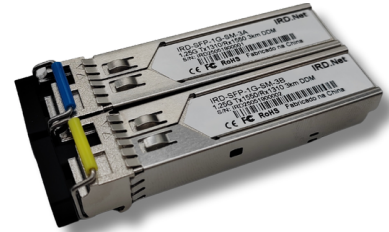


IRD-SFP-1G-SM-3AB

Par de Módulos SFP, 1Gbps, Fibra Monomodo,
Conector LC Simplex, Lado A e B, 3km

CARACTERÍSTICAS

- Alcance de até 3 km em fibra monomodo 9/125µm
- Comunicação bidirecional simplex (WDM)
- Comprimentos de onda:
- Tx: 1310nm / Rx: 1550nm (versão A)
- Tx: 1550nm / Rx: 1310nm (versão B)
- Conector óptico LC simplex
- Compatível com IEEE 802.3ah, SFP MSA e SFF-8472
- Função de diagnóstico digital (DDM)
- Hot-pluggable com carcaça metálica (EMI)
- Temperatura operacional:
- Comercial: -5°C a +70°C
- Estendida: -20°C a +80°C
- Industrial: -40°C a +85°C
- Produto em conformidade com RoHS6 (livre de chumbo)



SFP

1Gbps

LC Simplex

3km



INTRODUÇÃO

O IRD-SFP-1G-SM-3AB é um módulo transceptor óptico SFP de alta performance, projetado para aplicações Gigabit Ethernet e outras redes ópticas que operam com fibra monomodo. Com velocidade de 1.25Gbps e alcance de até 3km, esse módulo opera de forma bidirecional, utilizando conector LC simplex, reduzindo o uso de fibras ao transmitir e receber dados em diferentes comprimentos de onda.

O modelo está disponível em duas versões complementares: uma com Tx 1310nm / Rx 1550nm, e outra com Tx 1550nm / Rx 1310nm, possibilitando comunicação ponto-a-ponto com apenas uma fibra. Totalmente compatível com os padrões IEEE 802.3ah, SFP MSA e SFF-8472, o IRD-SFP-1G-SM-3AB conta ainda com funções de diagnóstico digital (DDM) e excelente imunidade a interferências eletromagnéticas.

ESPECIFICAÇÕES TÉCNICAS

Ópticas

- Potência média de saída: -9 a -3 dBm
- Sensibilidade do receptor: até -23 dBm
- Comprimento de onda:
 - Transmissão: 1310nm ou 1550nm
 - Recepção: 1550nm ou 1310nm
- Relação de Extinção: ≥ 9 dB
- Tempo de subida/queda óptico: ≤ 260 ps
- Potência de sobrecarga: até -3 dBm
- Reflexão óptica máxima: ≤ -12 dB
- Potência de dano no receptor: até 0 dBm
- Alcance: até 3 km em fibra monomodo 9/125 µm

Elétricas

- Alimentação: 3,13 a 3,46 V
- Corrente máxima: 300 mA
- Impedância diferencial de entrada: 90–110 Ω
- Amplitude de entrada: 250 a 1000 mVpp
- Amplitude de saída: 300 a 600 mVpp
- TX Disable: VCC – 1.3 V a VCC
- LOS: Nível lógico alto em perda de sinal

Temporização

- Inicialização: ≤ 300 ms
- TX Disable: ≤ 10 µs / Enable: ≤ 1 ms
- LOS Assert / Deassert: 100 µs

Diagnóstico Digital (DDM)

- Monitoramento de temperatura: $\pm 3^\circ\text{C}$
- Potência óptica TX/RX: ± 3 dB
- Tensão de alimentação: $\pm 3\%$
- Corrente de bias: $\pm 10\%$
- Interface I²C conforme SFF-8472 Rev.10.2

Conectividade e Pinagem

- Interface óptica: LC simplex
- Compatível com host via 2 fios (SCL, SDA)
- Plug-and-play (hot-swappable)

Aplicações

- Redes Gigabit Ethernet
- Interconexão de switches, roteadores e servidores
- Aplicações em Fibre Channel
- Comunicação ponto-a-ponto em redes de acesso (WDM)
- Transmissão óptica de curta distância em ambientes corporativos e industriais

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SDoC's Compliance Information Statement

No: JAT25040302947FC-1

Applicant : IRD Produtos de Informática Ltda
Address : RUA MARIA LOPES BORBA, 474, NAVEGANTES-SC, 88370340, BRAZIL
Manufacturer : IRD Produtos de Informática Ltda
Address : RUA MARIA LOPES BORBA, 474, NAVEGANTES-SC, 88370340, BRAZIL
EUT : Commercial and Industrial Grade SFP Modules (Optical Modules)
Trade Mark : IRD.Net
M/N : See model list

The submitted sample of the above equipment has been tested and found to comply with the following requirement of 47 CFR of PART 15.

