

QUOTATION

No. 55057A

HI-Q® X-BAND OPTO-ELECTRONIC OSCILLATOR**Prepared for:**

Yiming Zhang

MIT

Email: yzhang97@mit.edu

Date:

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Prepared By:

Orri Jonsson

OEwaves, Inc.

465 North Halstead Street, Suite 140

Pasadena, California 91107, USA

MOBILE: +1-970-232-6864

FAX: +1-626-351-4230

sales@oewaves.com

www.oewaves.com

Reference Documents

- OE3700 Data Sheet (rev. PDS-0008_B, attached)

Deliverables (OE4000 HI-Q® Analyzer System)

- Specified Opto-electronic Oscillator
- USB Cables
- Power Cables
- Operating Manual

Prices (US\$)

All quotes are in US Dollars. Exclude applicable custom duties or VAT, if any.

Item	Part No.	Qty	Description	Unit Price (USD)	Amount (USD)
1	OE3700-5.6G	1	Compact X-band Opto-electronic Oscillator, free-running, 5.6 GHz	84,775.00	\$84,775.00
1	PLL	1	Built-in PLL/External Phase Locking: 10 MHz (External reference not included)	3,950.00	\$3,950.00
				Total Price	\$88,725.00

Delivery Time

16 – 20 weeks after initial payment

Terms

All products and services provided are in accordance with OEwaves General Terms and Conditions and EULA as applicable. Terms and conditions can be viewed at <https://www.oewaves.com/terms-and-conditions>.

ECCN: TBD

Payment: 40% Due upon order acceptance, Balance NET30.

Delivery: FCA Origin, Pasadena, California, USA (INCOTERMS 2010).

Orders cancelled after issuance of Sales Order Acknowledgement will be subject to a restocking charge.

Shipping

Bank details and information required for shipment of an order are provided on the attached *Shipping and Accounting Information* document. Please complete the form and submit it with Purchase Order.

Alternatively, please specify shipping method/freight carrier and its associated account number as applicable on the purchase order along with preference in insurance.

Warranty

OEwaves Systems are guaranteed against any manufacturing defects in material and workmanship for a period of one (1) year from the date of delivery.

Time of Validity of Quote

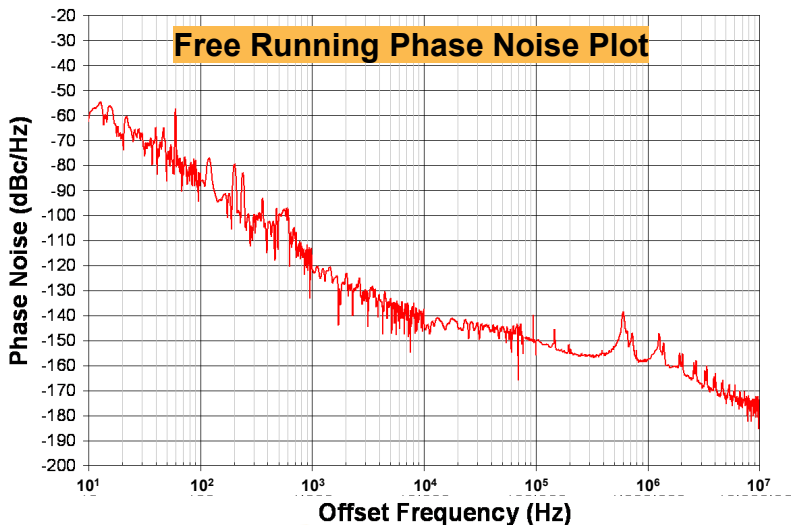
Thirty (30) days, unless otherwise stated herein.

HI-Q® Compact Opto-Electronic Oscillator (Compact OEO) offers extremely low phase noise, low vibration and acceleration sensitivity.



The unique design of the HI-Q® Compact OEO is based on the photonic generation of spectrally pure signals at RF and millimeter wave frequencies that enable OEwaves' signal sources to scale to higher frequencies with little to no penalty in phase noise performance.

