

# SPL Product Description

Issue        08  
Date         2014-03-21

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# 1 About This Document

## Symbol Conventions

The symbols that may be found in this document are defined as follows.

| Symbol   | Description   |
|--|---|
|  <b>DANGER</b>   | Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.   |
|  <b>WARNING</b> | Indicates a hazard with a medium or low level of risk, which if not avoided, could result in minor or moderate injury.  |
|  <b>CAUTION</b> | Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results. |
|  <b>NOTE</b>    | Provides additional information to emphasize or supplement important points of the main text.   |

## Change History

Updates between document issues are cumulative. Therefore, the latest document issue contains all updates made in previous issues.

### Updates in Issue 08 (2014-03-21) Based on Product Version V100R001

This issue is the eighth official release for SPL V100R001. Compared with the seventh official release, the manual of this issue provides the following updates.

| Involved Contents | Description  |
|-------------------|--|
| Entire document   | Deleted descriptions about SPL9101 series optical splitters, and indoor and outdoor optical splitters. |

| Involved Contents                                   | Description   |
|---|---|
| Entire document                                     | Updated standards compliance and packaging dimensions.                                  |
| <a href="#">5.2 Typical Configurations</a>          | Deleted descriptions about SPL9102 series optical splitters with a split ratio of 2:64. |
| nn/nn/spl-product-description/nn_1_141_6.xml        | Updated descriptions about SPL9103 series optical splitters.                            |
| nn/nn/spl-product-description/nn_1_141_6_9105.xml   | Updated descriptions about SPL9105 series optical splitters.                            |
| nn/nn/new/c11_spl_1.xml                             | Updated descriptions about SPL2605 series optical splitters.                            |
| nn/nn/spl-product-description/nn_1_142_1_2803_1.xml | Updated descriptions about SPL2803 series optical splitters.                            |

### Updates in Issue 07 (2012-01-09) Based on Product Version V100R001

This issue is the seventh official release for SPL V100R001. Compared with the sixth official release, the manual of this issue provides the following updates.

| Involved Contents | Description  |
|-------------------|--|
| Entire document   | Added descriptions about SPL9105 series compact optical splitters.         |
| Entire document   | Added descriptions about SPL2803 series bracket-mounted optical splitters. |

### Updates in Issue 06 (2011-10-13) Based on Product Version V100R001

This issue is the sixth official release for SPL V100R001. Compared with the fifth official release, the manual of this issue provides the following updates.

| Involved Contents | Description   |
|-------------------|---|
| Entire document   | Updated images and descriptions about SPL1202 series optical splitters. |

### Updates in Issue 05 (2011-03-28) Based on Product Version V100R001

This issue is the fifth official release for SPL V100R001. Compared with the fourth official release, the manual of this issue provides the following updates.

| Involved Contents | Description  |
|-------------------|--|
| Entire document   | Updated images for SPL9102 and SPL1202 series optical splitters.   |
| Entire document   | Updated specifications.  |
| Entire document   | Deleted descriptions about tray-style optical splitters because tray-style optical splitters are sold only in China. |

### Updates in Issue 04 (2010-12-21) Based on Product Version V100R001

This issue is the fourth official release for V100R001. Compared with the third official release, the manual of this issue provides the following updates.

| Involved Contents | Description  |
|-------------------|--|
| Entire document   | Added descriptions about SPL9201 and SPL9202 series optical splitters. |

### Updates in Issue 03 (2010-08-05) Based on Product Version V100R001

This issue is the third official release for V100R001. Compared with the second official release, the manual of this issue provides the following updates.

| Involved Contents | Description   |
|-------------------|---|
| Entire document   | Added descriptions about SPL9101, SPL9102, SPL9103, and SPL1202 series optical splitters.                   |
| Entire document   | Deleted descriptions about 19-inch rack-mounted optical splitter units of SPL1201, SPL1102, and FLQ series. |

### Updates in Issue 02 (2009-08-21) Based on Product Version V100R001

This issue is the second official release for V100R001. Compared with the first official release, the manual of this issue provides the following updates.

| Involved Contents | Description             |
|-------------------|-------------------------|
| Entire document   | Updated specifications. |

## **Updates in Issue 01 (2008-12-03) Based on Product Version V100R001**

This issue is the first official release for V100R001.

# 2 Overview

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## About This Chapter

### [2.1 Positioning](#)

### [2.2 Benefits](#)

## 2.1 Positioning

The splitter (SPL) series are categorized into the Bare Optical Splitter, Compact Optical Splitter, Rack-mounted Optical Splitter, tray-supported optical splitter and bracket-mounted optical splitter.

- The bare optical splitter is the key component of the compact optical splitter, rack-mounted optical splitter, and implements the splitting function on the optical distribution point.
- The compact optical splitter encapsulates the splitter in it and is installed in the FDT, FAT, or the splitting tray, facilitating capacity expansion.
- The rack-mounted optical splitter encapsulates the SPL9103 series bare optical splitter in it. The rack-mounted optical splitter can be applied in different scenarios, facilitating operation and maintenance.
- The tray-supported optical splitter houses the SPL9103 mini optical splitter or SPL2605 compact optical splitter in its tray. The guide rails of the trays are available in different lengths (range: 295 mm to 320 mm). It supports various installation scenarios and is easy to maintain.
- The bracket-mounted optical splitter can be installed in the slot of an ODF, FDT, and FAT.

## 2.2 Benefits

The SPL series features full categories, universality, and safety.



## Full Categories

Based on the customer requirements, Huawei provides 19-inch rack-mounted optical splitters (SPL1202 series), tray-supported optical splitters (SPL9201 and SPL9202). Some splitters are equipped with the adapter, and some splitters support the pigtail splicing function. In addition, Huawei provides various series of bare optical splitter (SPL9102 series, SPL9103 series and SPL9105 series), compact optical splitter (SPL2605 series). In the cabinet or the tray, all these optical splitters implement the optical splitting and distribution functions. These products support various splitting ratios.

## Universality

- The 19-inch rack-mounted optical splitter is usually installed on the 19-inch rack. In addition, if required, it can be installed on the 21-inch rack according to the ETSI standard by adjusting the installation position of rack-mounting ears, as shown in [Figure 2-1](#).

**Figure 2-1** Installation of the 19-inch rack-mounted optical splitter



- The tray-supported optical splitter can be installed in trays with guide rails of different lengths (range: 295 mm to 320 mm). This facilitates applications in different scenarios. The tray-supported optical splitter is easy to install and maintain.

## Safety

The clear and easily noticeable laser label prevents damage caused by laser.

# 3 Introduction

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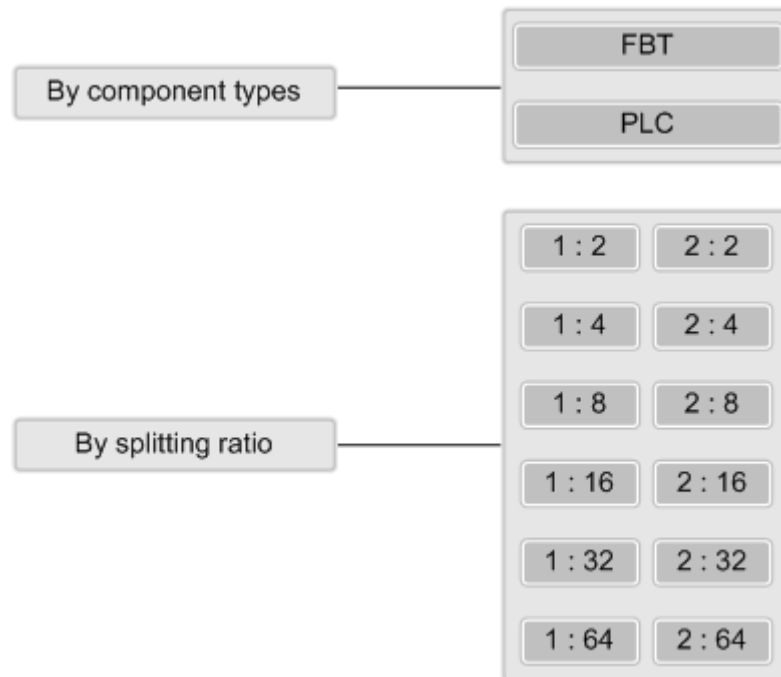
## About This Chapter

- 3.1 Bare Optical Splitter
- 3.2 Compact Optical Splitter
- 3.3 Rack-mounted Optical Splitter
- 3.4 Bracket-mounted Optical Splitter

## 3.1 Bare Optical Splitter

Figure 3-1 shows the categories of the bare optical splitter.

**Figure 3-1** Categories of the Bare Optical Splitter



The bare optical splitters are classified into the Fused Biconical Taper (FBT) splitter and the Planar Lightwave Circuit (PLC) splitter.

- The FBT splitter adopts the FBT technology. In this technology, you need to bind two or more optical fibers together and then fuse and taper them on the fiber conic clinker. In this way, you can monitor the change of splitting ratio in real time, and then stop fusing and tapering when the splitting ratio meets the requirements. Current mature fusing and tapering technics only supports 1:4 or lower. For a splitting ratio higher than 1:4, use multiple 1:2 splitters and encapsulate them together in the splitter box.
- The PLC splitter adopts the PLC technology, which is developed on the basis of the optical integration technology. In the PLC technology, lightwave branching devices are made on the basis of the semiconductor technics, and the splitting function is implemented on the chips. One chip can implement 1:64 or higher splitting, and the two ends of the chip couple and encapsulate multi-channel optical fiber array respectively for input end and output end.

