

# PATENT ASSIGNMENT

Electronic Version v1.1  
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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
Name	Execution Date
Cielo Communications, Inc., a Delaware Corporation	10/25/2002
<b>RECEIVING PARTY DATA</b>	
Name:	Optical Communication Products, Inc., a Delaware Corporation
Street Address:	6101 Variel Avenue
City:	Woodland Hills
State/Country:	CALIFORNIA
Postal Code:	91367
<b>PROPERTY NUMBERS Total: 1</b>	
Property Type	Number
Patent Number:	5245622
<b>CORRESPONDENCE DATA</b>	
Fax Number:	(401)273-4447
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>	
Phone:	401-273-4446
Email:	clc@barjos.com
Correspondent Name:	Carrie Coyne - Barlow, Josephs & Holmes
Address Line 1:	101 Dyer Street, 5th Floor
Address Line 4:	Providence, RHODE ISLAND 02903
ATTORNEY DOCKET NUMBER:	O0013 P00777-US
NAME OF SUBMITTER:	Carrie Coyne
<b>Total Attachments: 17</b> source=Cielo to OCP master assignment#page1.tif source=Cielo to OCP master assignment#page2.tif source=Cielo to OCP master assignment#page3.tif source=Cielo to OCP master assignment#page4.tif source=Cielo to OCP master assignment#page5.tif	

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**PATENT**  
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## INTELLECTUAL PROPERTY ASSIGNMENT

This Intellectual Property Assignment is entered into this 9th day of October, 2002 by and between Cielo Communications, Inc. a Delaware corporation ("Assignor"), and Optical Communication Products, Inc., a Delaware corporation ("Assignee").

WHEREAS, Assignee and Assignor are parties to that certain Asset Purchase Agreement dated September 20, 2002, as amended (the "Purchase Agreement"), (initially capitalized terms used herein and not otherwise defined herein shall have the meanings given to such terms in the Purchase Agreement);

WHEREAS, the execution and delivery of this Intellectual Property Assignment is a condition precedent to Assignee's obligations under the Purchase Agreement; and

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Assignor grants, assigns and transfers to Assignee, and Assignee hereby accepts such grant, assignment and transfer of, Assignor's entire right, title and interest in and to all of the Seller Intellectual Property set forth on Schedule A attached hereto, and all rights to damages and payments for past, present or future infringements or misappropriations thereof in all countries and the goodwill of the Assignor and operations of the Assignor associated with such Intellectual Property.

2. The rights, title and interest assigned under Section 1 above shall give Assignee, its successors, assigns or other legal representatives, as fully and entirely as the same rights as would have been held and enjoyed by the Assignor if this assignment and sale had not been made.

3. Certain patents and patent applications noted on Schedule A are jointly owned by Assignor with Vixel Corporation ("Vixel"). Pursuant to the Asset Transfer Agreement by and between Assignor and Vixel dated February 13, 1998, Assignor and Vixel agreed to share equally all costs and fees for obtaining such patents, including maintenance costs and fees, and to cooperate and use commercially reasonable efforts in prosecuting such patents. Assignor and Vixel were otherwise free to use the patents as if it was the sole owner thereof, with no duty to account to the other, except with respect to the obligation to maintain confidentiality, in connection with the use, licensing, or sale thereof by either Vixel or Assignor. Assignor hereby grants Assignee all right, title and interest that Assignor had in the jointly-owned patents and patent applications designated in Schedule A.

4. Assignor represents and warrants that (i) it has all rights necessary to make the assignment herein; (ii) all rights, title, and interest assigned under Section 1 are free of any Liens other than those Liens being released by the Senior Creditor Releases or Transamerica Business Credit Corporation; (iii) this assignment does not and will not conflict with any other agreement or other instrument to which Assignor is bound; and (iv) to the best of Assignor's knowledge, the rights do not infringe any third party's patent, trademark, or copyright or misappropriate a third party's trade secret.

5. Assignor hereby covenants and agrees that it shall cease and refrain from all use of all rights, title, and interests assigned under Section 1 above in all countries of the world as of the date hereof.

6. With respect to the Seller Intellectual Property, Assignor will, from and after the Closing use its best efforts to keep confidential and not disclose to any third party any trade secrets or confidential information that comprise such Seller Intellectual Property, including continuing to protect the confidential nature of such trade secrets and confidential information as if the sale provided for in the Purchase Agreement had not occurred.

