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EB22LC2B-SN

10GBase-SR - Software Defined 3G-SDI IP-Gateway for ST2110 or ST2022

Data Sheet

Description

The EB22LC2B-SN gateway enables seamless conversion between dual SMPTE data streams and two SDI signals at the equipment host interface. The module is 10GBASE-SR compliant with a high power laser transmitter and a high sensitivity PIN photodiode receiver, supporting multimode fiber with LC connectors.

Software defined functionality provides:

- Encapsulation or De-encapsulation of either ST2110 or ST2022-6(-7)
- Dual Channel
- NMOS, EMBER+, or Restful API protocols
- Optional Encapsulation Frame Synchronizer (ST2110 only)
- Optional De-Encapsulation Clean Switch (ST2110 only)

This Software Defined SFP can store up to 4 configurations that can be loaded at any time (for example, ST2110 Encapsulation with NMOS as one configuration and ST2110 De-Encapsulation with EMBER+ as another). Each EB22LC2B-SN must be ordered with at least one configuration, additional configurations can be added at any time.

The available software options are:

- EMOPT-2E-2110-EN - Dual 3G-SDI to ST2110
- EMOPT-2D-2110-EN - ST2110 to dual 3G-SDI
- EMOPT-2E-2022-6 - Dual 3G-SDI to ST2022-6(-7)
- EMOPT-2D-2022-6 – ST2022-6(-7) to dual 3G-SDI

Software add-on options (ST2110 only):

- EMOPT-ADD-2E-2110-FS - Frame Sync, Encap.
- EMOPT-ADD-2D-2110-CS - Clean Switch, De-Encap.

Configuration and IP flow routing can be achieved via the miniHUB WEB page, or the module can be controlled in-band through the network. This SFP module offers a powerful migration path from SDI to IP for both existing and new miniHUB installations.

The EB22LC2B-SN IP-Gateway technology is delivered by Embrionix and is compatible with the miniHUB AutoSFP® functionality.

Part Number Options

Part Number	Transmitter wavelength	Temperature *)
EB22LC2B-SN	850nm	-0°C to +35°C

*) Rated temperature for the complete miniHUB.

Features

- AutoSFP® enabled functionality
- Compliant to SFF-8431 and IEEE 802.3ae 10Gigabit Ethernet, 10GBASE-SR
- Compliant to SMPTE ST292 and ST424
- Supports Dual RX and Dual TX on host interface
- 850nm transmitter
- Hot-pluggable and SFP+ compliant
- SFF-8472 diagnostic features
- Class 1 21CFR and IEC60825-1 laser safety compliant

Absolute Maximum Ratings

Absolute maximum ratings are those values beyond which functional performance is not intended, device reliability is not implied, and damage to the device may occur.

Parameter	Minimum	Maximum	Unit
Storage temperature (non-operating)	-40	+85	°C
Relative Humidity (non-condensing)	5	95	%
Supply voltage (Vcc)	0	3.6	V

Recommended Operating Conditions

Parameter	Minimum	Typical	Maximum	Unit
Case operating temperature:	0		+70	°C
Relative Humidity (non-condensing)	5		90	%
Supply voltage (Vcc)	3.15	3.3	3.45	V

Electrical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Supply current		606		mA
Power dissipation		2		W
Data rate, 10GBASE-SR		10.3125		Gbps

Transmitter Optical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Transmitting circuit fiber	Multi Mode			
Optical output power	-5		0	dBm
Optical Modulation Amplitude (OMA)		-2,5		dBm
Optical extinction ratio (filtered)	3.0	3.5		dB
Optical center wavelength	840	850	860	nm
Spectral width (RMS)			0.45	nm
Transmitter Dispersion Penalty			3.9	dB
Distance OM1 (IEEE 802.3ae)			33	m
Distance OM2 (IEEE 802.3ae)			82	m
Distance OM3 (IEEE 802.3ae)			300	m
Distance OM4 (IEEE 802.3ae)			400	m

Receiver Optical Characteristics

Parameter	Minimum	Typical	Maximum	Unit
Transmitting circuit fiber	Multi Mode			
Optical receiving window	840	850	860	nm
Optical input overload power	0			dBm
Optical receiver sensitivity (OMA) (BER=10^{-12}, PRBS 2^{-31}-1)			-11	dBm
Stressed sensitivity per IEEE 802.3ae (OMA)			-7.5	dBm

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