The splitting ratios of the bare optical splitter are described as follows:

- Even splitting: 1:2, 1:4, 1:8, 1:16, 1:32, 1:64, 2:2, 2:4, 2:8, 2:16, 2:32, and 2:64.
- Uneven splitting: the optical power is split unevenly, generally 1:2.

The uneven optical splitter is used in the following scenarios:

- Users are sparsely distributed, especially in chain mode.
- Optical links are too long, typically in ring mode.
- Fiber cores are too few to be expanded.

## 3.1.1 SPL9102 series Bare Optical Splitter

### Exterior

The exterior of the SPL9102 series bare optical splitter is shown in [Figure 3-2](#).

**Figure 3-2** SPL9102 series Bare Optical Splitter



### Features

Installed in the splitting tray and splicing tray of the closure, the SPL9102 series bare optical splitter implements the optical splitting function.

### Specification

[Table 3-1](#) lists the specifications of the SPL9102 series bare optical splitter.

**Table 3-1** Specifications of the SPL9102 series Bare Optical Splitter

| Model         | Optical split ratio | Fiber type | Pigtail length (m) | Pigtail diameter (mm) | Dimensions (H x W x D; unit: mm) | Dimensions with packaging (H x W x D; unit: mm) |
|---------------|---------------------|------------|--------------------|-----------------------|----------------------------------|---|
| SPL9102-F1002 | 1:2 FBT splitter    | G.657A     | 1.5                | 0.25                  | Φ3×55                            | 269×120×18                                      |
| SPL9102-P1004 | 1:4 PLC splitter    | G.657A     | 1.5                | 0.25                  | 4×4×40                           | 269×120×18                                      |
| SPL9102-P1008 | 1:8 PLC splitter    | G.657A     | 1.5                | 0.25                  | 4×4×40                           | 269×120×18                                      |
| SPL9102-P1016 | 1:16 PLC splitter   | G.657A     | 1.5                | 0.25                  | 4×4×40                           | 269×120×18                                      |

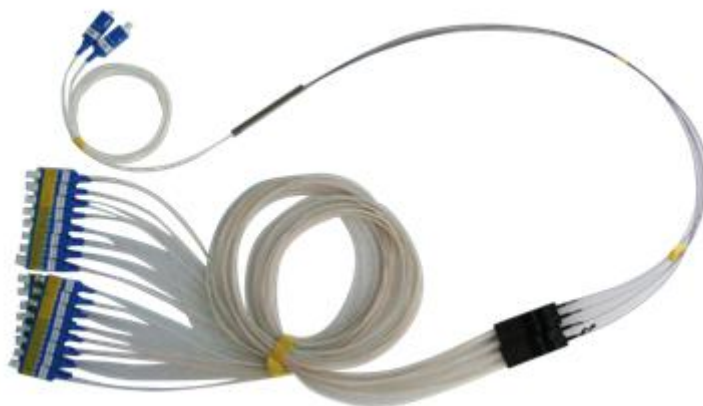
| Model         | Optical split ratio | Fiber type | Pigtail length (m) | Pigtail diameter (mm) | Dimensions (H x W x D; unit: mm) | Dimensions with packaging (H x W x D; unit: mm) |
|---------------|---------------------|------------|--------------------|-----------------------|----------------------------------|---|
| SPL9102-P1032 | 1:32 PLC splitter   | G.657A     | 1.5                | 0.25                  | 4×7×50                           | 269×120×18                                      |
| SPL9102-P1064 | 1:64 PLC splitter   | G.657A     | 1.5                | 0.25                  | 4×12×60                          | 269×120×18                                      |
| SPL9102-F2002 | 2:2 PLC splitter    | G.657A     | 1.5                | 0.25                  | Φ3×55                            | 269×120×18                                      |
| SPL9102-P2004 | 2:4 PLC splitter    | G.657A     | 1.5                | 0.25                  | 4×4×50                           | 269×120×18                                      |
| SPL9102-P2008 | 2:8 PLC splitter    | G.657A     | 1.5                | 0.25                  | 4×4×50                           | 269×120×18                                      |
| SPL9102-P2016 | 2:16 PLC splitter   | G.657A     | 1.5                | 0.25                  | 4×7×60                           | 269×120×18                                      |
| SPL9102-P2032 | 2:32 PLC splitter   | G.657A     | 1.5                | 0.25                  | 4×7×60                           | 269×120×18                                      |

### 3.1.2 SPL9103 series Bare Optical Splitter

#### Exterior

The exterior of the SPL9103 series bare optical splitter is shown in [Figure 3-3](#).

**Figure 3-3** SPL9103 series Bare Optical Splitter



## Features

Installed in the tray of the SPL1202 series rack-mounted optical splitter or the SPL9103 series bare optical splitter implements the optical splitting function.

## Specification

Table 3-2 lists the specifications of the SPL1202 series bare optical splitter.

**Table 3-2** Specifications of the SPL1202 series Bare Optical Splitter

| Model   | Optical split ratio | Fiber type | Pigtai l length (m) | Pigt ail diameter (mm) | Dimensio ns (H x W x D; unit: mm) | Dimensi ons with packagin g (H x W x D; unit: mm) |
|---|---------------------|------------|---------------------|------------------------|-----------------------------------|---|
| <ul style="list-style-type: none"> <li>• SPL9103-F1002 -SC/APC</li> <li>• SPL9103-F1002 -SC/UPC</li> <li>• SPL9103-F1002 -FC/UPC</li> <li>• SPL9103-F1002 -LC/UPC</li> <li>• SPL9103-F1002 -LC/APC</li> </ul> | 1:2 FBT splitter    | G.657A     | 1.5                 | 0.9                    | Φ3×55                             | 280×260×12  |
| <ul style="list-style-type: none"> <li>• SPL9103-P1004 -SC/APC</li> <li>• SPL9103-P1004 -SC/UPC</li> <li>• SPL9103-P1004 -FC/UPC</li> <li>• SPL9103-P1004 -LC/UPC</li> <li>• SPL9103-P1004 -LC/APC</li> </ul> | 1:4 PLC splitter    | G.657A     | 1.5                 | 0.9                    | 4×4×40                            | 280×260×12  |
| <ul style="list-style-type: none"> <li>• SPL9103-P1008 -SC/APC</li> <li>• SPL9103-P1008 -SC/UPC</li> <li>• SPL9103-P1008 -FC/UPC</li> <li>• SPL9103-P1008 -LC/APC</li> </ul>                                  | 1:8 PLC splitter    | G.657A     | 1.5                 | 0.9                    | 4×4×40                            | 280×260×12  |
| <ul style="list-style-type: none"> <li>• SPL9103-P1016 -SC/APC</li> </ul>   | 1:16 PLC splitter   | G.657A     | 1.5                 | 0.9                    | 4×4×40                            | 280×260×40  |

| Model  | Optical split ratio | Fiber type | Pigtail length (m) | Pigtail diameter (mm) | Dimensions (H x W x D; unit: mm) | Dimensions with packaging (H x W x D; unit: mm) |
|--|---------------------|------------|--------------------|-----------------------|----------------------------------|---|
| <ul style="list-style-type: none"> <li>• SPL9103-P1016-SC/UPC</li> <li>• SPL9103-P1016-FC/UPC</li> <li>• SPL9103-P1016-LC/APC</li> </ul>   |                     |            |                    |                       |                                  |   |
| <ul style="list-style-type: none"> <li>• SPL9103-P1032-SC/APC</li> <li>• SPL9103-P1032-SC/UPC</li> <li>• SPL9103-P1032-FC/UPC</li> <li>• SPL9103-P1032-LC/UPC</li> <li>• SPL9103-P1032-LC/APC</li> </ul> | 1:32 PLC splitter   | G.657A     | 1.5                | 0.9                   | 4×7×50                           | 280×260×60                                      |
| <ul style="list-style-type: none"> <li>• SPL9103-P1064-SC/APC</li> <li>• SPL9103-P1064-SC/UPC</li> <li>• SPL9103-P1064-FC/UPC</li> <li>• SPL9103-P1064-LC/APC</li> </ul>                                 | 1:64 PLC splitter   | G.657A     | 1.5                | 0.9                   | 4×12×60                          | 477×280×60                                      |
| <ul style="list-style-type: none"> <li>• SPL9103-F2002-SC/APC</li> <li>• SPL9103-F2002-SC/UPC</li> <li>• SPL9103-F2002-FC/UPC</li> <li>• SPL9103-F2002-LC/APC</li> </ul>                                 | 2:2 FBT splitter    | G.657A     | 1.5                | 0.9                   | Φ3×55                            | 280×260×12                                      |
| <ul style="list-style-type: none"> <li>• SPL9103-P2004-SC/APC</li> <li>• SPL9103-P2004-SC/UPC</li> <li>• SPL9103-P2004-FC/UPC</li> <li>• SPL9103-P2004-LC/APC</li> </ul>                                 | 2:4 PLC splitter    | G.657A     | 1.5                | 0.9                   | 4×4×50                           | 280×260×12                                      |

