 configure with the board,to enable LPUI-51-B board L3VPN&EVPN function

- **38.34 Please input the quantity of L3VPN&EVPN Function License for LPUI-101-B**

1:1 configure with the board,to enable LPUI-101-B board L3VPN&EVPN function

- **38.35 Please input the quantity of L3VPN&EVPN Function License for LPUI-120-B**

1:1 configure with the board,to enable LPUI-120-B board L3VPN&EVPN function

- **38.36 Please input the quantity of L3VPN&EVPN Function License for LPUI-240-B**

1:1 configure with the board,to enable LPUI-240-B board L3VPN&EVPN function

- **38.37 Please input the quantity of 1588v2 Function License for 51 Series Units**

1:1 configure with the board, After configure 1588v2 license for boards, do not need to configure 1588v2 license for whole chassis any more.

- **38.38 Please input the quantity of 1588v2 Function License for 101 Series Units**

1:1 configure with the board, After configure 1588v2 license for boards, do not need to configure 1588v2 license for whole chassis any more.

- **38.39 Please input the quantity of 1588v2 Function License for 120 Series Units**

1:1 configure with the board, After configure 1588v2 license for boards, do not need to configure 1588v2 license for whole chassis any more.

- **38.40 Please input the quantity of 1588v2 Function License for 240 Series Units**

1:1 configure with the board, After configure 1588v2 license for boards, do not need to configure 1588v2 license for whole chassis any more.

- **38.41 Please input the quantity of Virtual Access Host License for 1 Client**

Virtual Access Host License can not exceed 256 PCS for X16X8

Virtual Access Host License can not exceed 128 PCS in expansion for X8X16 old MPU(4G memory),Please confirm MPU type.

- **38.42 Please input the quantity of Virtual Access Host License for 5 Client**

Virtual Access Host License can not exceed 256 PCS for X16X8

Virtual Access Host License can not exceed 128 PCS in expansion for X8X16 old MPU(4G memory),Please confirm MPU type.

- **38.43 Please input the quantity of Virtual Access Host License for 20 Client**

Virtual Access Host License can not exceed 256 PCS for X16X8

Virtual Access Host License can not exceed 128 PCS in expansion for X8X16 old MPU(4G memory),Please confirm MPU type.

- **38.44 Please input the quantity Port Extension License (1 Client)**

1.Support 1 client

2.MPU of 2G memory: 8 clients, MPU of 4G memory: 128 clients, MPU of 8G memory or more than 8G memory: 256 clients

- **38.45 Please input the quantity Port Extension License (8 Clients)**

1.Support 8 clients

2.MPU of 2G memory: 8 clients, MPU of 4G memory: 128 clients, MPU of 8G memory or more than 8G memory: 256 clients

### 39. ===Patch Cord===

- **39.1 Please select the Client Interface Option of Patch Cord**

Default 10m.If need other specification,Please change it at "bill of configuration".

- **39.2 Please select the length of 100G MPO Patch Cord(24 cores)**

100G MPO CFP/CFP2 optical module(24 Cores) use this fiber

- **39.3 Please select the length of 100G MPO Patch Cord(8 cores)**

100G MPO QSFP28 optical module(8 Cores) use this fiber

- 39.4 **Please select the length of 40G MPO Patch Cord(8 cores)**

40G MPO optical module(8 Cores) use this fiber

#### 40. **===Trunk Cable===**

- 40.1 **Please select synchronous signal type**

1.If you select Clock signal or 1588v2 signal, the input/output parameters will appear. You could select whether this equipment need to receive the Clock/1588v2 signal from other equipment (input) or not. And also you could select whether this equipment need to send the Clock/1588v2 signal to other equipment (output) or not;  
2.1588v2 signal can be selected only while all equipments in the whole network can support 1588v2 signal;Compared with an RJ-48 connector, a balanced 120-ohm interface for transmitting IEEE 1588v2 signals on the MPU defines signals in another way. Therefore, when IEEE 1588v2 signals are to be transmitted and the peer is a balanced 120-ohm interface, you need to discuss the cable type with the headquarters to ensure the availability of the IEEE 1588v2 feature.  
3.Select Clock signal or 1588v2 signal, may result in different cable configuration, no other difference.

- 40.2 **Need to configure the synchronous signal input cable or not**

Need to configure this cable, while need to input either of the signals: "1588 Time 1PPS+RS232", "1588 Time 1PPS+ASCII", "1588 Time DCLS", or "2M Primary Clock".

- 40.3 **Need to configure the synchronous signal output cable or not**

Need to configure this cable, while need to output either of the signals: "1588 Time 1PPS+RS232", "1588 Time 1PPS+ASCII", "1588 Time DCLS", or "2M Primary Clock".

- 40.4 **Please select the Interface Type of the synchronous signal cable at the remote end**

SMB cable can input/output "2M Primary Clock" or "1588 Time 1PPS+RS232" signal. RJ45 cable can input/output "2M Primary Clock", "1588 Time 1PPS+ASCII", or "1588 Time DCLS" signal.

- 40.5 **Please select the Length of the E3/T3 Cable**

E3/T3 is consist of transmit port and receive port.The interface type is SMB coaxial connector.Use 75 ohm coaxial cable to connect with the remote end, the longest length of transmission is 120m.

