

BFRX-SC-F2 / F3 / F4 Passive Optical Receiver

Verified Technical Datasheet

Date: 30 August 2024

BFRX FTTH PASSIVE OPTICAL RECEIVER



Technical characteristics

SYMBOL	PARAMETER	CONDITIONS			UNIT
λ	Optical Wavelength		1100~1650		nm
Pin	Optical Input Power	continuous	-10~+2		dBm
F	Frequency Range		45~1000		MHz
FL	Frequency Response	45~1000MHz	± 0.75		dB
RF Output level (0dBm Optical Input)			BFRX-SC-F2	>72	dBuV
			BFRX-SC-F3	>70	
			BFRX-SC-F4	>68	
Output Return Loss		45~1000MHz	8		dB
Optical Input Signal Connector Type			SC/APC		
Output Signal Connector Type			F type 3/8inch-32UNEF (IEC60169-24)		
Output Impedance			75 Ω		
Optical Input Return Loss			45		dB
Operating Temperature			-25~65		℃
Dimension			76x54x15.5		mm
Weight	BFRX-SC-F2		48		g
	BFRX-SC-F3		50		
	BFRX-SC-F4		52		

1. Product Overview

The BFRX-SC series (F2, F3, F4) are passive optical receivers designed for FTTH applications. They deliver reliable RF output with excellent frequency response and return loss, and feature SC/APC input and F-type output connectors.

2. Technical Specifications

Parameter	Value
Optical Wavelength	1100–1650 nm
Optical Input Power	-10 to +2 dBm
Frequency Range	45–1000 MHz
Frequency Response	±0.75 dB
Output Return Loss	8 dB
Optical Input Return Loss	45 dB
Optical Input Connector	SC/APC
RF Output Connector	F-type (IEC60169-24)
Output Impedance	75 Ω
Operating Temperature	-25 to +65 °C
Dimensions	76 × 54 × 15.5 mm
Weight	F2: 48g, F3: 50g, F4: 52g

3. RF Output Levels

Model	Minimum Output Level
BFRX-SC-F2	> 72 dBuV
BFRX-SC-F3	> 70 dBuV
BFRX-SC-F4	> 68 dBuV

BFRX-SC-F2 S-Parameter Performance

Insertion Gain (S21):

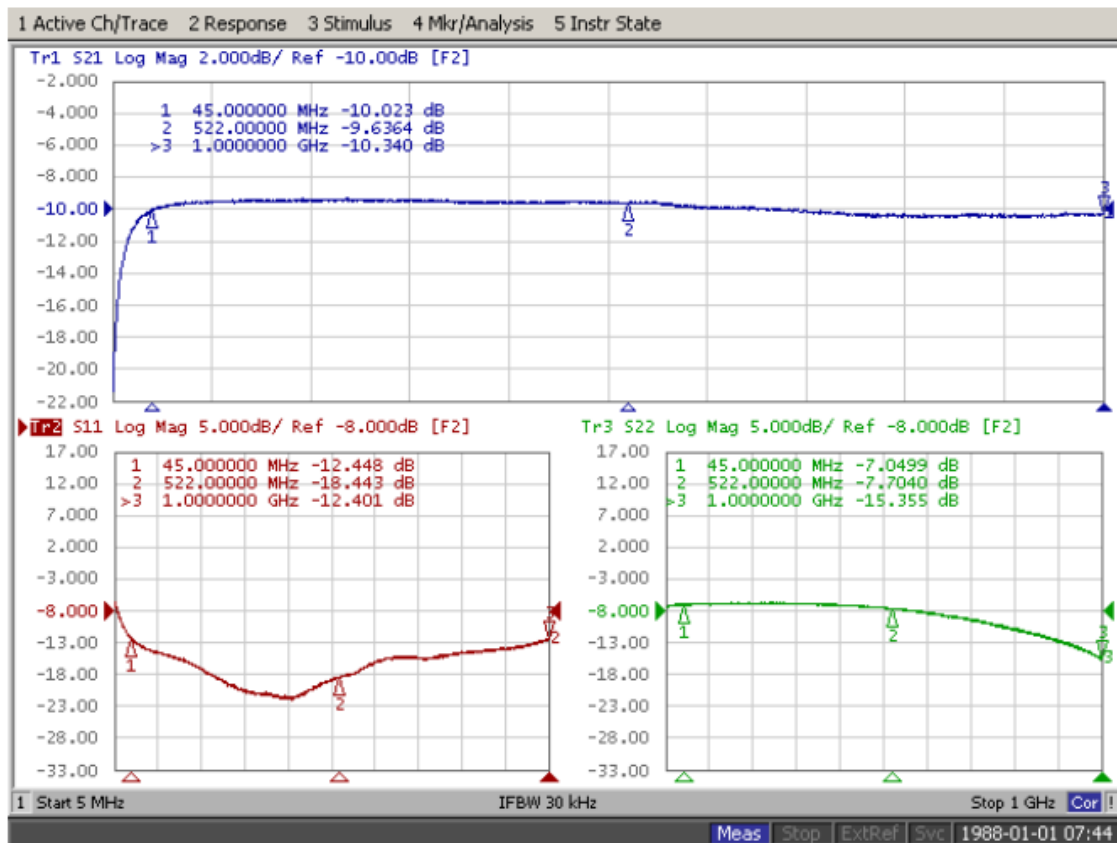
- 45 MHz: -10.023 dB
- 522 MHz: -9.636 dB
- 1000 MHz: -10.340 dB