| Model  | Optical split ratio | Fiber type | Pigtail length (m) | Pigtail diameter (mm) | Dimensions (H x W x D; unit: mm) | Dimensions with packaging (H x W x D; unit: mm) |
|--|---------------------|------------|--------------------|-----------------------|----------------------------------|---|
| <ul style="list-style-type: none"> <li>-LC/UPC</li> <li>• SPL9103-P2004</li> <li>-LC/APC</li> </ul>  |                     |            |                    |                       |                                  |   |
| <ul style="list-style-type: none"> <li>• SPL9103-P2008</li> <li>-SC/APC</li> <li>• SPL9103-P2008</li> <li>-SC/UPC</li> <li>• SPL9103-P2008</li> <li>-FC/UPC</li> <li>• SPL9103-P2008</li> <li>-LC/UPC</li> <li>• SPL9103-P2008</li> <li>-LC/APC</li> </ul> | 2:8 PLC splitter    | G.657A     | 1.5                | 0.9                   | 4×4×50                           | 280×260×12                                      |
| <ul style="list-style-type: none"> <li>• SPL9103-P2016</li> <li>-SC/APC</li> <li>• SPL9103-P2016</li> <li>-SC/UPC</li> <li>• SPL9103-P2016</li> <li>-FC/UPC</li> <li>• SPL9103-P2016</li> <li>-LC/UPC</li> <li>• SPL9103-P2016</li> <li>-LC/APC</li> </ul> | 2:16 PLC splitter   | G.657A     | 1.5                | 0.9                   | 4×7×60                           | 280×260×40                                      |
| <ul style="list-style-type: none"> <li>• SPL9103-P2032</li> <li>-SC/APC</li> <li>• SPL9103-P2032</li> <li>-SC/UPC</li> <li>• SPL9103-P2032</li> <li>-FC/UPC</li> <li>• SPL9103-P2032</li> <li>-LC/UPC</li> <li>• SPL9103-P2032</li> <li>-LC/APC</li> </ul> | 2:32 PLC splitter   | G.657A     | 1.5                | 0.9                   | 4×7×60                           | 280×260×60                                      |
| <ul style="list-style-type: none"> <li>• SPL9103-P2064</li> <li>-SC/APC</li> <li>• SPL9103-P2064</li> <li>-SC/UPC</li> <li>• SPL9103-P2064</li> <li>-LC/UPC</li> </ul>   | 2:64 PLC splitter   | G.657A     | 1.5                | 0.9                   | 4×12×70                          | 477×280×60                                      |



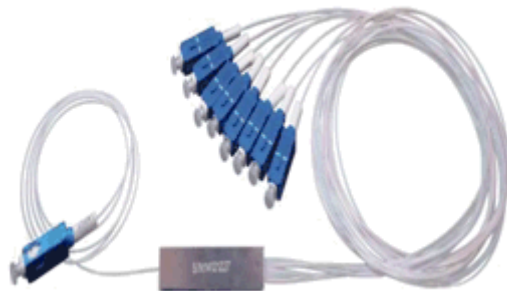
| Model  | Optical split ratio | Fiber type | Pigtail length (m) | Pigtail diameter (mm) | Dimensions (H x W x D; unit: mm) | Dimensions with packaging (H x W x D; unit: mm) |
|--|---------------------|------------|--------------------|-----------------------|----------------------------------|---|
| <ul style="list-style-type: none"> <li>SPL9103-P2064-LC/APC</li> </ul> |                     |            |                    |                       |                                  |   |

### 3.1.3 SPL9105 series Bare Optical Splitter

#### Exterior

The exterior of the SPL9105 series bare optical splitter is shown in [Figure 3-4](#).

**Figure 3-4** SPL9105 series Bare Optical Splitter



#### Features

Installed in the SPL2803 series bracket-mounted optical splitter implements the optical splitting function.

#### Specification

[Table 3-3](#) lists the specifications of the SPL9105 series bare optical splitter.

**Table 3-3** Specifications of the SPL9105 series Bare Optical Splitter

| Model   | Optical split ratio | Fiber type | Pigtail length (m) | Pigtail diameter (mm) | Dimensions (H x W x D; unit: mm) | Dimensions with packaging (H x W x D; unit: mm) |
|---|---------------------|------------|--------------------|-----------------------|----------------------------------|---|
| <ul style="list-style-type: none"> <li>• SPL9105-P1004 -SC/APC</li> <li>• SPL9105-P1004 -SC/UPC</li> </ul>                                  | 1:4 PLC splitter    | G.657A     | 1                  | 0.9                   | 4×7×60                           | 280×260×12                                      |
| <ul style="list-style-type: none"> <li>• SPL9105-P1004 A-SC/APC</li> <li>• SPL9105-P1004 A-SC/UPC</li> </ul>                                | 1:4-PLC-均分          | G.657A     | 0.3                | 0.9                   | 4×7×60                           | 280×260×12                                      |
| <ul style="list-style-type: none"> <li>• SPL9105-P1008 -SC/APC</li> <li>• SPL9105-P1008 -SC/UPC</li> </ul>                                  | 1:8-PLC-均分          | G.657A     | 1                  | 0.9                   | 4×7×60                           | 280×260×12                                      |
| <ul style="list-style-type: none"> <li>• SPL9105-P1008 A-SC/APC</li> <li>• SPL9105-P1008 A-SC/UPC</li> </ul>                                | 1:8 PLC splitter    | G.657A     | 0.3                | 0.9                   | 4×7×60                           | 280×260×12                                      |
| <ul style="list-style-type: none"> <li>• SPL9105-P1016 -SC/APC</li> <li>• SPL9105-P1016 -SC/UPC</li> <li>• SPL9105-P1016 -LC/APC</li> </ul> | 1:16 PLC splitter   | G.657A     | 1                  | 0.9                   | 4×12×60                          | 280×260×12                                      |
| <ul style="list-style-type: none"> <li>• SPL9105-P1016 A-SC/APC</li> <li>• SPL9105-P1016 A-SC/UPC</li> </ul>                                | 1:16-PLC-均分         | G.657A     | 0.3                | 0.9                   | 4×12×60                          | 280×260×40                                      |
| <ul style="list-style-type: none"> <li>• SPL9105-P1032 -SC/APC</li> <li>• SPL9105-P1032 -SC/UPC</li> <li>• SPL9105-P1032 -LC/APC</li> </ul> | 1:32 PLC splitter   | G.657A     | 1                  | 0.9                   | 6×20×80                          | 280×260×60                                      |
| <ul style="list-style-type: none"> <li>• SPL9105-P1064 -SC/APC</li> <li>• SPL9105-P1064 -SC/UPC</li> <li>• SPL9105-P1064</li> </ul>         | 1:64 PLC splitter   | G.657A     | 1                  | 0.9                   | 6×40×100                         | 560×320×60                                      |

| Model  | Optical split ratio | Fiber type | Pigtail length (m) | Pigtail diameter (mm) | Dimensions (H x W x D; unit: mm) | Dimensions with packaging (H x W x D; unit: mm) |
|--|---------------------|------------|--------------------|-----------------------|----------------------------------|---|
| -LC/APC  |                     |            |                    |                       |                                  |   |
| <ul style="list-style-type: none"> <li>• SPL9105-P2016-SC/APC</li> <li>• SPL9105-P2016-SC/UPC</li> <li>• SPL9105-P2016-LC/APC</li> </ul>   | 2:16 PLC splitter   | G.657A     | 1                  | 0.9                   | 4×12×80                          | 280×260×40                                      |
| <ul style="list-style-type: none"> <li>• SPL9105-P2032-SC/APC</li> <li>• SPL9105-P2032-SC/UPC</li> <li>• SPL9105-P2032-LC/APC</li> </ul>   | 2:32 PLC splitter   | G.657A     | 1                  | 0.9                   | 6×20×80                          | 360×290×60                                      |
| <ul style="list-style-type: none"> <li>• SPL9105-P2064-SC/APC</li> <li>• SPL9105-P2064-SC/UPC</li> <li>• SPL9105-P2064-FC/UPC</li> <li>• SPL9105-P2064-LC/UPC</li> <li>• SPL9105-P2064-LC/APC</li> </ul> | 2:64 PLC splitter   | G.657A     | 1                  | 0.9                   | 6×40×100                         | 560×320×60                                      |

## 3.2 Compact Optical Splitter

The compact optical splitters include SPL1101 and SPL2605 series products.

### 3.2.1 SPL1101 series Compact Optical Splitter

#### Exterior

Figure 3-5 shows the SPL1101 series compact optical splitter.

**Figure 3-5** SPL1101 series Compact Optical Splitter

## Features

The SPL1101 series compact optical splitter can be installed in a tray to implement splitting and cable distribution functions.

## Specification

Table 3-4 lists the specifications of the SPL1101 series compact optical splitter.

**Table 3-4** Specifications of the SPL1101 series Compact Optical Splitter

| Item                             | Specifications           |           |            |
|----------------------------------|--------------------------|-----------|------------|
| Model                            | SPL1101                  |           |            |
| Optical split ratio              | 1:2, 1:4, 1:8, 1:16      | 1:32      | 1:64       |
| Type                             | Compact optical splitter |           |            |
| Dimensions (H x W x D; unit: mm) | 100×80×10                | 120×80×18 | 140×114×18 |
| Adapter type                     | FC/UPC<br>SC/UPC         |           |            |
| Fiber type                       | G.657A                   |           |            |
| Pigtail length (m)               | 1.5                      |           |            |
| Pigtail diameter (mm)            | 2                        |           |            |
| Material                         | PPO                      |           |            |

## 3.2.2 SPL2605 Series Compact Optical Splitter

### Exterior

The exterior of the SPL2605 series compact optical splitter is shown in [Figure 3-6](#).

**Figure 3-6** SPL2605 Series Compact Optical Splitter



## Features

- The SPL2605 series compact optical splitter can be installed in the FDT and FAT to implement the splitting function.
- The SPL2605 series compact optical splitter can be configured with various fiber connectors, including SC/APC, SC/UPC, FC/UPC, LC/APC and LC/UPC. In addition, the splitting ratio of the SPL2605 series ranges from N:2 to N:64 (N = 1 or 2).
- The input pigtail can be easily distinguished from the output pigtail due to the color difference.
- The shell supports the board-in-cabinet transportation and independent delivery.

