NE40E-X16A Configuration Help

1. **New site or Expansion**

   This parameter is used to choose to purchase a new chassis or the old chassis only expand LPU or upgrade software. If you want to purchase a new chassis, 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:
   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**

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

5. **===Software Subscription and Support Service===**

   - 5.1 **Please Select Quote Scene**

   1. First signed: when the customer firstly purchase the software, the license and the SnS must be bought together at the same time; there are two choices for the SnS, 1 year or 3 years or 5 years; for the first sign, the SnS must be bought at least 1 year.

2. Expansion: if the customer purchase the new software at the basis of the existing licenses in the current network, the new license and the SnS must be bought together at the same time; the available time of the expanded new license should be equal to the rest time of the existing licenses in the current network, which means both of them will expire at the same time; If the available time of the expanded new license is less than 1 year or 3 years or 5 years , there will be business discounted.

3.Renew: Only the SnS is necessary to be bought, however, all the license in current network need to be renewed. Period for renew can be chose as 1 year or 3 years or 5 years.

- 5.2 **Annual Fee Start Rule**

Set absolute input time in the configurator as Start Time

- 5.3 **Annual Fee Start Date**

Start date should not be later than 90 days after today.

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 that support PPPoE/IPoE will be filtered out.

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

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

1. 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.
2. 2.2m cabinet including Dustproof.
3. 2T Chassis need configure N610 cabinet(Depth-1.0m).

   - 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**

Including Chassis, Dual MPUs, 4 SFUs, without Software Charge and Document.

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

Double MPUs are suggested for redundant.

Main Processing

Unit B5(16G Memory)

- o 7.5 **Please select the quantity of SFU**

3+1 SFUs are recommended for a redundant configuration.

- o 7.6 **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

- o 7.7 **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

- 7.8 **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).

- 7.9 **Need DC PDU or not**

PDU 6U high, not with the X16A cabinet.If need PDU,one X16A need configure 2 PCS PDU,and PDU need to configure a separate cabinet.

- 7.10 **Please select the type of cabinet for DC PDU**

PDU 6U high, not with the X16A cabinet.If need PDU,one X16A need configure 2 PCS PDU,and PDU need to configure a separate cabinet.

8. **===LPUF-480 Flexible Line Process Card=== Profitability level :★★★★★**

- 8.1 **Flexible Card Line Processing Unit(LPUF-480)**

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 B(LPUF-480-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.

- 8.3 **Flexible Card Line Processing Unit E(LPUF-480-E)**

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

- 8.4 **2-Port 100GBase-CFP2 Flexible Card A(P480-A)**

1.This sub card occupies one sub-slot.
2.This sub card supports 1588v2.
3.This sub card supports HQoS function and IP Hard Pipe.
4.03030SWH does not support the MPO CFP2 optical transceiver(02311LYG).

- 8.5 **2-Port 100GBase-QSFP28 Flexible Card A(P480-A)**

1.Occupy one LPUF-480 sub-slot.
2.This card 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 breakeout optical modules, one module breakouts to 4*10GE Ports.

- 8.6 **24-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P480-A)**

1.This sub card occupies one sub-slot.
2.This sub card supports 1588v2.

3.This sub card supports HQoS function and IP Hard Pipe.

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

- ○ 8.7 **2-Port 100GBase-CFP2 Flexible Card E(P480-E)**

1.This sub card occupies one sub-slot.

2.This sub card supports 1588v2.

3.This sub card supports HQoS function and IP Hard Pipe.

4.This sub card does not the CFP2 optical transceiver 02311LYG.

- ○ 8.8 **20-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P480-E)**

1.This sub card occupies one sub-slot.

2.This sub card supports 1588v2.

3.This sub card supports HQoS function and IP Hard Pipe.

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

9. **===LPUI-480 Integrated Line Process Card=== Profitability level :★★★★**

- ○ 9.1 **4-Port 100GBase-CFP2 Integrated Line Processing Unit (LPUI-480)**

1.This card supports L3VPN function.