7. Assignor further agrees that Assignor will, as reasonably requested by Assignee: (i) cooperate with Assignee in the filing and prosecution of any and all patent, trademark, copyright or other intellectual property registrations or applications for the Seller Intellectual Property; (ii) execute, verify, acknowledge and deliver all such further papers, including applications and instruments of transfer; and (iii) perform such other acts as Assignee lawfully may request, to facilitate Assignee's right to obtain, protect, maintain, defend or enforce any of the rights granted hereunder. In the event that Assignee is unable for any reason whatsoever to secure Assignor's signature to any document when so required to effectuate fully this Assignment, Assignor hereby irrevocably designates and appoints Assignee and Assignee's duly authorized officers and agents, as Assignor's agents and attorneys-in-fact to act for and on its behalf and instead of it, to execute and file any such document and to do all other lawfully permitted acts to further the purposes of the foregoing, with the same legal force and effect as if executed by Assignor.

8. Assignor further assigns to and empowers Assignee, its successors, assigns or nominees, all rights to make applications for patents or other forms of protection for the inventions, design modifications and improvements covered by the Seller Intellectual Property and to prosecute such applications as well as to claim and receive the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and the right to invoke and claim such right of priority without further written or oral authorization.

9. This Intellectual Property Assignment, together with the Purchase Agreement and all documents executed in connection with the Purchase Agreement, constitutes the entire agreement and understanding between and among the parties hereto with respect to the matters set forth herein, and supersedes and replaces any prior agreements and understandings, whether oral or written, between and among them with respect to such matters. Notwithstanding any other provisions of this Intellectual Property Assignment to the contrary, nothing contained in this Intellectual Property Assignment shall in any way supersede, modify, replace, amend, change, rescind, waive, exceed, expand, enlarge or in any way affect the provisions, including warranties, covenants, agreements, conditions, representations, or in general any of the rights and remedies, and any of the obligations and indemnifications of Assignor or Assignee set forth in the Purchase Agreement nor shall this Intellectual Property Assignment expand or enlarge any remedies under the Purchase Agreement including without limitation any limits on indemnification specified therein. This Intellectual Property Assignment is intended only to effect the transfer of certain property transferred pursuant to the Purchase Agreement and shall be governed entirely in accordance with the terms and conditions of the Purchase Agreement.

10. This Intellectual Property Assignment shall in all respects be construed in accordance with and governed by the laws of the State of California without giving effect to its conflicts-of-laws principles.

11. This Intellectual Property Assignment may be executed by the parties herein in separate counterparts and by facsimile, each of which when so executed and delivered shall be an original, but all such counterparts and facsimile shall together shall constitute one and the same instrument.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

Optical Communication Products, Inc.,  
a Delaware corporation

By: *Susie L. Meneti*

Name: Susie L. Meneti

Title: Chief Financial Officer

Cielo Communications, Inc.,  
a Delaware corporation

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

Optical Communication Products, Inc.,  
a Delaware corporation

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Cielo Communications, Inc.,  
a Delaware corporation

By: Richard E. Couch

Name: Richard Couch

Title: Chief Executive Officer

STATE OF CALIFORNIA )

) ss.

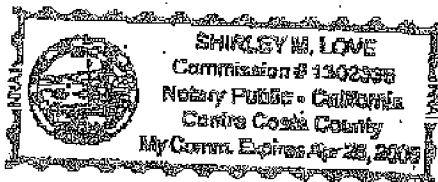
COUNTY OF CONTRA COSTA )

I, a notary public, in and for the county and state aforesaid, do hereby certify that Richard Couch, known to me to be the Chief Executive Officer of Cielo Communications, Inc. appeared before me this day in person and acknowledged that he signed the above and foregoing instrument as his free and voluntary act.

IN WITNESS WHEREOF, I have hereunto set my hand and notarial seal this 25th day of October, 2002.

