

**LaserLite Model OTOT-1000C-FQ 1GHz QAM DM Optical Transmitter,  
1550nm, Standalone or 1RU 19" EIA Rackmount**

**Features / Benefits**

**Low-cost Direct Modulated (DM) 1550nm QAM fiber optic transmitter.**

Available RF bandwidth of 550-1,000MHz for CATV digital multi-channel transport.

Electronic SBS dispersion compensation and advanced pre-distortion circuitry enables full digital QAM loading while minimizing second-order and third-order distortions.

Optical output of +9dBm drives multiple EDFA's.

Accommodates optical loss budgets up to 14dB or up to 20+km without an EDFA.

Best for fiber distances of 0-20km.

Twenty-five (25) ITU grid wavelengths @ 100GHz spacing available; standard 1550nm  $\pm$  10nm wavelength option available for non-DWDM, CATV HFC and FTTX AON/PON deployments.

Self-contained, low profile, rugged, cast Aluminum flange mount package.

Optional 19" EIA rackmount kit for up to three (3) transmitters on a 1RU chassis panel.

Low power consumption, runs cool, integrated 90-240V<sub>AC</sub> power supply.



The Olson Technology, Inc. *LaserLite* Model OTOT-1000C-FQ 1GHz, 1550nm QAM Broadcast Transmitter is a cost-effective, high quality, full-featured standalone or 1RU 19" EIA optical transmitter. Designed for optical transport of digital QAM broadcast signals, the transmitter is ideal for CATV Hybrid Fiber Coax (HFC) applications, as well as in newer Fiber-to-the-Premise (FTTP) deployments using Active/Passive Optical Network (AON/PON) architectures. Each transmitter's +9dBm optical output can directly feed up to 12 remote HFC nodes or receivers (via Model OTCP 1x12 splitter) or can be split externally (Models OTCP 1x2, 1x3, etc.) to drive up to four 16-port EDFA's to deliver multichannel CATV-style video/data to up to 2048 homes. The transmitter handles maximum runs of up to 20km of standard SMF-28 singlemode fiber. (NOTE: *This unit is NOT suitable for long-haul CATV trunking applications*).

The Model OTOT-1000C-FQ transmitter utilizes a next-generation directly modulated, high-quality, low-chirp DWDM laser with a single +9dBm optical output. The Model OTOT-1000C-FQ DM QAM transmitter can also achieve a high level of spectral purity, comparable to that of EM sources (but at <30% less than comparable EM transmitters), making it the ideal choice for today's FTTH and CATV deployments.

The rugged, self-contained OTOTC-1000 provides exterior RF and optical connections and test points. The field-configurable SC/APC (or optional FC/APC) optical output connector can be mounted on the front or rear panel of the unit. The *LaserLite* Model OTOT-1000C-FQ is the perfect companion to Olson Technology's *LaserLite* OTEB-CO and OTEA-CM series EDFA's and the *MetroNode* Model OTMN-x and *PremiseNode* Model OTPN-x product families, but is also designed to operate seamlessly with EDFA's and optical receivers and/or nodes from most leading manufacturers.

## System Specifications

### Optical Characteristics (with SM 9/125µm Fiber)

	Min	Typ	Max	Units
Optical Output Power	+8	+9	+10	dBm
	6	8	10	mW
SBS Threshold	+16			dBm
Optical Connector (Standard)		SC/APC		
Optical Connector (Optional)		FC/APC		
Wavelength Accuracy		±0.1		nm
Central Wavelength	ITU Channels 22-46 @100 GHz (0.8nm) optical spacing			

### RF and System Characteristics

	Min	Typ	Max	Units
Frequency Range	550		1,000	MHz
Frequency Response	-1.0		+1.0	dB
Input Impedance		75		Ohms
Input Return Loss	15			dB
Input Level (320MHz Digital)		+10		dBmV/Ch
CNR (1)	48			dB
CSO @ 0-20km (1)	50			dBc
CTB @ 0-20km (1)	53			dBc

(1) Measured with -2dBm input to Olson Model OTPN-400 reference receiver.

### Electrical and Environmental Characteristics

	Min	Typ	Max	Units
Power Supply Voltage	+90		+240	V <sub>AC</sub>
Power Supply Frequency	50		60	Hz
Power Consumption			11.5	W
Operating Temp. Range	-10		+55	°C
Humidity (RH Non Con.)	5		95	%
Cooling	Forced Air Fan Field-replaceable			
Power Connector	IEC 320 w/ 5x2.0, 0.5A Slo-Blo Fuse			

### Physical Characteristics

	Min	Typ	Max	Units
Weight		1.5		lbs.
		0.68		kg
Dimensions (W x H x D)	5.5 x 1.6 x 7.5 140 x 41 x 191			in. mm

### Transmitter Interfaces

RF Input Connector	F-type, rear of module.
RF Input Test Point (F-type)	+10dBmV/carrier @ 550MHz for optimal OMI and performance.
Input Level Adjust	+4dBmV to +14dBmV/carrier via variable attenuator on the front panel.
Optical Output Connector	SC/APC standard, FC/APC optional, front or rear panel.
Optical Power Test Jack	0.1V/mW
Laser Current Test Jack	1V/50mA

### Part Numbers

Model OTOT-1000C-9-FQzz	LaserLite Tx, 550-1,000MHz, +9dBm Optical Output, 75Ω, DWDM, SC/APC
Model OTLL-SCFCKIT	LaserLite Optical Connector Adapter Kit, SC/APC to FC/APC
Model OTLL-RMKIT-1	LaserLite 1RU 19-inch Rackmount Adapter Kit; Up to 3 Modules

### Ordering Information

#### NOTES:

- 1) The lowercase "zz" in the part numbers specifies the ITU grid channel. Channels 22 to 46 are available. See Olson's System Solution, "DWDM ITU Wavelengths" for details.
- 2) For standard 1550nm ± 10nm (non DWDM) operation, use "00" in place of the "zz."