2.This card does not support BRAS function.

3.This card supports 1588v2.

4.03056318 does not support the MPO CFP2 optical transceiver(02311LYG).

- ○ 9.2 **4-Port 100GBase-QSFP28 Integrated Line Processing Unit (LPUI-480)**

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.

- ○ 9.3 **48-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-480)**

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.

- ○ 9.4 **2-Port 100GBase-CFP2 + 24-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-480)**

1.This card supports L3VPN function.

2.This card does not support BRAS function.

3.This card supports 1588v2.

4.03055838 does not support the MPO CFP2 optical transceiver(02311LYG).

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

9.5 2-Port 100GBase-QSFP28 + 24-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-480)

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 breakeout optical modules, one module breakouts to 4*10GE Ports.

9.6 4-Port 100GBase-CFP2 Integrated Line Processing Unit B(LPUI-480-B)

1.This card does not support L3VPN function by default.

2.This card does not support BRAS function.

3.This card supports 1588v2.

4.03057039 does not surpport the CFP2 optical transceiver(02311LYG).

9.7 4-Port 100GBase-QSFP28 Integrated Line Processing Unit B(LPUI-480-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.

9.8 48-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-480-B)

1.This card does not support 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.

9.9 2-Port 100GBase-CFP2 + 24-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-480-B)

1.This card does not support L3VPN function by default.

2.This card does not support BRAS function.

3.This card supports 1588v2.

4.03057037 does not surpport the CFP2 optical transceiver(02311LYG).

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

- 9.10 **2-Port 100GBase-QSFP28 + 24-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-480-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 breakeout optical modules, one module breakouts to 4*10GE Ports.

10. **===LPUF-241 Flexible Line Process Card=== Profitability level :★★★★★**

- 10.1 **Flexible Card Line Processing Unit(LPUF-241)**

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.

- 10.2 **1-Port 100GBase-CFP2 Flexible Card A (P240-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.When optical modules with the BOM number 02311LYG are used, 2x40G and 10x10G breakout optical fibers are not supported.

- 10.3 **1-Port 100GBase-QSFP28 Flexible Card A(P240-A)**

1.Occupy one 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 breakeout optical modules, one module breakouts to 4*10GE Ports.

- 10.4 **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.

- ○ 10.5 **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;

- ○ 10.6 **12-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P240-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 and supports 10GE/GE auto-sensing optical transceiver(34061042).

- ○ 10.7 **10-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P240-A)**

1.Occupy one sub-slot.
2.All the ports support receiving and sending the Synchro Ethernet Clock signal.
3.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

- ○ 10.8 **6-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P120-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 and supports 10GE/GE auto-sensing optical transceiver(34061042).

- ○ 10.9 **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.

- ○ 10.10 **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.

- o 10.11 **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-241 Integrated Line Process Card=== Profitability level :★★★★★**

- o 11.1 **2-Port 100GBase-CFP2 Integrated Line Processing Unit (LPUI-241)**

1.This card supports L3VPN function.

2.This card does not support BRAS function.

3.This card supports 1588v2 function

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

- o 11.2 **2-Port 100GBase-QSFP28 Integrated Line Processing Unit (LPUI-241)**

1.This card supports L3VPN function.

2.This card does not support BRAS function.

3.This card supports 1588v2 function

- o 11.3 **1-Port 100GBase-CFP2 + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-241)**

1.This card supports L3VPN function.

2.This card does not support BRAS function.

3.This card supports 1588v2 function

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

- o 11.4 **1-Port 100GBase-QSFP28 + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-241)**

1.This card supports L3VPN function.

2.This card does not support BRAS function.

3.This card supports 1588v2 function

- o 11.5 **24-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit (LPUI-241)**

1.This card supports L3VPN function.

2.This card does not support BRAS function.

3.This card supports 1588v2 function

- o 11.6 **2-Port 100GBase-CFP2 Integrated Line Processing Unit B(LPUI-241-B)**

1.This card can not support L3VPN function, the license is required.