  
Notary Public

My commission expires: 4/26/2005





SCHEDULE A

SELLER INTELLECTUAL PROPERTY

I. U.S. Patents and Patent Applications

US PATENT NUMBER	PATENT TITLE	Filing Date	Issue Date
5,245,622	Vertical-Cavity Surface-Emitting Lasers With Intra-Cavity Structures	5/7/1992	9/14/1993/
5,266,794	Vertical-Cavity Surface Emitting Laser Optical Interconnect Technology	1/21/1992	11/30/1993
5,283,447	Integration of Transistors With Vertical Cavity Surface Emitting Lasers	1/21/1992	2/1/1994
5,295,147	VCSEL With Expanded Cavity*	12/22/1992	3/15/1994
5,319,496	Optical Beam Delivery System*	11/18/1992	6/7/1994
5,331,654	Polarized Surface Emitting Laser*	3/5/1993	7/19/1994
5,344,517	Method for Lift-off of Epitaxial Layers and Applications Thereof	4/22/1993	9/6/1994
5,412,680	Linear Polarization of Semiconductor Laser	3/18/1994	5/2/1995
5,420,954	Parallel Optical Interconnect	5/24/1993	5/30/1995
5,446,754	Phased Array Semiconductor Laser	11/5/1993	8/29/1995
5,483,511	Multiple Beam Optical Memory System with Solid State Lasers	2/17/1993	1/9/1996
5,500,540	Wafer Scale Optoelectronics Package	4/15/1994	3/19/1996
5,521,736	Control Circuits for Parallel Optical Interconnects	9/29/1994	5/28/1996
5,523,884	Optical Beam Delivery System*	11/18/1992	6/4/1996
5,525,810	Self Calibrating Solid State Scanner	5/9/1994	6/11/1996
5,526,182	Multiple Beam Optical Memory System	2/17/1993	6/11/1996
5,570,697	Sensor for Analyzing Molecular Species	7/15/1994	11/5/1996
5,577,064	Integration of Laser With Photodiode for Feedback Control	3/24/1994	11/19/1996
5,606,572	Integration of Laser With Photodiode for Feedback Control	3/24/1994	2/25/1997

5,625,480	Control Circuits for Parallel Optical Interconnects	9/29/1994	4/29/1997
5,631,988	Parallel Optical Interconnect	5/24/1993	5/20/1997
5,642,376	Visible Light Surface Emitting Semiconductor Laser	11/7/1991	6/24/1997
5,808,986	Multiple Beam Optical Memory System With Solid-State Lasers	2/17/1993	9/15/1998
5,976,905	Method of Manufacturing VCSEL Arrays Using Vapor Phase Epitaxy To Achieve Uniform Device-to-Device Operating Characteristics	2/16/1996	11/2/1999
6,001,664	Method for Making Closely-Spaced VCSEL and Photodetector on a Substrate	2/1/1996	12/14/1999
6,015,239	Passively Aligned Opto-Electronic Coupling Assembly	4/20/1998	1/18/2000
6,160,834	Vertical Cavity Surface Emitting Lasers With Consistent Slope Efficiencies	11/14/1998	12/12/2000
6,392,256	Closely-Spaced VCSEL and Photodetector for Applications Requiring Their Independent Operation	2/21/1997	5/21/2002

\*The U.S. Government may have certain rights in these patents

## II. Pending U.S. Patent Applications

Serial Number	Patent Application Title	Filing / Priority Date
09/484,348	A Closely-Spaced VCSEL and Photodetector for Applications Requiring their Independent Operation	2/21/1997
09/531,442	VCSEL Power Monitoring System Using Plastic Encapsulation Technique	3/19/1999
09/535,629	Encapsulated Optoelectronic Devices with Controlled Properties	3/19/1999
09/587,074	Single Mode Vertical Cavity Surface Emitting Laser	6/2/1999
09/676,696	Use of Chip-on-Board Technology to Mount Optical Transmitting and Detecting Devices with a Protective Covering with a Multiple Optical Interface Options	11/1/1999
09/967,212	Method and Apparatus for Controlling Substrate Temperature and Layer Thickness During Film Formation	9/27/2000
09/967,433	Apparatus and Method for VCSEL Monitoring Using Scattering and- Reflection of Emitted Light	9/29/2000
09/967,638	VCSEL Monitoring Using Refracted Ray Coupling	10/2/2000
09/969,085	High Speed Optical Subassembly with Ceramic Carrier	9/29/2000
09/990,771	High Speed Laser Array Driver	11/22/2000
09/991,568	Method and Apparatus for Performing Whole Wafer Burn-In	11/16/2000
09/996,009	Low Electrical Resistance N-type Mirror for Optoelectronic Devices	11/28/2000
10/011,685	Optical Subassembly Enclosure	12/8/2000
10/012,217	Optical Interface Unit	12/4/2000
10/017,786	High Speed Detectors Having Integrated Electrical Components	11/30/2000
10/028,830	Self-Adjusting Data Transmitter	12/20/2001
10/035,356	Plastic Encapsulation of Optoelectronic Devices for Optical Coupling	1/8/2001
10/038,230	Closely-Spaced VCSEL and Photodetector for Applications Requiring their Independent Operation	2/21/1997
10/044,358	Low Thermal Impedance DBR for Optoelectronic Devices	1/16/2001

