

## Small Integrated Transmitter Unit

### SITU2011

*0.05 – 3 GHz, 1310 nm Directly Modulated Self-Contained Transmitter*



#### Applications

- Cellular and PCS Antenna-Remoting
- Microwave Delay-Lines
- Frequency distribution system
- Radar System Calibration
- Phased Array Antenna Systems

#### Features

- High-power 1310 nm DFB laser and bias-control circuitry
- 8 dBm Optical Output Power

The Emcore Small Integrated Transmitter Unit (SITU2011) is a high-performance, directly modulated transmitter for applications with guaranteed performance over the 50 MHz to 3 GHz frequency band. The SITU2011 is a fully integrated unit that contains both the optics and the control electronics. Only DC input voltages and the RF input signal are required for operation.

The unit can be used to construct transparent optical links for antenna remoting, microwave delay lines and other applications where it is necessary to transport RF over long distances without signal degradation.

The unit operates at a nominal optical wavelength of 1310 nm.

#### Specifications

##### Electrical

Frequency Range	0.05 to 3.0 GHz
RF Input Level	0 to +20 dBm
Power Requirements	+15 V @ 1.0 A max
RF Connector	SMA (female)
Input 1dB Compression	+20 dBm typical
Input Third-Order Intercept	+26 dBm typical
RF Input Impedance	50 $\Omega$ nominal
RF return loss	9 dB

##### Optical

Wavelength	1310 $\pm$ 4 nm
Standard Optical Connector	FC/APC
Optical Output Power	+ 8 dBm minimum

##### Physical

Dimensions	1.0" H x 5.0" W x 4.0" D
Operating/ Storage Temperature	-10 $^{\circ}$ C to +65 $^{\circ}$ C

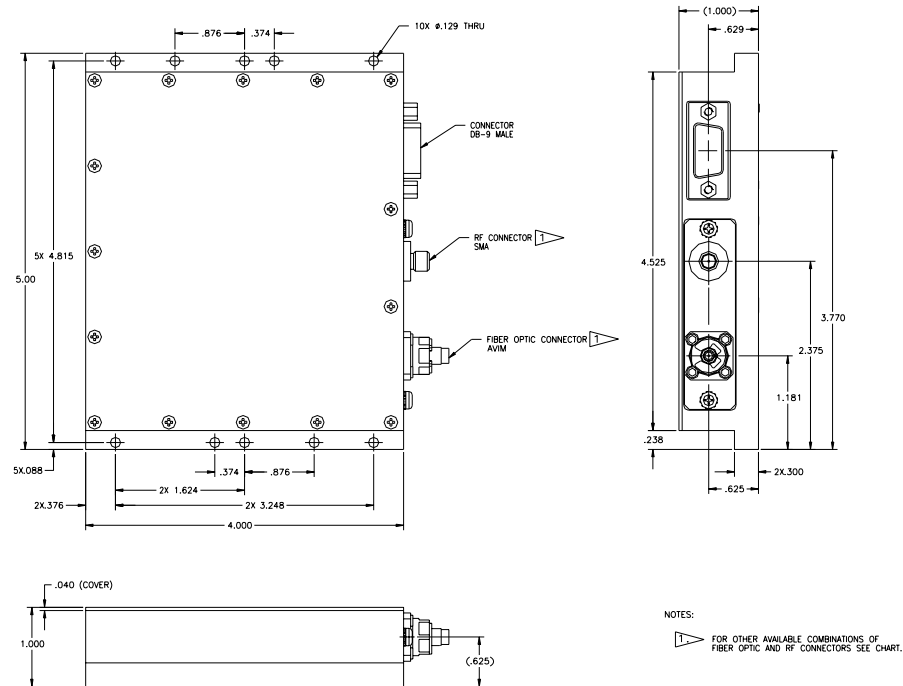
***For more information on this and other products:***

Contact Sales at Ortel 626-293-3400, or visit [www.emcore.com](http://www.emcore.com).

## Ordering Information

SITU-2011

## Package Outline Drawing



## Typical Link Characteristics (SITU2011 and SIRU2300)

### Reference Link Characteristics:

SITU2011 Transmitter with 8 dBm output power  
 SIRU2300 Receiver  
 8 dB Optical Loss (0 dBm optical at the Receiver)

### Typical RF Characteristics:

- Link Gain -35 dB typical
- Gain Ripple +/- 1.5 dB 50 MHz to 3 GHz
- Link Noise Figure 35 dB typical

**For more information on this and other products:**

Contact Sales at Ortel 626-293-3400, or visit [www.emcore.com](http://www.emcore.com).

## D-Connector Pin Out

1	+15 V
2	n/c
3	n/c
4	GND
5	n/c
6	Optical Power Monitor
7	Low Power Alarm
8	n/c
9	n/c

## Laser Safety

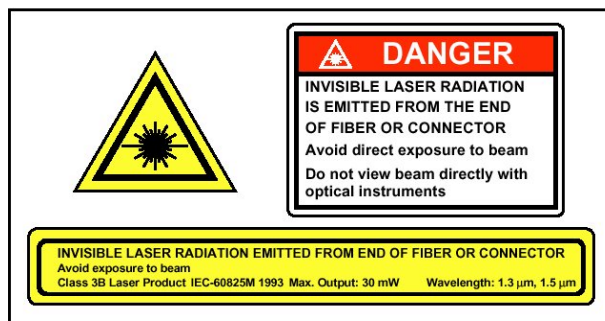
### Class IIIb Laser Product

FDA/CDRH Class IIIb laser product. All transmitters are Class IIIB laser products per CDRH, 21 CFR 2040 Laser Safety requirements. All versions are Class 3B laser products per IEC\*60825-1:1993.

Maximum Power = 10 dBm

**Caution: Use of controls, adjustments and procedures other than those specified herein may result in hazardous laser radiation exposure.**

\*IEC is a registered trademark of the International Electrotechnical Commission.



Information contained herein is deemed to be reliable and accurate as of issue date. EMCORE reserves the right to change the design or specifications of the product at any time without notice. Ortel, the Ortel logo, EMCORE, and the EMCORE logo are trademarks of EMCORE Corporation.

## EMCORE

2015 West Chestnut Street  
Alhambra, California 91803-1542  
Tel: 626-293-3400  
Fax: 626-293-3428  
[www.emcore.com](http://www.emcore.com)

*For more information on this and other products:*

Contact Sales at Emcore 626-293-3400 or visit [www.emcore.com](http://www.emcore.com)



© Copyright 2007, Emcore Corporation