2.This card does not support BRAS function.

3.This card supports 1588v2 function

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

- o 11.7 **2-Port 100GBase-QSFP28 Integrated Line Processing Unit B(LPUI-241-B)**

1.This card can not support L3VPN function, the license is required.

2.This card does not support BRAS function.

3.This card supports 1588v2 function

- o 11.8 **1-Port 100GBase-CFP2 + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-241-B)**

1.This card can not support L3VPN function, the license is required.

2.This card does not support BRAS function.

3.This card supports 1588v2 function

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

- o 11.9 **1-Port 100GBase-QSFP28 + 12-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-241-B)**

1.This card can not support L3VPN function, the license is required.

2.This card does not support BRAS function.

3.This card supports 1588v2 function

- o 11.10 **24-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit B(LPUI-241-B)**

1.This card can not support L3VPN function, the license is required.

2.This card does not support BRAS function.

3.This card supports 1588v2 function

12. **===LPUF-241-E Flexible Line Process Card=== Profitability level :★★★★★**

- o 12.1 **Flexible Card Line Processing Unit(LPUF-241-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.

- o 12.2 **1-Port 100GBase-CFP2 Flexible Card E(P241-E)**

1.This sub card occupies one sub-slot.

2.This sub card supports 1588v2 function.

3.This card supports BRAS function. BRAS function also needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.

- o 12.3 **12-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P241-E)**

1.This sub card occupies one sub-slot.

2.This sub card supports 1588v2 function.

3.This card supports BRAS function. BRAS function also needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.

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

- o 12.4 **10-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P240-E)**

1.This sub card occupies one sub-slot.

2.This sub card supports 1588v2 function.

3.This card supports BRAS function. BRAS function also needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.

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

- o 12.5 **6-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P120-E)**

1.This sub card occupies one sub-slot.

2.This sub card supports 1588v2 function.

3.This card supports BRAS function. BRAS function also needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.

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

- o 12.6 **24-Port 1000Base-X-SFP Flexible Card E(P52-E)**

1.This sub card occupies one sub-slot.

2.This sub card supports 1588v2 function.

3.This card supports BRAS function. BRAS function also needs to quote PPPoE/IPoE Function License and Subscribers Quantity License to work properly.

13. **===LPUF-240 Flexible Line Process Card===**

- 13.1 **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.

- 13.2 **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.

- 13.3 **Flexible Card Line Processing Unit(LPUF-240-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-240-E)

- 13.4 **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.

- 13.5 **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

- 13.6 **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 breakeout optical modules, one module breakouts to 4*10G Ports.

- 13.7 **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.

- 13.8 **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, only support 100G QSFP28 10km optical transceiver);
2.FlexE function is not enabled by default, need configure 50G FlexE Port License If you need it;

- 13.9 **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.

- 13.10 **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).

- 13.11 **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)

- 13.12 **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.

- 13.13 **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 spported on LPUF-51/LPUF-51-B,only supported on LPUF-51-E.

14. **===LPUI-240 Integrated Line Process Card===**

    o 14.1 **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.

    o 14.2 **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.

    o 14.3 **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.

    o 14.4 **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.

- 14.5 **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).

- 14.6 **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).

- 14.7 **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).

- 14.8 **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 breakeout optical modules, one module breakouts to 4*10GE Ports.

- o 14.9 **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.

- o 14.10 **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.

- o 14.11 **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*10GE Ports.

- o 14.12 **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.

- o 14.13 **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).

- ○ 14.14 **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 and supports 10GE/GE auto-sensing
optical transceiver(34061042).

- ○ 14.15 **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).

- ○ 14.16 **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.

15. **===LPUF-200 Flexible Line Process Card===**

- 15.1 **200G Flexible Card Line Processing Unit(LPUF-200, 2 sub-slots)**

1.Provide two sub-slots which support hot-swap of the sub card. It can support L3VPN.