Input Return Loss (S11):

- 45 MHz: -12.448 dB
- 522 MHz: -18.443 dB
- 1000 MHz: -12.401 dB

Output Return Loss (S22):

- 45 MHz: -7.0499 dB
- 522 MHz: -7.7040 dB
- 1000 MHz: -15.355 dB



BFRX-SC-F2

BFRX-SC-F3 S-Parameter Performance

Insertion Gain (S21):

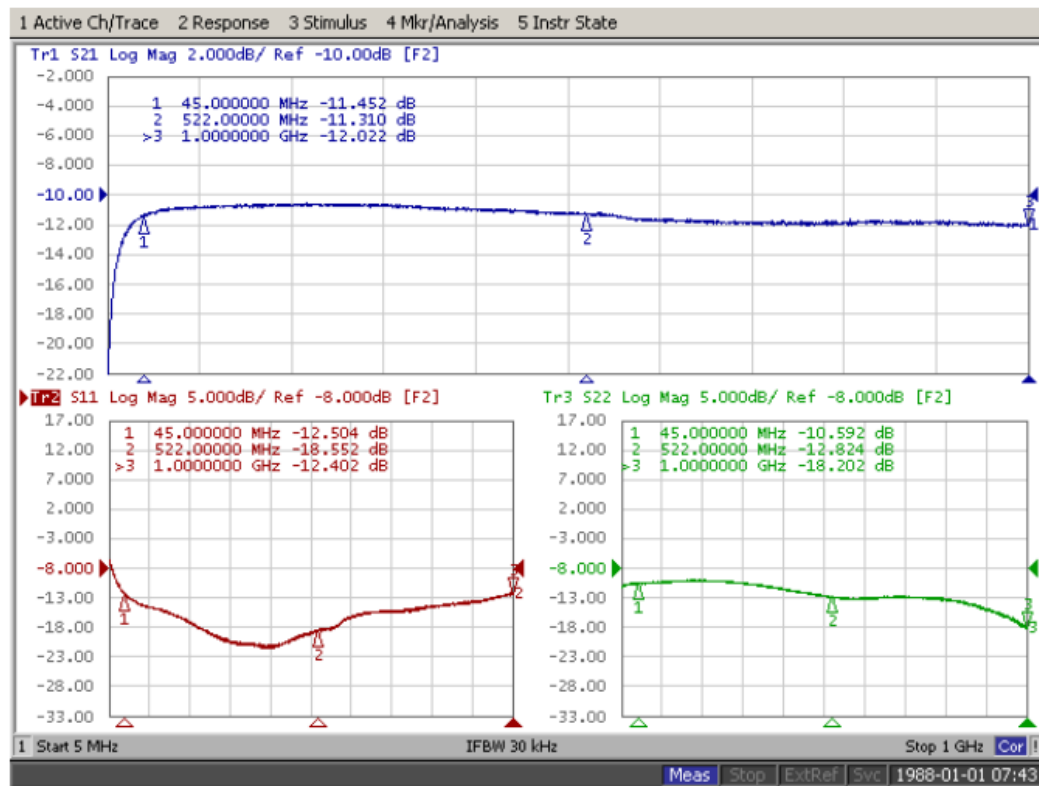
- 45 MHz: -11.452 dB
- 522 MHz: -11.310 dB
- 1000 MHz: -12.022 dB