- **40.6 Please select the type of network cable for GE/FE electrical interface**

The illustration of ElectroMagnetic Compatibility:

- 1.Unshielded RJ45 cable meet basic level of EMC certification only.
- 2.Shielded RJ45 cable can support Class B and higher level of ElectroMagnetic Immunity.

#### **41. ===Power Cable===**

- **41.1 Please input the length of each PDU power cable (m)**

1. The PDU Power cable length is usually between 0m and 46m, the initial length is 25m.
- 2.DC power cable length from PDU to device is calculated automatically in Bill of Configuration, the initial length is 3m.
3. If site survey is performed, the cables will be delivered according to the site survey results.
4. By default, Huawei provides blue cables (-48V) and black cables (GND), and cables of the other colors need to be remarked for purchase, and determine whether to purchase locally according to the actual situation.

- **41.2 Please input the length of each equipment DC power cable (m)**

1. This parameter means the length of the DC power cable which connect the chassis to a Power Distribution Frame(PDF),or the chassis to a Power Distribution Unit(PDU) within a cabinet.
2. In the case of getting electricity from a PDF, 25m cable is used by default.
3. In the case of getting electricity from PDU, 3m cable is generally used.
4. If site survey is performed, the cables will be delivered according to the site survey results.
5. By default, Huawei provides blue cables (-48V) and black cables (GND),in North America Huawei provides red cables (-48V) and black cables (GND),and cables of the other colors need to be remarked for purchase, and determine whether to purchase locally according to the actual situation.
6. If the customer prepare power cable by himself or purchase power cable separately, please quote terminal of power cable in "Bill of Configuration" separately.

- **41.3 Please input the length of each AC power cable (m)**

This parameter presents the distance between the AC power in PDC and Power Distribution Frame (PDF).

1. The AC Power cable length is usually between 10m and 50m, the initial length is 20m. If the distance is more than 50m, you need to deploy a power cabinet of a row nearby to reduce the cable length.
2. X16 chassis contains two PDCs, each PDC has 4 AC power. So it needs 8pcs AC

cable in all. X8 chassis contains only one PDC, so it needs 4pcs AC cable in all.

3. DC power cable length between PDC and device is calculated automatically in the Config Result, and the initial length is 3m.

4. The cables will be delivered according to the configuration result of BOQ if there is no site survey.

- **41.4 Please input the length of each PDU PGND cable (m)**

1. The initial PDU PGND cable length for DC Power is 25m.

2. Device PGND cable length is calculated automatically in Bill of Configuration, the initial length is 25m.

3. If site survey is performed, the cables will be delivered according to the site survey results.

4. By default, Huawei provides yellow and green cables (PGND), and cables of the other colors need to be remarked for purchase, and determine whether to purchase locally according to the actual situation.

- **41.5 Please input the length of equipment PGND cable (m)**

1. The initial PGND cable length for is 25m.

2. If site survey is performed, the cables will be delivered according to the site survey results.

3. By default, Huawei provides yellow and green cables (PGND),in North America Huawei provides green cables (PGND),and cables of the other colors need to be remarked for purchase, and determine whether to purchase locally according to the actual situation.

4. If the customer prepare power cable by himself or purchase power cable separately, please quote terminal of power cable in "Bill of Configuration" separately.

- **41.6 Please input the length of Power Distribution Cabinet PGND cable (m)**

1.This PGND cable parameter presents the distant between Power Distribution Cabinet and earthplate,20m by default;If you don't change the value,the PGND value in BOQ is as following:X16 will be 65m(X16 has two PDCs,the PGND between each PDC and earthplate is 20m,except that there will be 25m PGND between equipment and earthplate),X8 will be 45m(X8 has one PDC,the PGND between PDC and earthplate is 20m,except that there will be 25m PGND between equipment and earthplate).

2. If site survey is performed, the cables will be delivered according to the site survey results.

3. By default, Huawei provides yellow and green cables (PGND), and cables of the other colors need to be remarked for purchase, and determine whether to purchase locally according to the actual situation.

- **41.7 Please input the length of each equipment DC power cable (foot)**

1. The DC Power cable length is usually between 33 foot and 115 foot, the initial length is 82 foot. If it is longer than 115 foot, you need to deploy the first power cabinet of a row nearby to reduce the length.
2. If site survey is performed, the cables will be delivered according to the site survey results.
3. By default, in North America Huawei provides red cables (-48V) and black cables (GND), the other colors need to be remarked for purchase, and determine whether to purchase locally according to the actual situation.

- 41.8 **Please input the length of equipment PGND cable (foot)**

1. At present, PGND cables for AC power are not needed to be quoted. The initial PGND cable length for DC Power is 82 foot.
2. If site survey is performed, the cables will be delivered according to the site survey results.
3. By default, in North America Huawei provides green cables (PGND), and cables of the other colors need to be remarked for purchase, and determine whether to purchase locally according to the actual situation.

42. **===North America auxiliary material===**

- 42.1 **Please select the type of open rack**

NE40E-X8/X16 have same Mount Angle in North America