- 15.2 **200G Flexible Card Line Processing Unit(LPUF-200-B)**

1.Provide two sub-slots which support hot-swap of the sub card. Need to configure L3VPN license for LPUF-200-B to support L3VPN function.
2.Provide 240G fowarding with line rate.
3.Not support BRAS function in V8R9 version.

- 15.3 **1-Port 100GBase-CFP Flexible CardA (P240-A)**

1.Occupy one LPUF-200 sub-slot.
2.The port support receiving and sending the Synchro Ethernet Clock signal.

- 15.4 **1-Port 100GBase-CFP2 Flexible Card A (P240-A)**

1.Occupy one LPUF-240 sub-slot. And 100G CFP2 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.Support 1588v2.

- 15.5 **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 breakeout optical modules, one module breakouts to 4*10GE Ports.

- 15.6 **10-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P240-A)**

1.Occupy one LPUF-200 sub-slot.
2.All the ports support receiving and sending the Synchro Ethernet Clock signal.
3.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061045).

- 15.7 **12-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P240-A)**

1.Occupy one sub-slot. And 10GE SFP+ 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.Support 1588v2.

- o 15.8 **24-Port 100/1000Base-X-SFP Flexible Card A(P101-A)**

1.Occupy one sub-slot. And GE/FE 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;

16. **===LPUI-200 Integrated Line Process Card===**

- o 16.1 **2-Port 100GBase-CFP Integrated Line Processing Unit(LPUI-200)**

1.100G CFP optical modules need to be additionally prepared.

- o 16.2 **20-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200)**

1.10GE optical modules need to be additionally prepared.
2.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

- o 16.3 **1-Port 100GBase-CFP + 10-Port 10GBase LAN/WAN-SFP+ Integrated Line Processing Unit(LPUI-200)**

1.100G CFP and 10G SFP+ optical modules need to be additionally prepared.
2.This card supports GE/10GE auto-sensing and supports 10GE/GE auto-sensing optical transceiver(34061042).

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

- o 17.1 **Flexible Card Line Processing Unit(LPUF-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.

- o 17.2 **Flexible Card Line Processing Unit(LPUF-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.

- o 17.3 **Flexible Card Line Processing Unit(LPUF-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

- o 17.4 **1-Port 100GBase-CFP 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.

- o 17.5 **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.

- o 17.6 **1-Port 100GBase-QSFP28 Flexible Card A(P120-A)**

1.Occupy one LPUF-120 sub-slot.

2.This card does not support BRAS function.

3.This card supports 1588v2 function.

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.

- 17.7 **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.

- 17.8 **2-Port 50GBase/1-Port 100GBase-QSFP28 FlexE Flexible Card (P120)**

1.This sub card occupies one sub-slot from LPUF-120, and only one sub-card can be supported on LPUF-120.
2.This card can be used as 2* 50G, also can be used as 1 * 100G (only the first port support);
3.FlexE function is not enabled by default, need configure 50G FlexE Port License If you need it;

- 17.9 **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.

- 17.10 **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.

- 17.11 **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).

- 17.12 **6-Port 10GBase LAN/WAN-SFP+ Flexible Card E(P120-E)**

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

- 17.13 **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).

- 17.14 **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.

- 17.15 **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.

- 17.16 **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.

- 17.17 **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 spported on LPUF-51/LPUF-51-B,only supported on LPUF-51-E.

- 17.18 **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.

- 17.19 **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.

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

- 18.1 **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.

- 18.2 **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.

- o 18.3 **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.

- o 18.4 **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.

- o 18.5 **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).

- o 18.6 **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.

- o 18.7 **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.

- o 18.8 **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 breakout optical modules, one module breakouts to 4*10GE Ports.

- o 18.9 **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.

- o 18.10 **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 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).

- o 18.11 **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.

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

   o 19.1 **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.

   o 19.2 **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.

   o 19.3 **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.

   o 19.4 **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.

- 19.5 **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).

- 19.6 **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.

- 19.7 **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).

- 19.8 **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.

○ 19.9 **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.

○ 19.10 **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 spported on LPUF-51/LPUF-51-B,only supported on LPUF-51-E.