Input Return Loss (S11):

- 45 MHz: -12.504 dB
- 522 MHz: -18.552 dB
- 1000 MHz: -12.402 dB

Output Return Loss (S22):

- 45 MHz: -10.592 dB
- 522 MHz: -12.824 dB
- 1000 MHz: -18.202 dB



BFRX-SC-F3

BFRX-SC-F4 S-Parameter Performance

Insertion Gain (S21):

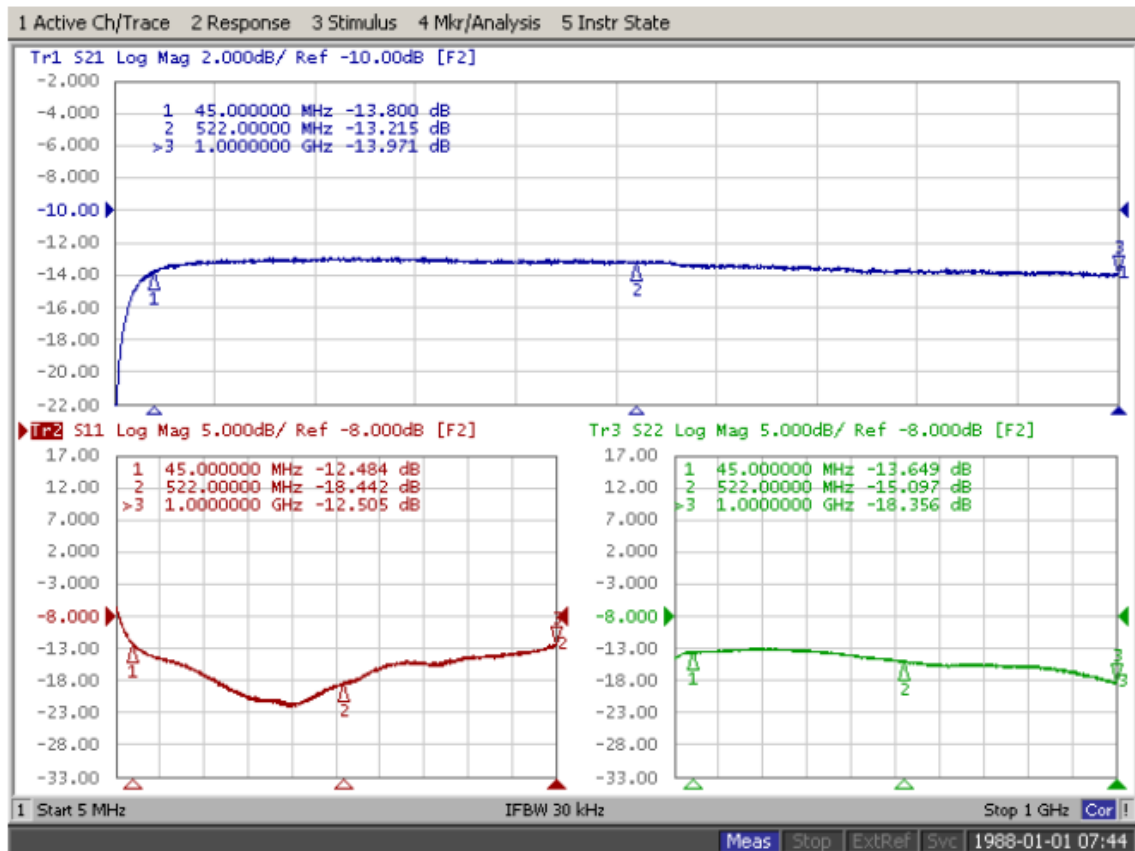
- 45 MHz: -13.800 dB
- 522 MHz: -13.215 dB
- 1000 MHz: -13.971 dB

Input Return Loss (S11):

- 45 MHz: -12.484 dB
- 522 MHz: -18.442 dB
- 1000 MHz: -12.505 dB

Output Return Loss (S22):

- 45 MHz: -13.649 dB
- 522 MHz: -15.097 dB
- 1000 MHz: -18.356 dB



BFRX-SC-F4