## Specifications

Table 3-5 lists the specifications of the SPL2605 series compact optical splitter.

**Table 3-5** Specifications of the SPL2605 series Compact Optical Splitter

| Item  | Specifications   |  |
|---|--|--|
| Model   | SPL2605  |  |
| Optical split ratio                             | <ul style="list-style-type: none"> <li>• 1:2, 1:4, 1:8, 1:16</li> <li>• 2:2, 2:4, 2:8, 2:16</li> </ul>                                 | <ul style="list-style-type: none"> <li>• 1:32, 1:64</li> <li>• 2:32, 2:64</li> </ul>   |
| Type  | Compact optical splitter   |  |
| Dimensions (H x W x D; unit: mm)                | 110 x 60 x 10  | 110 x 60 x 20  |
| Dimensions with packaging (H x W x D; unit: mm) | <ul style="list-style-type: none"> <li>• 1(2):8 and less: 268 x 218 x 22</li> <li>• 1(2):16: 313 x 218 x 38</li> </ul>                 | <ul style="list-style-type: none"> <li>• 1(2):32: 313 x 218 x 38</li> <li>• 1(2):64: 330 x 260 x 65</li> </ul>                 |
| Volume with packaging (unit:m <sup>3</sup> )    | <ul style="list-style-type: none"> <li>• 1(2):8 and less: 1.29 x 10<sup>-3</sup></li> <li>• 1(2):16: 2.59 x 10<sup>-3</sup></li> </ul> | <ul style="list-style-type: none"> <li>• 1(2):32: 2.59 x 10<sup>-3</sup></li> <li>• 1(2):64: 5.58 x 10<sup>-3</sup></li> </ul> |

| Item                    | Specifications  |   |
|-------------------------|---|---|
| Fireproof class         | UL94V-0   |   |
| Adapter type            | SC/UPC<br>LC/UPC<br>FC/UPC<br>SC/APC<br>LC/APC  |   |
| Fiber type              | G.657A  |   |
| Pigtail length (m)      | <ul style="list-style-type: none"> <li>• 1.5</li> <li>• 2.5</li> </ul>  |   |
| Pigtail diameter (mm)   | 2   |   |
| Net weight (unit: kg)   | 1: N <ul style="list-style-type: none"> <li>• 1:2: 0.11</li> <li>• 1:4: 0.13</li> <li>• 1:8: 0.16</li> <li>• 1:16: 0.23</li> </ul> 2: N <ul style="list-style-type: none"> <li>• 2:2: 0.12</li> <li>• 2:4: 0.13</li> <li>• 2:8: 0.17</li> <li>• 2:16: 0.24</li> </ul> | 1: N <ul style="list-style-type: none"> <li>• 1:32: 0.42</li> <li>• 1:64: 0.79</li> </ul> 2: N <ul style="list-style-type: none"> <li>• 2:32: 0.43</li> <li>• 2:64: 0.79</li> </ul> |
| Gross weight (unit: kg) | 1: N <ul style="list-style-type: none"> <li>• 1:2: 0.27</li> <li>• 1:4: 0.29</li> <li>• 1:8: 0.33</li> <li>• 1:16: 0.42</li> </ul> 2: N <ul style="list-style-type: none"> <li>• 2:2: 0.28</li> <li>• 2:4: 0.29</li> <li>• 2:8: 0.34</li> <li>• 2:16: 0.43</li> </ul> | 1: N <ul style="list-style-type: none"> <li>• 1:32: 0.76</li> <li>• 1:64: 1.24</li> </ul> 2: N <ul style="list-style-type: none"> <li>• 2:32: 0.77</li> <li>• 2:64: 1.23</li> </ul> |

### 3.3 Rack-mounted Optical Splitter

The rack-mounted optical splitters are the SPL1202 series products.

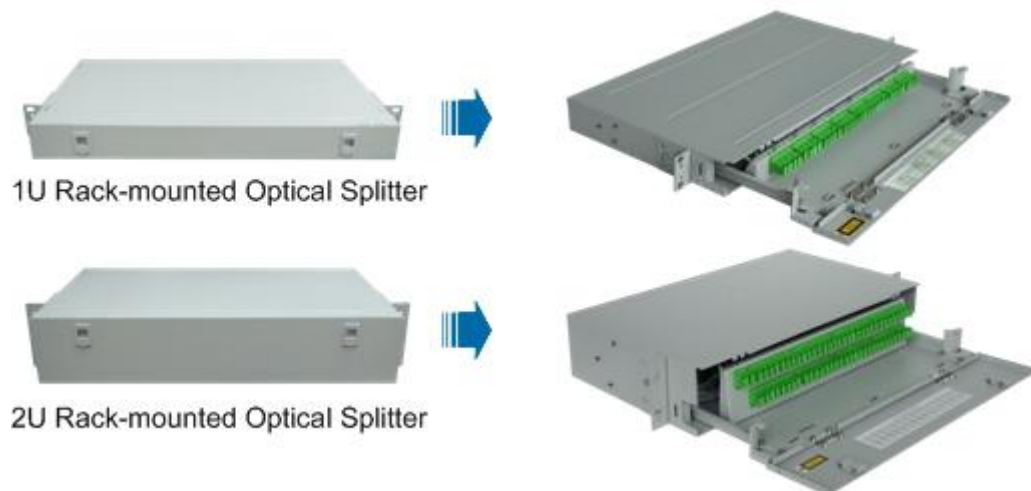
### 3.3.1 SPL1202 series Rack-mounted Optical Splitter

The SPL1202 series feature the modular structure. The SPL1202 series include 1U optical splitter and 2U optical splitter.

#### Exterior

The exterior of the SPL1202 series rack-mounted optical splitter is shown in [Figure 3-7](#).

**Figure 3-7** SPL1202 series Rack-mounted Optical Splitter



The SPL1202 series rack-mounted optical splitter consists of the subrack, SPL9103 series optical splitter, adapters, and adapter panel. The internal structure of the SPL1202 series is shown in [Figure 3-8](#)(the 1U optical splitter is taken as an example).

**Figure 3-8** Internal Structure of the SPL1202 series Rack-mounted Optical Splitter



- (1) SPL9103 series optical splitter
- (2) Adapter panel
- (3) Adapter
- (4) Subrack tray
- (5) Laser label

## Features

- The SPL1202 series rack-mounted optical splitter features the elegant exterior.
- The fiber route protection is reliable.
- The shell is made of sheet metal. It can be installed in the optical fiber distribution frames (ODF) and the fiber distribution terminal (FDT), and supports the horizontal boards-in-cabinet transportation.
- The tray structure and flip structure facilitate the protection of optical ports and product maintenance.
- The SPL1202 series rack-mounted optical splitter is installed on the 19-inch rack of the cabinet with a depth of 300 mm (11.81 in.) (the SPL1202 series support the applications in the GPX147-FDT series and GPX147-ODF series products.). If required, it can be installed on the 21-inch rack and fit the different depth of the cabinet by adjusting the installation position of rack-mounting ears. [Figure 3-9](#) shows how to adjust the installation position of the rack-mounting ears.

**Figure 3-9** Adjusting Rack-mounting Ears

A: Adjust the installation position of rack-mounted ears from 19-inch to 21-inch.



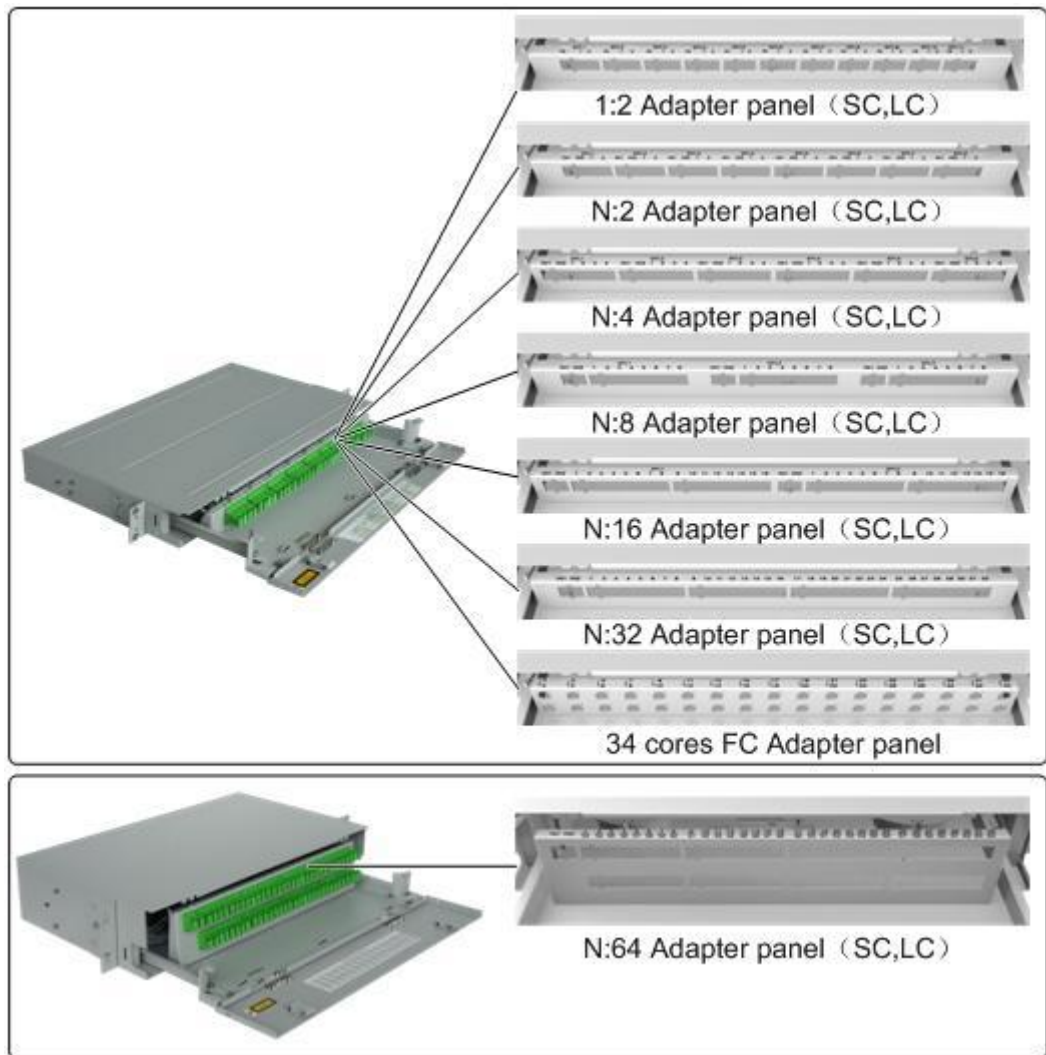
B: Adjust the installation position of rack-mounted ears from front to back