○ 19.11 **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.

○ 19.12 **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.

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

- 20.1 **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).

- 20.2 **2-Port 10GBase LAN/WAN-SFP+ + 24-Port 100/1000Base-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 does not support GE/10GE auto-sensing.

- 20.3 **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.

- 20.4 **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.

- 20.5 **2-Port 10GBase LAN/WAN-SFP+ + 24-Port 100/1000Base-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.

- ○ 20.6 **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.

- ○ 20.7 **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.

- ○ 20.8 **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.

- ○ 20.9 **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.

- ○ 20.10 **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.

- ○ 20.11 **2-Port 10GBase LAN/WAN-SFP+ + 24-Port 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

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

- ○ 21.1 **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.

o 21.2 **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.

o 21.3 **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 supports GE/10GE auto-sensing.

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

o 22.1 **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.

o 22.2 **Flexible Card Line Processing Unit(LPUF-50,four sub-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.

o 22.3 **2-Port 10GBase LAN/WAN-SFP+ Flexible Card A(P50-A,Occupy one sub-slot)**

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.

- 22.4 **8-Port 100/1000Base-X-SFP Flexible Card A(P10-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.

- 22.5 **1-Port OC-192c/STM-64c POS-XFP Flexible Card(Occupy two slots)**

1.Occupy two LPUF-50 sub-slots. Optical modules need to be additionally prepared.
2.Can not support the Synchronization Ethernet Clock function.

- 22.6 **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.

- 22.7 **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.

- 22.8 **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.

- 22.9 **8-port OC-3c/STM-1c POS-SFP Flexible Card**

1.Occupy one LPUF-50 sub-slot.And optical or electrical modules need to be additionally prepared. 2.Support receiving and sending the Ethernet Synchro Clock signal, Please note that the port on which the electrical SFP module is configured, can not support the Synchronization Ethernet Clock function .

- 22.10 **4-port OC-3c/STM-1c POS-SFP Flexible Card**

1.Occupy one LPUF-50 sub-slot.And optical or electrical modules need to be additionally prepared. 2.Support receiving and sending the Ethernet Synchro Clock signal. Please note that the port on which the electrical SFP module is configured, can not support the Synchronization Ethernet Clock function .

- ○ 22.11 **2-Port OC-3c/STM-1c POS-SFP Flexible Card**

1.Occupy one LPUF-50 sub-slot.And optical or electrical modules need to be additionally prepared. 2.Support receiving and sending the Ethernet Synchro Clock signal, Please note that the port on which the electrical SFP module is configured, can not support the Synchronization Ethernet Clock function.

- ○ 22.12 **8-Port Channelized STM-1c 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.
3.not support HDLC,FR,cRTP.

- ○ 22.13 **4-Port Channelized STM-1c 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.
3.not support HDLC,FR,cRTP.

- ○ 22.14 **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

- ○ 22.15 **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.

- ○ 22.16 **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.

23. **===CGN/IPSEC Card and License===**

- o 23.1 **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).

- o 23.2 **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).

- o 23.3 **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).

- o 23.4 **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).

- o 23.5 **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.

- o 23.6 **Please input the quantity of 16M NAT session License for Versatile Service Unit**

Include 8PCS 2M NAT Session License.

- o 23.7 **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.

- o 23.8 **Please input the quantity of NAT64 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.

- o 23.9 **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.

- o 23.10 **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.

- o 23.11 **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. **===100G CFP Optical Transceiver===**

- 24.1 **Optical Transceiver,CFP,1310nm,103.125Gb/s,Straight LC,SMF,40km**

- 24.2 **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.

- 24.3 **Optical Transceiver,CFP,850nm,10*10.3125Gb/s,mpo,MM,0.1km**

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

25. **===100G CFP2 Optical Transceiver===**

- 25.1 **High Speed Transceiver,CFP2,850nm,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.

- 25.2 **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.

- 25.3 **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.

26. **===40G QSFP+ Optical Transceiver===**

- 26.1 **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.