The assessment of compliance of the product with the requirements relating to FCC rules was based on the following standards and procedure:

Applicable Standard(s)	Test Report(s) Number
FCC Part 15, Subpart B:2017 ANSI C63.4:2014	JAT25040302947FR-1

This verification is part of the full test report(s) and should be read in conjunction with it. This verification is based on an evaluation of one sample of above mentioned product. It does not imply assessment of the production of the product. Without the written approval of Dongguan Jun'an Testing & Certification Co., Ltd., this verification is not permitted to be reproduced, except in full. It is not permitted to use the test lab's logo.



March 31, 2025



Model list:

The IRD-SFP-T2.5G, IRD-SFP-T1G, IRD-SFP-T10G, IRD-SFP-X-Y-ZW and IRD-SFP-X-Y-Z-IW model families follow a naming convention where each part of the code corresponds to a specific characteristic of the module. Below is a detailed explanation of each field:

1. X (Speed)

- Possible values: *100M*, *622M*, *1G*, *2.5G*, *10G*, *16G*, *25G*, *40G*, *50G*, or *100G*.
- Indicates the supported data rate, covering anything from Fast Ethernet (100 Mbps) up to 100 Gbps.

2. Y (Fiber Type)

- Possible values: *SM* (singlemode) or *MUM* (multimode).
- Specifies the type of fiber optic cable for which the transceiver is designed.

3. Z (Maximum Distance)

- Possible values: *0.1*, *0.3*, *0.5*, *2*, *10*, *20*, *40*, *60*, *80*, *100*, *120*, and *160*.
- Typically expressed in kilometers (km), it refers to the approximate reach of the module according to its optical specification.

4. Temperature/Operating Grade

- After the value **Z**, the presence of **I** indicates an *industrial-grade* product (extended operating temperature range), whereas the absence of **I** (NULL) means it is *commercial-grade*.
- Examples:
 - **IRD-SFP-X-Y-ZW** → “Commercial-grade” version
 - **IRD-SFP-X-Y-Z-IW** → “Industrial-grade” version

5. W (Additional Type)

- Possible values: *NULL*, *A*, *B*, *C*, *D*, *E*, *F*, *G*, or *H*.
- This suffix provides additional information about the product variant. It may indicate extra features, extended compatibility, special applications, and so on.

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CERTIFICATE OF CONFORMITY

No: JAT25040302947RC-1

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Address : RUA MARIA LOPES BORBA, 474, NAVEGANTES-SC, 88370340, BRAZIL
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EUT : Commercial and Industrial Grade SFP Modules (Optical Modules)
Trade Mark : IRD.Net
M/N : See model list

The submitted sample of the above equipment has been tested and found to comply with the following European Directive:

RoHS Directive 2011/65/EU & (EU) 2015/863 & (EU) 2017/2102

The standard(s) used for showing compliance with the essential requirements:

Applicable Standard(s)	Test Report(s) Number
IEC 62321-1:2013, IEC 62321-2:2013 IEC 62321-3-1:2013, IEC 62321-3-2:2020 IEC 62321-4:2013, IEC 62321-5:2013 IEC 62321-6:2015, IEC 62321-7-1: 2015 IEC 62321-7-2:2017, IEC 62321-8:2017	JAT25040302947RR-1

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RoHS



(Manager)
March 31, 2025



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CERTIFICATE OF CONFORMITY

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Trade Mark : IRD.Net
M/N : See model list

The submitted sample of the above equipment has been tested and found to comply with the following European Directive:

Electromagnetic Compatibility Directive 2014/30/EU

The standard(s) used for showing compliance with the essential requirements:

Applicable Standard(s)	Test Report(s) Number
EN 55032:2015+A11:2020 EN 55035:2017+A11:2020 EN IEC 61000-3-2:2019+A2:2024 EN 61000-3-3:2013+A2:2021+AC:2022-01	JAT25040302947ER-1

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