- The SPL1202 series rack-mounted optical splitter has strong compatibility. With different adapter panels, the SPL1202 series rack-mounted optical splitter can be installed with the SPL9103 series optical splitter with the splitting ratios from N:2 to N:32 (N = 1 or 2) and 1:64; in addition, the SPL1202 series rack-mounted optical splitter can be installed with different number of SC/LC/FC adapters, thus implementing the splitting function. The adapter panels that are compatible with the SPL1202 series rack-mounted optical splitter are shown in [Figure 3-10](#).

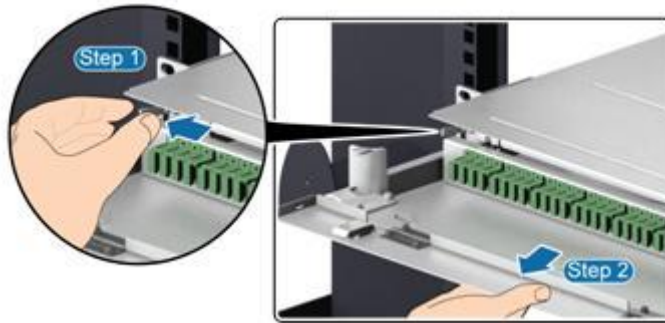


**Figure 3-10** Adapter Panel



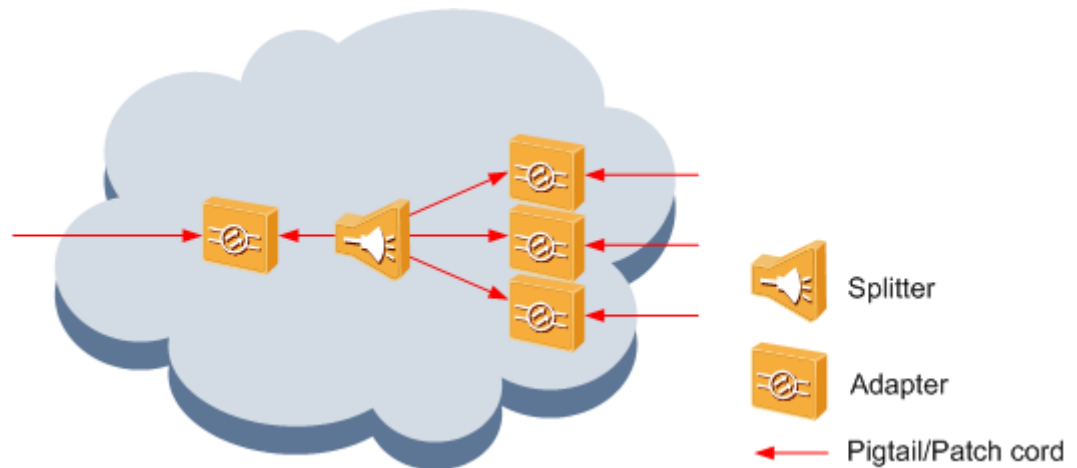
- The tray of the splitter is installed with a stop pin, which protects the tray from falling due to inadvertent operations and facilitates maintenance. After the stop pin is opened, the tray of the splitter can be fully pulled out, providing sufficient spaces for future maintenance. [Figure 3-11](#) shows the steps for opening the stop pin.

**Figure 3-11** Opening the Stop Pin



The internal structure of the SPL1202 series rack-mounted optical splitter is shown in [Figure 3-12](#).

**Figure 3-12** Internal Structure of the SPL1202 series Rack-mounted Optical Splitter



### 3.3.2 Parameters of the SPL1202 series rack-mounted optical splitter

Parameters of the SPL1202 series rack-mounted optical splitter are shown in [Table 3-6](#).

**Table 3-6** Parameters of the SPL1202 series Rack-mounted Optical Splitter

| Specification                      |                                  | Description      |            |
|------------------------------------|----------------------------------|------------------|------------|
| Packaging Dimension (H x W x D,mm) | 1U rack-mounted optical splitter | 130×555×358      |            |
|                                    | 2U rack-mounted optical splitter | 190×352×562      |            |
| Cabinet                            | Dimension (H x W x D,mm)         | 1U empty cabinet | 44×483×260 |
|                                    |                                  | 2U empty         | 88×483×260 |

| Specification     |                    | Description                                     |
|-------------------|--------------------|---|
|                   | cabinet            |   |
| Net weight (kg)   | 1U empty cabinet   | 3.56  |
|                   | 2U empty cabinet   | 4.22  |
| Installation mode |                    | 19-inch rack installation and ETSI installation |
| Material          |                    | Sheet metal                                     |
| Color             |                    | Huawei gray                                     |
| RoHS              |                    | Yes   |
| Fireproof class   |                    | UL94-V0   |
| Splitter          | Model              | SPL9103 series bare optical splitter            |
|                   | Net weight (g)     | 86  |
| Adapter           | Type and Precision | SC/APC, SC/UPC, 2LC/PC, 2LC/UPC, FC/PC          |
| Panel             | Material           | Sheet metal                                     |
|                   | Color              | Huawei gray                                     |
| Fake panel        | Material           | Plastic   |
|                   | Color              | Huawei gray                                     |

### 3.4 Bracket-mounted Optical Splitter

The bracket-mounted optical splitters are the SP2803 series products.

### 3.4.1 SPL2803 series Bracket-mounted Optical Splitter

#### Exterior

**Figure 3-13** SPL2803 SC/UPC 1×4 bracket-mounted optical splitter.



**Figure 3-14** SPL2803 SC/UPC 1×8 bracket-mounted optical splitter.



**Figure 3-15** SPL28031 SC/UPC 1×16 bracket-mounted optical splitter.



**Figure 3-16** SPL28031 SC/UPC 1×32 bracket-mounted optical splitter.

## Features

- Has a modularized structure and is used with the GPX147–FAT2110 or the GPX147–FAT2112T series fiber access terminals (FATs).
- The packing structure of the adapter facilitates onsite usage and maintenance.
- Is clamped free of tools. This improves engineering efficiency.

## Specification

Table 3-7 lists the specifications of the SPL2803 series bracket-mounted optical splitter.

**Table 3-7** Specifications of SPL2803 series bracket-mounted optical splitter

| Specification                                | Description   |   |   |
|--|---|---|---|
| Model  | SPL2803   |   |   |
| Optical split ratio                          | <ul style="list-style-type: none"><li>• 1:2、 1:4、 1:8</li><li>• 2:2、 2:4、 2:8</li></ul> | <ul style="list-style-type: none"><li>• 1:16</li><li>• 2:16</li></ul> | <ul style="list-style-type: none"><li>• 1:32</li><li>• 2:32</li></ul> |
| Dimensions (H x W x D; unit: mm)             | 130×100×25  | 130×100×50  | 266×100×50  |
| Volume with packaging (unit:m <sup>3</sup> ) | 137×119×30  | 137×119×55  | 274×119×55  |
| Material                                     | PC+ABS  |   |   |
| Adapter type                                 | SC/UPC<br>LC/UPC<br>SC/APC<br>LC/APC  |   |   |
| Fireproof class                              | UL94V-0   |   |   |
| Fiber type                                   | G.657A  |   |   |

# 4 Products and Application Scenarios

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## About This Chapter

### 4.1 Application Scenarios of Compact Optical Splitters

Compact optical splitters are applicable in 3 scenarios: optical distribution frames (ODFs) in the equipment room of a central office (CO) or residential area; outdoor fiber distribution terminals (FDTs), and fiber access terminals (FATs).

### 4.2 Application Scenarios of the SPL1202 series Rack-mounted Optical Splitter

## 4.1 Application Scenarios of Compact Optical Splitters

Compact optical splitters are applicable in 3 scenarios: optical distribution frames (ODFs) in the equipment room of a central office (CO) or residential area; outdoor fiber distribution terminals (FDTs), and fiber access terminals (FATs).