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

   o 27.1 **Please select the length of MPO Patch Cord for 100G CFP2 multimode mode Breakout Box**

4 PCS 100G CFP2 breakout optical transceiver need to configue 1 PCS breakout box. 1 PCS 100G CFP2 breakout optical transceiver need to configue 1 PCS MPO patch cord and 20 PCS ordinary patch cord.

   o 27.2 **Please select the length of Breakout Patch Cord for 100G CFP2 multimode mode Breakout**

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

28. **===40G Breakout Optical Transceiver===**

   o 28.1 **Please select the length of Breakout Patch Cord for 40G QSFP+ multimode Breakout**

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

   o 28.2 **Please select the length of MPO Patch Cord for 40G QSFP+ singlemode Breakout Box**

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

   o 28.3 **Please select the length of Breakout Patch Cord for 40G QSFP+ singlemode Breakout**

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

29. **===10G SFP+ Optical Transceiver===**

   o 29.1 **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.

30. **===10G/1G SFP+ Optical Transceiver===**

   o 30.1 **Optical Transceiver,SFP+,-1310nm,10G/1G,Single-mode,LC,10km**

Only below boards surpporting 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)

31. **===2.5G eSFP Optical Transceiver===**

   - 31.1 **Optical Transceiver,eSFP,1550nm,STM16,LC,SM,80km**

It can support 10M/100M/1000M self-adjustment.

32. **===1G SFP/eSFP Optical Transceiver===**

   - 32.1 **Optical Functional Module,1000BASE-T-SFP Module,RJ45 Electrical Module,Auto Negotiate,Longest Transimission Distance 100m**

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

   - 32.2 **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.

   - 32.3 **Optical Transceiver,eSFP,1550nm,1.25Gb/s,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.

- 32.4 **Optical Transceiver,eSFP,1550nm,1.25Gb/s,LC,SM,100km**

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.

- 32.5 **Optical Transceiver,eSFP,1471nm,100M~2.67Gb/s,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.

- 32.6 **Optical Transceiver,eSFP,1491nm,100M~2.67Gb/s,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.

- 32.7 **Optical Transceiver,eSFP,1511nm,100M~2.67Gb/s,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.

- 32.8 **Optical Transceiver,eSFP,1531nm,100M~2.67Gb/s,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.

- 32.9 **Optical Transceiver,eSFP,1551nm,100M~2.67Gb/s,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.

- 32.10 **Optical Transceiver,eSFP,1571nm,100M~2.67Gb/s,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.

33. **===BIDI eSFP Optical Transceiver===**

   o 33.1 **Optical Transceiver,eSFP,Tx1310/Rx1550,155M,LC,SM,40km**

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

   o 33.2 **Optical Transceiver,eSFP,Tx1550/Rx1310,155M,LC,SM,40km**

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

34. **===License(The VRP8 license is provided automatically)===**

   o 34.1 **Need 1588v2 Function License or not**

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.

   o 34.2 **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.

   o 34.3 **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.

   o 34.4 **Need Cross-chassis HAG Function or not**

1.To use the Cross-chassis HAG(High Availablity 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.

   o 34.5 **Need IP Hard Pipe Function Management 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.

- 34.6 **Need DAA Function License 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).

- 34.7 **Need Radius-proxy Function License or not**

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

- 34.8 **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.

- 34.9 **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.

- 34.10 **Need IP Performance Measure License (IP FPM) or not**

Version V8R7 and before : need board licenses to active IP FPM properly.
Version V8R8 and after: config 1 PCS License per chassis.

