

# SBL-4000 FIBER OPTIC LINK

## SPECIFICATION

### Electrical Specifications at 23°C

PARAMETER	CONDITION	UNITS	MIN	TYP.	MAX.
Operating frequency			10 MHz to 4 GHz		
Gain dB		dB	10	13	18
Gain flatness		dB			±2
Noise figure		dB		10	18
Group delay	Peak to peak	ns		0.1	0.2
Return loss	Tx input/Rx output	dB			-9.54
Phase noise	100 Hz offset	dBc	100		
Input power at 1 dB compression		dBm	-14	-11	
Spurious free dynamic range		dB/Hz <sup>1/2</sup>		111	
Maximum input power	No damage	dBm	+10		
RF connectors	Input/output		SMA/F		
DC and monitor connector	PHR-7, manufactured by J.S.T. Mfg. Co. Ltd.				
Impedance	Input/output	Ohms		50	
DC voltage		Vdc		+12	
DC current (Transmitter / Receiver)		mA		250 / 150	
Operating temperature		°C		-20 to +50	

#### NOTES:

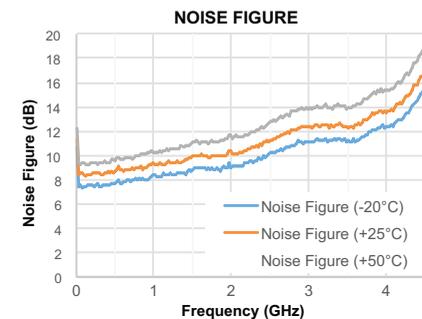
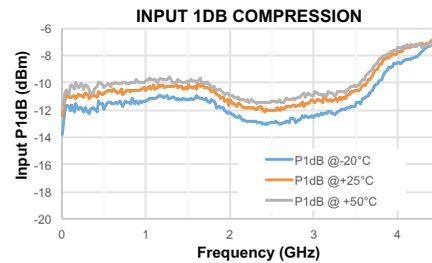
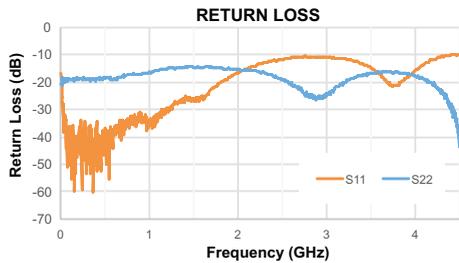
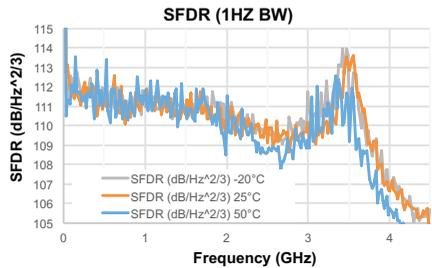
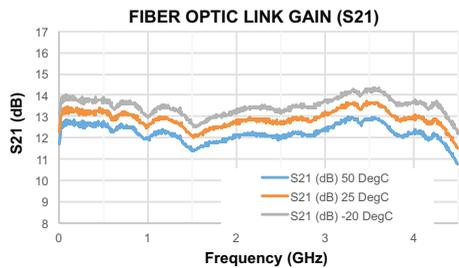
1. Specifications are stated with no additional optical fiber between transmitter and receiver
2. Test condition at -30 dBm input power, 1 meter of fiber.
3. Noise figure and other specifications may be degraded at frequencies below 50 MHz

### OPTICAL SPECIFICATIONS (AT 23 °C)

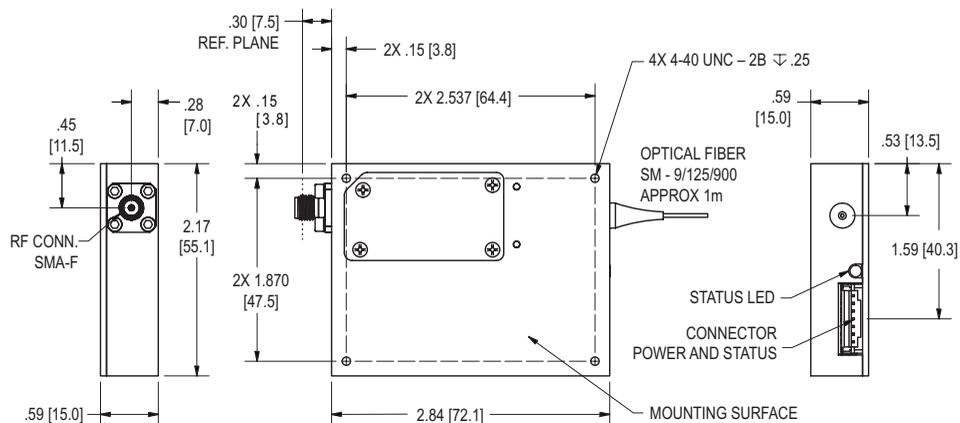
PARAMETER	CONDITION	UNITS	MIN	TYP	MAX
Optical fiber			Single mode, tight buffer (9/125/900)		
Fiber optic connectors			SC/APC		
Fiber pigtail length	For reference	m	1		
Center wavelength		nm	1540	1550	1560
Spectral width	at -20 db	nm		0.01	0.1
Optical power in fiber		mW		4	
Side mode suppression ratio		dB	30	40	
Wavelength temperature coefficient		nm/ °C		0.1	0.12



Narda-MITEQ's new SBL series of fiber optic link components continue the company's tradition of supplying high performance, "plug & play" fiber optic link components for linear and some digital applications. The SBT-4000 fiber optic transmitter and the SBR-4000 fiber optic receiver can transport RF signals within the frequency range of 10 MHz to 4 GHz, over tens of kilometers of standard single mode optical fiber. The SBL fiber optic link components are fully self-contained, requiring no external circuits to operate. Both the transmitter and receiver components have status reporting connections, making them ideal for integration into higher-level assemblies and SATCOM systems. Some common applications are: Satcom and RF antenna remoting, optical delay lines, inter-facility RF links and electrically isolated RF links.



**OUTLINE DRAWING 218063**



Note: Dimensions shown are in inches and those shown in brackets [ ] are in millimeters.

**KEY FEATURES**

- > High spur free dynamic range of 110 dB/Hz<sup>2/3</sup> typical
- > Operates with tens of kilometers of single mode fiber
- > Small size, self contained, plug and play
- > LED status light
- > Industry standard connector for DC power and remote status reporting

ORDERING INFORMATION	
SBT-4000	Transmitter
SBR-4000	Receiver

ENVIRONMENTAL SPECIFICATIONS	
<b>TEMPERATURE</b>	
Operating	-20 °C to +50 °C
Storage	-40 °C to +85 °C
Humidity	95% relative humidity, noncondensing 7.3 g's rms, 20-20000 CPS
Vibration	Per MIL-STD-8108B, Method 514, Procedure 5



SBL-4000 Fiber Optic Link  
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Narda-MITEQ is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

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