### Compact Optical Splitter Applied in the Equipment Room of a CO or Residential Area

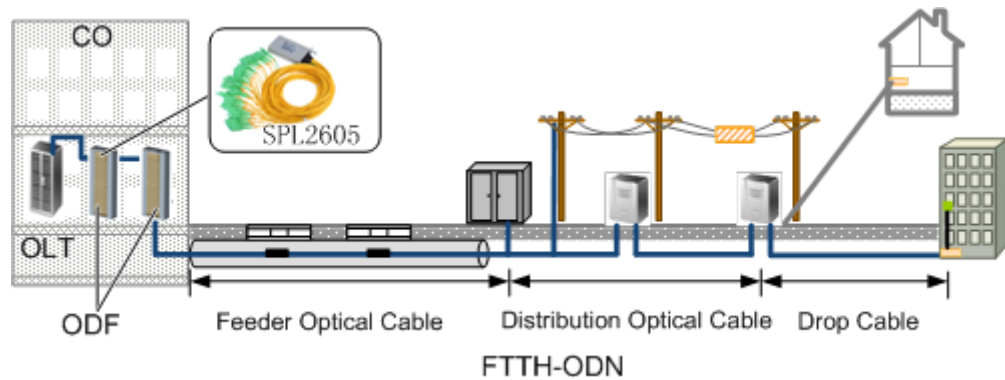
Compact optical splitters can be installed in ODFs in the equipment room of a CO or residential area to implement optical splitting, as shown in [Figure 4-1](#) and [Figure 4-2](#).



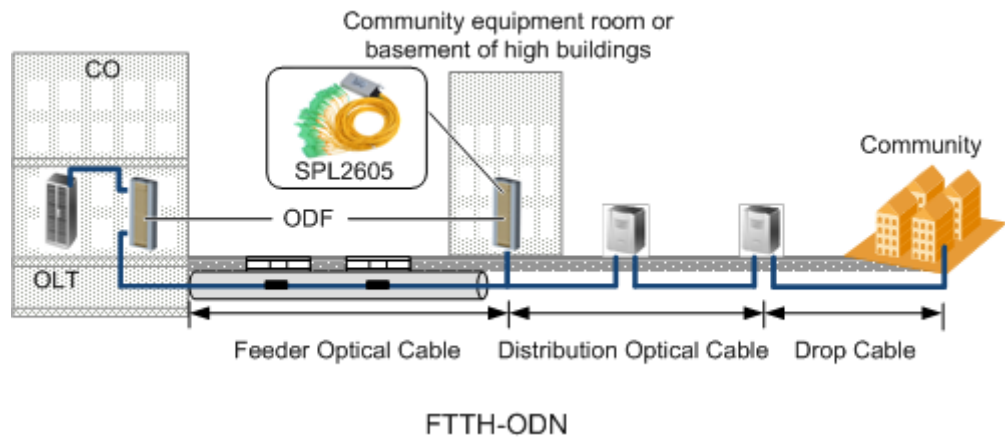
#### NOTE

The SPL2605 series is used as an example.

**Figure 4-1** SPL2605 series (compact optical splitters) applied in the equipment room of a CO



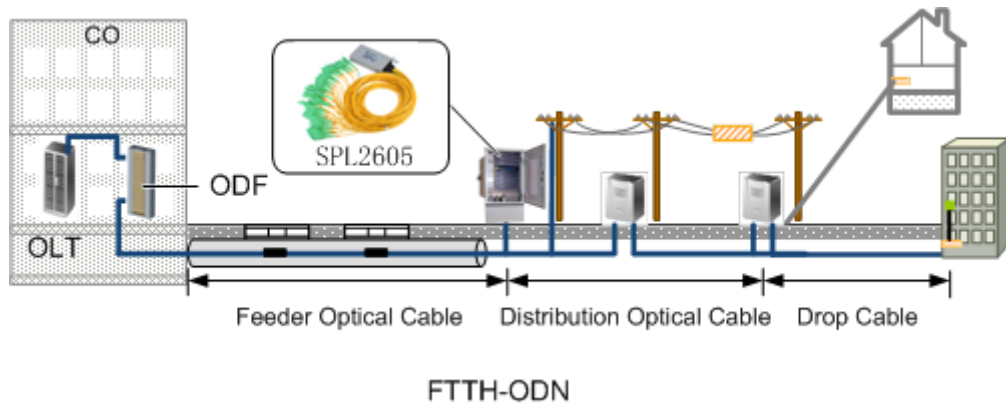
**Figure 4-2** SPL2605 series (compact optical splitters) applied in the equipment room of a residential area



## Compact Optical Splitter Applied in the Outdoor FDT

Compact optical splitters, together with splicing units, can be installed in outdoor FDTs to implement optical splitting, cable lead-in and securing, and fiber splicing, as shown in [Figure 4-3](#).

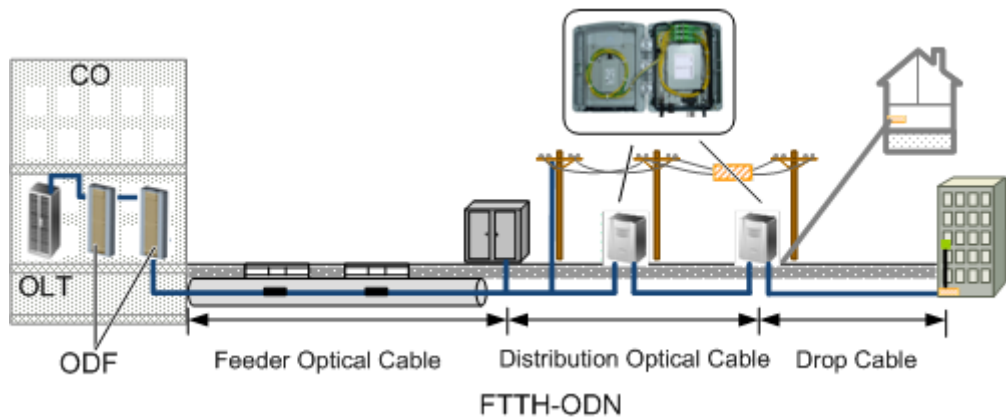
**Figure 4-3** SPL2605 series (compact optical splitters) applied in the outdoor FDT



## Compact Optical Splitter Applied in the FAT

Compact optical splitters can be installed in FATs, as shown in [Figure 4-4](#).

**Figure 4-4** SPL2605 series (compact optical splitters) applied in the FAT



## 4.2 Application Scenarios of the SPL1202 series Rack-mounted Optical Splitter

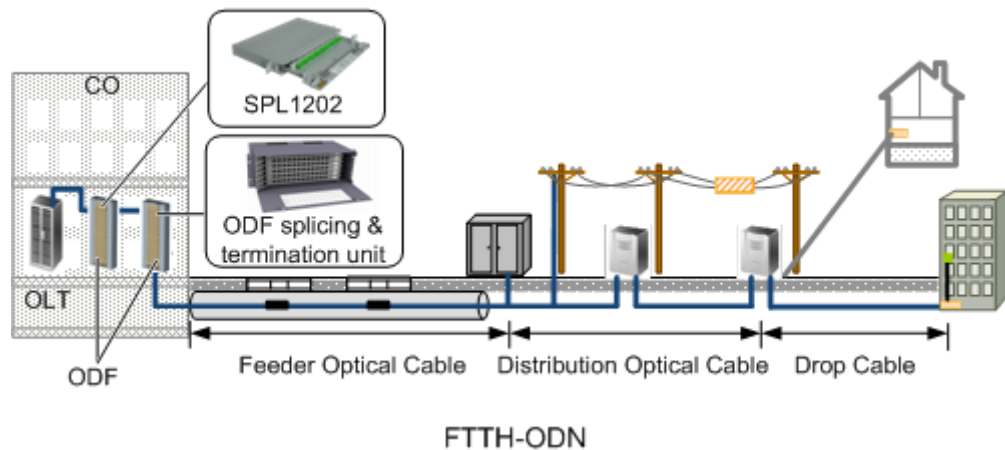
The SPL1202 series rack-mounted optical splitter is mainly applied in the central office, the equipment room in a community, and the outdoor FDT. The SPL1202 series rack-mounted optical splitter can implement the centralized splitting. It has a large capacity, and it is easy to manage and to maintain.

### Applying the SPL1202 series Rack-mounted Optical Splitter in the Central Office

When the SPL1202 series rack-mounted optical splitter is applied in the central office, it is installed in the SPL1202 series standard optical fiber distribution cabinet, realizing the centralized splitting. See [Figure 4-5](#).



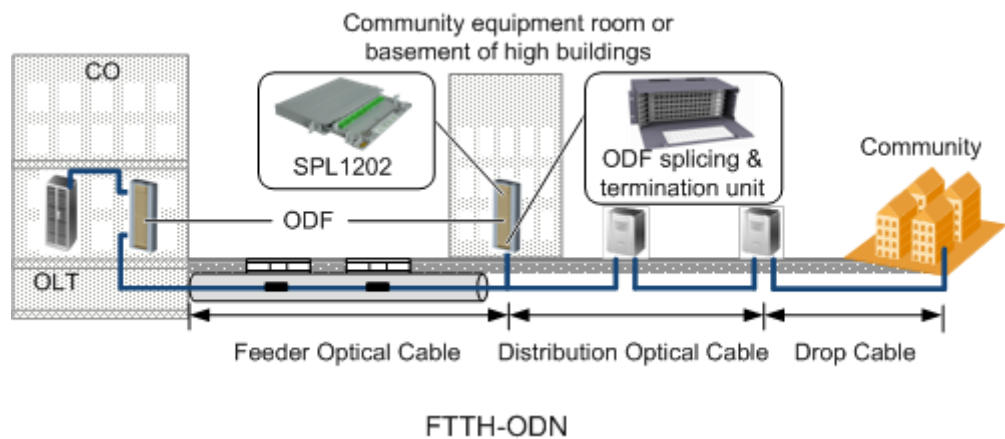
**Figure 4-5** Applying the SPL1202 series Rack-mounted Optical Splitter in the central office



### Applying the SPL1202 series Rack-mounted Optical Splitter in the Equipment Room in a Community

When the SPL1202 series rack-mounted optical splitter is applied in the equipment room in a FTTH-ODN network community or the basement of the high buildings (in the optical cable distribution points in the FTTH-ODN), the SPL1202 series rack-mounted optical splitter and the ODF splicing and termination unit are installed in the optical fiber distribution cabinet, realizing the centralized splitting, the fixation of optical cables led from outdoor, and the splicing and termination of optical fiber. See [Figure 4-6](#).