- 34.11 **Need Ethernet Performance Test License or not**

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

- 34.12 **Need Virtual System Function License or not**

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

o 34.13 **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.

o 34.14 **Need VxLAN Function License or not**

Need 1 PCS License per chassis to provide VxLAN Function .

o 34.15 **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.

o 34.16 **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.V8RX: Each host can increase the quantity of subscribers to 1024K(16G memory module) or 256K(4G memory module) at most.

o 34.17 **Please input the quantity of IP Performance Measure License for 50G Series Units**

1:1 configure with the board,to enable LPUF/I-51/50 board IP FPM function

o 34.18 **Please input the quantity of IP Performance Measure License for 100G Series Units**

1:1 configure with the board,to enable LPUF/I-120 board IP FPM function

o 34.19 **Please input the quantity of IP Performance Measure License for 200G Series Units**

1:1 configure with the board,to enable LPUF/I-240/200 board IP FPM function

o 34.20 **Please input the quantity of IP Performance Measure License for 400G Series Units**

1:1 configure with the board,to enable LPUF/I-480 board IP FPM function

- 34.21 **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

- 34.22 **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

- 34.23 **Please input the quantity of L3VPN&EVPN Function License for LPUI-241-B**

1:1 configure with the board,to enable LPUI-241-B board L3VPN&EVPN function

- 34.24 **Please input the quantity of L3VPN&EVPN Function License for LPUF-480-B**

1:1 configure with the board,to enable LPUF-480-B board L3VPN&EVPN function

- 34.25 **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

- 34.26 **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

- 34.27 **Please input the quantity of L3VPN&EVPN Function License for LPUI-480-B**

1:1 configure with the board,to enable LPUI-480-B board L3VPN&EVPN function

- 34.28 **Please input the quantity of L3VPN&EVPN Function License for LPUI-2T-B**

1:1 configure with the board,to enable LPUI-2T-B board L3VPN&EVPN function

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

1:1 configure with the board, to enable LPUF/I-51 board 1588v2 license function.

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

1:1 configure with the board, to enable LPUF/I-120 board 1588v2 license function.

- o 34.31 **Please input the quantity of 1588v2 Function License for 240 Series Units**

1:1 configure with the board, to enable LPUF/I-240 board 1588v2 license function.

- o 34.32 **Please input the quantity of Virtual Access Host License for 1 Client**

Virtual Access Host License can not exceed 256 PCS for X16AX8AX3A

- o 34.33 **Please input the quantity of Virtual Access Host License for 5 Client**

Virtual Access Host License can not exceed 256 PCS for X16AX8AX3A

- o 34.34 **Please input the quantity of Virtual Access Host License for 20 Client**

Virtual Access Host License can not exceed 256 PCS for X16AX8AX3A

- o 34.35 **Please input the quantity of 1588v2 Function License for 480 Series Units**

1:1 configure with the board, to enable LPUF/I-480 board 1588v2 license function.

- o 34.36 **Please input the quantity of 50G FlexE Port License(per 50G)**

Need configure one flexE license per 50G port, and 100G port need two.

- o 34.37 **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

- o 34.38 **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

35. **===Patch Cord===**

- o 35.1 **Please select the Client Interface Option of Patch Cord**

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

- 35.2 **Please select the length of 100G MPO patch cord(24 cores)**

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

- 35.3 **Please select the length of 100G MPO patch cord(8 cores)**

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

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

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

36. **===Trunk Cable===**

- 36.1 **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.

- 36.2 **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".

- 36.3 **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".

- 36.4 **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.

- 36.5 **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.

37. **===Power Cable===**

- 37.1 **Please select the input current scene of the distribution box**

None short circuit application: must use 125A(Diameter: 50mm^2) power cables,250A(Diameter: 95mm^2) power cables can not connect the power distribution box.
Short circuit application: must use 250A(Diameter: 95mm^2) power cable,125A(Diameter: 50mm^2) power cables will appear the problem of insufficient current.

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

1. The PDU Power cable length is usually between 0m and 25m, 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 15m.
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.

- 37.3 **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).
2. In the case of getting electricity from a PDF, 25m cable is used by default.
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),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.
5. If the customer prepare power cable by himself or purchase power cable separately, please quote terminal of power cable in "Bill of Configuration" separately.

- 37.4 **Please input the length of each DC 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.
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.

- o 37.5 **Please input the length of each equipment PGND cable (m)**

1. The initial PGND cable length 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.