The high performance of the COEO allows for clean and precise phase noise measurement, manifold enhancement of military radar system visibility, stable clocking and increased channel capacity of communications systems by an order of magnitude. Compact OEO facilitates high capacity and high frequency future wireless communication systems. This level of performance enables manufacturers to retrofit current systems as well as architect capabilities to address new markets.



FEATURES

- Low Phase Noise/Jitter
- Low Spurious Content
- Frequency Scalability
- EMI Tolerant
- High Stability
- Low Vibration / Acceleration Sensitivity

APPLICATIONS

- Radar Systems
- Stable Clocking
- Communication
- Tele/Satellite Communication
- Wireless Networks
- Analog to Digital Conversion

HI-Q® Compact OEO offers phase noise performance better than -138 dBc/Hz at 10 kHz offset from the carrier

HI-Q® COMPACT OPTO-ELECTRONIC OSCILLATOR (COMPACT OEO)

OE3700

SPECIFICATIONS

Fixed Output Frequency	8 – 12 GHz	Consult factory for frequencies > 12 GHz
Accuracy	50 kHz	Free running
Repeatability	2 kHz	Free running
RF Output Power	+10 dBm	Consult factory for other levels
SSB Phase Noise	-45 dBc/Hz @ 10 Hz -83 dBc/Hz @ 100 Hz -115 dBc/Hz @ 1 kHz -138 dBc/Hz @ 10 kHz -140 dBc/Hz @ 100 kHz -153 dBc/Hz @ 1 MHz -168 dBc/Hz @ 10 MHz	Consult factory for higher performance
Timing Jitter – RMS	8 fs (100 Hz to 100 MHz)	Consult factory for jitter < 8 fs
Harmonics	-40 dBc	
Spurious ($f_{\text{offset}} < 100$ Hz)	-60 dBc	
Spurious (100 Hz < $f_{\text{offset}} < 1$ kHz)	-80 dBc	
Spurious ($f_{\text{offset}} > 1$ kHz)	-85 dBc	
Short Term Stability	2×10^{-10} @ 1 s	Constant case temperature
Thermal Stability	< 1 ppm/°C	
Vibration / Acceleration Sensitivity	5×10^{-11} /g	
Operating Temperature Range	15°C to 50°C	
Power Consumption	28 W	@ 25°C
Package Size	110 in ³	Consult factory for other options
Package Weight	5.5 lb	
Input / Output Connector	DC/Control: 26-Pin DB RF In (Ref): SMA (F) RF Out: SMA (F)	Consult factory for other options

OPTIONS

Optical Output - Power	-3 dBm	
PLL – Loop Bandwidth	10 – 200 Hz	
Reference Input Frequency	10 MHz or 100 MHz	Consult factory for other options

Note: These specifications are subject to change without notice due to OEwaves ongoing development cycles. This product line is covered by one or more of the following U.S. patents: 5,204,640; 5,723,856; 5,777,778; 5,929,430; 6,594,061; 6,762,869; 7,173,749. Other patents pending.

ITAR Restricted: This product is designated as a defense article under Category XI(c) of the USML and is subject to ITAR licensing requirements.



RIDE THE WAVE OF INNOVATION

+1.626.351.4200
sales@oewaves.com
www.oewaves.com

465 N. Halstead Street, Suite 140 Pasadena, CA 91107

PDS-0008_B



DOMESTIC SHIPPING & ACCOUNTING INFORMATION

Shipping Information:

Customer Name: _____

Purchase Order Number: _____

Please select your carrier of choice and supply your shipping account number:

☐ FedEx ☐ UPS

Account Number: _____

Please select preferred shipping speed:

☐ Next Day ☐ 2-Day ☐ Ground

For any questions regarding shipping information or shipping options, please contact donna.perez@oewaves.com or procurement@oewaves.com

Accounting Information:

****Deposit of 40% required on purchase greater than \$15,000.**

ACH/Bank information:

Banc of California
3 MacArthur Place
Santa Ana, CA 92707
Phone No. (949) 265-6552

Domestic Wires: 322274527
International Wires: BCLFUS66XXX
Incoming ACH Wires: 122243774
Account No.: 3027279

For any questions regarding accounting information or payment options, please contact accounting@oewaves.com

Signature: _____

Printed Name: _____

Title: _____

Date: _____