**Figure 4-6** Applying the SPL1202 series Rack-mounted Optical Splitter in the Equipment Room in a Community

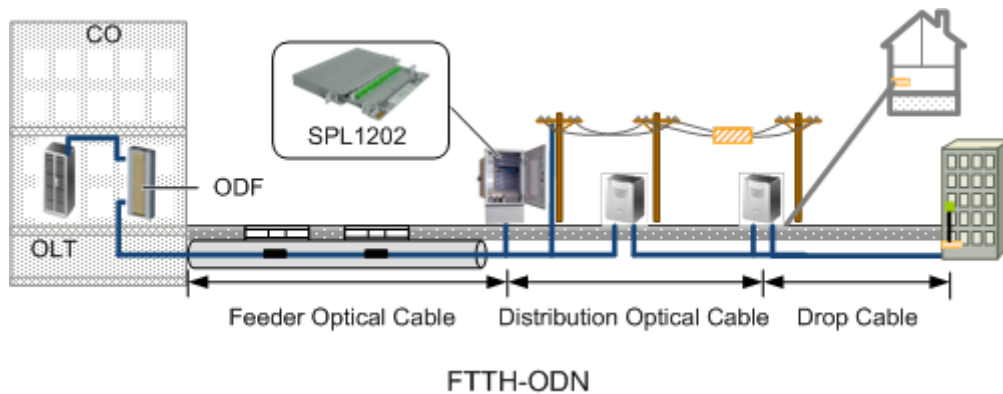


### Applying the SPL1202 series Rack-mounted Optical Splitter in the Outdoor FDT

When the SPL1202 series rack-mounted optical splitter is applied in the outdoor FDT (in the optical cable distribution points in the FTTH-ODN), the SPL1202 series rack-mounted optical splitter and the splicing unit are installed in the cabinet, realizing the centralized splitting, the

fixation of optical cables led from outdoor, and the splicing of the optical fiber. See [Figure 4-7](#).

**Figure 4-7** Applying the SPL1202 series Rack-mounted Optical Splitter in the Outdoor FDT



# 5 Configurations

## About This Chapter

[5.1 Overview](#)

[5.2 Typical Configurations](#)

## 5.1 Overview

This chapter describes the components of the SPL1202 series rack-mounted optical splitter.

## 5.2 Typical Configurations

### Restrictions

[Table 5-1](#) lists the restrictions on the SPL1202 series rack-mounted optical splitter.

**Table 5-1** Restrictions on the SPL1202 series Rack-mounted Optical Splitter

| Type   | Component        | Model                                | Restriction   | Remarks   |
|--|------------------|--------------------------------------|---|-----------|
| SPL1202 series rack-mounted optical splitter (1 U) | Cabinet          | 1-U empty cabinet                    | 1 pcs   | Mandatory |
|  | Optical splitter | SPL9103 series bare optical splitter | <ul style="list-style-type: none"><li>The splitting ratio ranges from 1:2 to 1:32 or from 2:2 to 2:32.</li><li>A maximum of 11 SC/LC optical splitters with the splitting ratio 1:2 can be configured.</li><li>A maximum of eight SC/LC optical splitters with the splitting ratio 2:2 can be configured.</li></ul> | Mandatory |

| Type | Component    | Model  | Restriction  | Remarks   |
|------|--------------|--|--|-----------|
|      |              |  | <ul style="list-style-type: none"> <li>• A maximum of six SC/LC optical splitters with the splitting ratio N:4 (N = 1 or 2) can be configured.</li> <li>• A maximum of three SC/LC optical splitters with the splitting ratio N:8 (N = 1 or 2) can be configured.</li> <li>• A maximum of two SC/LC optical splitters with the splitting ratio N:16 (N = 1 or 2) can be configured.</li> <li>• A maximum of one SC/LC optical splitter with the splitting ratio N:32 (N = 1 or 2) can be configured.</li> <li>• Number of FC optical splitters to be configured = <math>34 / (\text{Number of input ports of a single splitter} + \text{Number of output ports of the single splitter})</math>, round down.</li> </ul> |           |
|      | Panel        | <ul style="list-style-type: none"> <li>• 1:2 SC adapter panel</li> <li>• N:2 SC adapter panel</li> <li>• N:4 SC adapter panel</li> <li>• N:8 SC adapter panel</li> <li>• N:16 SC adapter panel</li> <li>• N:32 SC adapter panel</li> </ul> | <ul style="list-style-type: none"> <li>• The SC/LC optical splitter should be configured with one SC adapter panel with the different splitting ratios.</li> </ul>   | Mandatory |
|      |              | <ul style="list-style-type: none"> <li>• 34-port FC adapter panel</li> </ul>   | <ul style="list-style-type: none"> <li>• The FC optical splitter is configured with one FC adapter panel.</li> </ul>   |           |
|      | Filler panel | SC/LC filler panel   | <ul style="list-style-type: none"> <li>• The number of SC/LC filler panels configured on the SC/LC optical splitters with different splitting ratios is as follows:</li> <li>• SC/LC optical splitters with the</li> </ul>   | Mandatory |

| Type            | Component | Model             | Restriction   | Remarks   |
|-----------------|-----------|-------------------|---|-----------|
|                 |           |                   | splitting ratio 1:2 : Number of SC/LC filler panels to be configured = 33 - Number of adapters.<br><ul style="list-style-type: none"> <li>• SC/LC optical splitters with the splitting ratio 2:2 : Number of SC/LC filler panels to be configured = 32 - Number of adapters.</li> <li>• SC/LC optical splitters with the splitting ratio N:4 (N = 1 or 2): Number of SC/LC filler panels to be configured = 36 - Number of adapters.</li> <li>• SC/LC optical splitters with the splitting ratio N:8 (N = 1 or 2): Number of SC/LC filler panels to be configured = 30 - Number of adapters.</li> <li>• SC/LC optical splitters with the splitting ratio N:16 (N = 1 or 2): Number of SC/LC filler panels to be configured = 36 - Number of adapters.</li> <li>• SC/LC optical splitters with the splitting ratio N:32 (N = 1 or 2): Number of SC/LC filler panels to be configured = 34 - Number of adapters.</li> </ul> |           |
|                 |           | FC filler panel   | <ul style="list-style-type: none"> <li>• FC optical splitter used with FC filler panels: Number of FC filler panels to be configured = 34 - Number of adapters.</li> </ul>  |           |
|                 | Adapter   | SC/LC/FC adapter  | <ul style="list-style-type: none"> <li>• Number of SC/FC adapters to be configured = Number of optical splitters x (Number of input ports of a single splitter + Number of output ports of the single splitter).</li> <li>• Number of LC adapters to be configured = Number of optical splitters x (Number of input ports of a single splitter + Number of output ports of the single splitter)/2, round up.</li> </ul>   |           |
| SPL120 2 series | Cabinet   | 2-U empty cabinet | 1 pcs   | Mandatory |

| Type                                | Component        | Model  | Restriction   | Remarks   |
|-------------------------------------|------------------|--|---|-----------|
| rack-mounted optical splitter (2 U) | Optical splitter | <ul style="list-style-type: none"> <li>SPL9103-6 4-P1064-SC/APC</li> <li>SPL9103-6 4-P1064-SC/UPC</li> </ul> | 1 pcs   | Mandatory |
|                                     | Panel            | N:64 (N = 1 or 2) SC adapter panel   | 1 pcs   | Mandatory |
|                                     | Filler panel     | SC filler panel  | Number of SC filler panels to be configured = 66 - Number of adapters   | Mandatory |
|                                     | Adapter          | SC adapter   | Number of SC adapters to be configured = Number of input ports of all optical splitters + Number of output ports of all optical splitters | Mandatory |

## Typical Configurations

Table 5-2 lists the typical configurations of the SPL1202 series rack-mounted optical splitters (1 U).

**Table 5-2** SPL1202 series Typical Configurations of the Rack-mounted Optical Splitter (1 U)

| Type   | Configuration       | Model                  | Specification  | Quantity for Full Configuration | Remarks   |
|--|---------------------|------------------------|--|---------------------------------|-----------|
| SPL1202 series rack-mounted optical splitter (1 U) | Cabinet             | 1-U empty cabinet      | Dimensions (H x W x D): 483 mm x 260 mm x 44 mm (19.02 in. x 10.24 in. x 1.73 in.) | 1 pcs                           | Mandatory |
|  | Optical splitter    | SPL9103-2-F2002-SC/APC | Connector type: SC/APC   | 8 pcs                           | Mandatory |
|  |                     |                        | Optical splitter type: 2:2 FBT   |                                 |           |
| Panel  | N:2 (N = 1 or 2) SC | N/A                    | 1 pcs  | Mandatory                       |           |

| Type | Configurat<br>ion | Model              | Specificati<br>on                | Quantity<br>for Full<br>Configurat<br>ion | Remarks   |
|------|-------------------|--------------------|----------------------------------|---|-----------|
|      |                   | adapter<br>panel   |                                  |   |           |
|      | Filler panel      | SC filler<br>panel | N/A                              | 0 pcs                                     | -         |
|      | Adapter           | N/A                | Type and<br>precision:<br>SC/APC | 32 pcs                                    | Mandatory |

# 6 Technical Specification

## About This Chapter

- 6.1 Environmental Parameters of the SPL
- 6.2 Performance Indexes of the SPL
- 6.3 Standard Compliance of the SPL

## 6.1 Environmental Parameters of the SPL

Environmental parameters of the SPL include the parameters of the bare/compact optical splitter, SPL1202 series rack-mounted optical splitter, tray-supported optical splitter and bracket-mounted optical splitter.

### Environmental Parameters of the Bare/SPL2605 Series Compact Optical Splitter

Table 6-1 lists the environmental parameters of the bare/SPL2605 Series compact optical splitter.

**Table 6-1** Environmental Parameters of the Bare/SPL2605 Series Compact Optical Splitter

| Environmental Parameter | Value                    |
|-------------------------|--------------------------|
| Operating temperature   | -40°C to +85°C           |
| Storage temperature     | -40°C to +85°C           |
| Operating humidity      | ≤ 95% with no condensate |
| Atmospheric pressure    | 70 kPa to 106 kPa        |

### Environmental Parameters of the SPL1202 Series Rack-mounted Optical Splitter

Table 6-2 lists the environmental parameters of the SPL1202 series rack-mounted optical splitter.



**Table 6-2** Environmental Parameters of the SPL1202 series Rack-mounted Optical Splitter

| Environmental Parameter | Value                    |
|-------------------------|--------------------------|
| Operating temperature   | -40°C to +65°C           |
| Storage temperature     | -40°C to +70°C           |
| Operating humidity      | ≤ 95% with no condensate |
| Atmospheric pressure    | 70 kPa to 106 kPa        |

## Environmental Parameters of the Bracket-mounted Optical Splitter

Table 6-3 lists the environmental parameters of the bracket-mounted optical splitter.

**Table 6-3** Environmental Parameters of the Bracket-mounted Optical Splitter

| Environmental Parameter | Value                    |
|-------------------------|--------------------------|
| Operating temperature   | -40°C to +85°C           |
| Storage temperature     | -40°C to +85°C           |
| Operating humidity      | ≤ 95% with no condensate |
| Atmospheric pressure    | 70kPa~106kPa             |

## 6.2 Performance Indexes of the SPL

Performance indexes of the SPL include performance indexes of the even optical splitter and those of the uneven optical splitter.

Table 6-4 and Table 6-5 list the performance indexes of the even optical splitter.

**Table 6-4** Performance indexes of the even (1:4 - 1:64) optical splitter

| Even Optical Splitter | Working Bandwidth (nm) | Insertion Loss (dB) | Wavelength Dependent Loss (dB) | Temperature Dependent Loss (dB) | Return Loss (dB)     | Stability in Hot Environment (dB/°C) | Uniformity (dB) | Polarization Dependent Loss (dB) | Orientation (dB) | Power (mW) |
|-----------------------|------------------------|---------------------|--------------------------------|---------------------------------|----------------------|--------------------------------------|-----------------|----------------------------------|------------------|------------|
| 1:2 FBT splitt        | 1310 ±40 &149          | ≤3.6                | ≤0.8                           | ≤0.3                            | ≥50(UP C);<br>≥55(AP | ≤0.00<br>15                          | ≤0.6            | ≤0.15                            | ≥55              | ≤500       |

| Even Optical Splitter | Working Bandwidth (nm) | Insertion Loss (dB) | Wavelength Dependent Loss (dB) | Temperature Dependent Loss (dB) | Return Loss (dB) | Stability in Hot Environment (dB/°C) | Uniformity (dB) | Polarization Dependent Loss (dB) | Orientation (dB) | Power (mW) |
|-----------------------|------------------------|---------------------|--------------------------------|---------------------------------|------------------|--------------------------------------|-----------------|----------------------------------|------------------|------------|
| er                    | 0±10 & 1550±40         |                     |                                |                                 | C)               |                                      |                 |                                  |                  |            |
| 1:4 PLC splitter      | 1260 - 1650            | ≤7.2                | ≤0.8                           | ≤0.3                            |                  | ≤0.003                               | ≤0.7            | ≤0.2                             |                  | ≤300       |
| 1:8 PLC splitter      |                        | ≤10.3               | ≤0.8                           | ≤0.3                            |                  |                                      | ≤0.8            | ≤0.2                             |                  |            |
| 1:16 PLC splitter     |                        | ≤13.6               | ≤1.0                           | ≤0.5                            |                  |                                      | ≤1.0            | ≤0.3                             |                  |            |
| 1:32 PLC splitter     |                        | ≤16.8               | ≤1.0                           | ≤0.5                            |                  |                                      | ≤1.3            | ≤0.3                             |                  |            |
| 1:64 PLC splitter     |                        | ≤20.3               | ≤1.0                           | ≤0.5                            |                  |                                      | ≤1.8            | ≤0.3                             |                  |            |

**Table 6-5** Performance indexes of the even (2:4 - 2:64) optical splitter

| Even Optical Splitter | Working Bandwidth (nm) | Insertion Loss (dB) | Wavelength Dependent Loss (dB) | Temperature Dependent Loss (dB) | Return Loss (dB) | Stability in Hot Environment (dB/°C) | Uniformity (dB) | Polarization Dependent Loss (dB) | Orientation (dB) | Power (mW) |
|-----------------------|------------------------|---------------------|--------------------------------|---------------------------------|------------------|--------------------------------------|-----------------|----------------------------------|------------------|------------|
| 2:2                   | 1310                   | ≤3.6                | ≤0.8                           | ≤0.3                            | ≥50(UP)          | ≤0.00                                | ≤0.6            | ≤0.15                            | ≥55              | ≤500       |

| Even Optical Splitter | Working Bandwidth (nm)    | Insertion Loss (dB) | Wavelength Dependent Loss (dB) | Temperature Dependent Loss (dB) | Return Loss (dB) | Stability in Hot Environment (dB/°C) | Uniformity (dB) | Polarization Dependent Loss (dB) | Orientation (dB) | Power (mW) |
|-----------------------|---------------------------|---------------------|--------------------------------|---------------------------------|------------------|--------------------------------------|-----------------|----------------------------------|------------------|------------|
| FBT splitter          | ±40 & 1490 ±10 & 1550 ±40 |                     |                                |                                 | C); ≥55(APC)     | 15                                   |                 |                                  |                  |            |
| 2:4 PLC splitter      | 1260 - 1650               | ≤7.5                | ≤0.8                           | ≤0.5                            |                  | ≤0.003                               | ≤1.2            | ≤0.2                             |                  | ≤300       |
| 2:8 PLC splitter      | 1260 - 1650               | ≤11                 | ≤0.8                           | ≤0.5                            |                  |                                      | ≤1.2            | ≤0.3                             |                  |            |
| 2:16 PLC splitter     |                           | ≤14.3               | ≤1.0                           | ≤0.5                            |                  |                                      | ≤1.8            | ≤0.3                             |                  |            |
| 2:32 PLC splitter     |                           | ≤17.4               | ≤1.0                           | ≤0.5                            |                  |                                      | ≤1.8            | ≤0.3                             |                  |            |
| 2:64 PLC splitter     |                           | ≤21                 | ≤1.0                           | ≤0.5                            |                  |                                      | ≤2.5            | ≤0.4                             |                  |            |

Table 6-6 lists the performance indexes of the even optical splitter.

**Table 6-6** Performance indexes of the uneven optical splitter

| Uneven Optical Splitter      | Uneven Splitting | Insertion Loss (dB) |        | Return Loss (dB) | Stability in Hot Environment (dB/°C) | Polarizing Dependent Loss (PDL) (dB) |        | Power (mW) |
|------------------------------|------------------|---------------------|--------|------------------|--------------------------------------|--------------------------------------|--------|------------|
|                              |                  | Signal              | Tap    |                  |                                      | Signal                               | Tap    |            |
| 1:2 FBT single-mode splitter | 95/5             | ≤ 0.5               | ≤ 14.3 | • ≥50 (UPC)      | ≤ 0.002                              | ≤ 0.10                               | ≤ 0.15 | ≤ 500      |
|                              | 90/10            | ≤ 0.7               | ≤ 11.1 |                  |                                      | ≤ 0.10                               | ≤ 0.15 |            |
|                              | 70/30            | ≤ 2.0               | ≤ 6.0  | • ≥55 (APC)      |                                      | ≤ 0.10                               | ≤ 0.15 |            |



**NOTE**

The insertion loss in Table 6-4, Table 6-5 and Table 6-6 includes the Polarizing Dependent Loss, Wavelength Dependent Loss and Temperature Dependent Loss, and does not include the 0.2 dB loss of connectors and 0.2 dB loss of adapters.

## 6.3 Standard Compliance of the SPL

The standard compliance of the SPL include the national standard compliance and the international standard compliance.

### International Standard Compliance of the SPL

| Standard Name          | Description  |
|------------------------|--|
| IEC-61753-031-6        | Fiber optic interconnecting devices and passive components performance standard - Part 031-6:Non-connectorized single-mode 1×N and 2×N non-wavelength-selective branching devices(NWBD) for Category O —Uncontrolled environment |
| IEC-61753-031-3        | Fiber optic interconnecting devices and passive components performance standard - Part 031-3:Non-connectorized single-mode 1×N and 2×N non-wavelength-selective branching devices(NWBD) for Category O —Uncontrolled environment |
| ITU-TG.657A            | Characteristics of a single-mode optical fiber and cable   |
| Telcordia GR-326-Core  | Single-mode Optical Connectors and Jumper Assemblies   |
| Telcordia GR-1221-Core | Reliability Requirements for Passive Optical Components  |
| Telcordia GR-1209-Core | Generic Requirements for Fiber Optic Branching Components  |