10/044,390	VCSEL Array Optical Subassembly Module with Alignment Mechanism	1/12/2001
10/051,510	Mirror Structure for Reducing the Effect of Feedback on a VCSEL	1/15/2001
10/054,826	Temperature Insensitive VCSEL	1/23/2001
10/072,054	High-Speed Optical Sub-Assembly Utilizing Ceramic Substrate, Direct Coupling and Laser Welding	8/1/2001
10/072,067	Extended Effective Cavity Single Mode VCSEL	2/5/2001
10/076,939	Photodetector with Isolation Implant Region for Reduced Device Capacitance and Increased Bandwidth	2/16/2001
10/082,504	Subassembly for Passively Aligning an Optical Fiber with a VCSEL and Method of Manufacturing the Same	11/16/2000
10/087,648	Apparatus and Methods for Using Fiber Optic Arrays in Optical Communication Systems	3/4/2002
10/105,473	Hybrid Vertical Cavity Laser with Buried Interface	3/25/2002
10/106,710	Hermetically Sealed Optical Subassembly	3/26/2002
10/122,707	Long Wavelength Vertical Cavity Surface Emitting Laser	4/11/2001
10/152,701	Hermetically Sealed Transmitter Optical Subassembly	5/22/2002
10/186,779	Antiguide Single Mode Vertical Cavity Laser	6/29/2001
Not yet assigned	Extended Cavity VCSEL with an Enhanced Transverse and Longitudinal Mode Control	8/7/2001
Not yet assigned	Optoelectronic Circuit Housing Assembly with Thermally Conductive Printed Circuit Board	8/17/2001

### III. Patents and Patent Applications jointly owned with Vixel Corporation

#### United States Patent:

5,767,999	Hot-Pluggable/Interchangeable Circuit Module and Universal Guide System Having a Standard Form Factor (jointly owned with Vixel Corporation)	Filed 5/2/1996	Issued 6/16/1998
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#### Pending Foreign Patent Applications:

Patent Number	Country	Title	Filing Date
0978046	European	A Hot-Pluggable Media Converter Module and Universal Guide System Having a Standard Form Factor (jointly owned with Vixel Corporation)	12/19/2001
0978046	Germany	A Hot-Pluggable Media Converter Module and Universal Guide System Having a Standard Form Factor (jointly owned with Vixel Corporation)	12/19/2001
0978046	United Kingdom	A Hot-Pluggable Media Converter Module and Universal Guide System Having a Standard Form Factor (jointly owned with Vixel Corporation)	12/19/2001
0978046	France	A Hot-Pluggable Media Converter Module and Universal Guide System Having a Standard Form Factor (jointly owned with Vixel Corporation)	12/19/2001

### IV. Pending U.S. Provisional Patent Applications

Serial Number	Patent Application Title	Filing Date
60/327,239	1.3 Micron INGAASIV VCSELs for Telecom & Datacom Applications	10/5/2001
60/364,067	In-Situ Hermetic Sealing of Die	3/13/2002
Not yet assigned	Long Wavelength VCSEL with Intracavity Contact	7/6/2002

## V. Issued Foreign Patents

Patent No.	Country	Patent Title	Issue Date
659258	Australia	Visible Light Surface Emitting Semiconductor Laser	10/10/1995
0611494	United Kingdom	Visible Light Surface Emitting Semiconductor Laser	1/24/2001
0611494	France	Visible Light Surface Emitting Semiconductor Laser	1/24/2001
69231662.0	Germany	Visible Light Surface Emitting Semiconductor Laser	1/24/2001
0611494	Italy	Visible Light Surface Emitting Semiconductor Laser	1/24/2001
273594	Korea	Visible Light Surface Emitting Semiconductor Laser	9/4/2000
0611494	Sweden	Visible Light Surface Emitting Semiconductor Laser	1/24/2001
0611494	Switzerland	Visible Light Surface Emitting Semiconductor Laser	1/24/2001
92925093.4	European	Visible Light Surface Emitting Semiconductor Laser	1/24/2001
130588	Taiwan	Vertical Cavity Surface Emitting Lasers with Consistent Slope Efficiencies	8/15/2001
0663112	United Kingdom	Vertical Cavity Surface Emitting Lasers with Intra-Cavity Structures	2/3/1999
0663112	France	Vertical Cavity Surface Emitting Lasers with Intra-Cavity Structures	2/3/1999
69323433.4	Germany	Vertical Cavity Surface Emitting Lasers with Intra-Cavity Structures	2/3/1999
93911113.4	European	Vertical Cavity Surface Emitting Lasers with Intra-Cavity Structures	2/3/1999
95118663.9	China	Control Circuits for Parallel Optical Interconnects	5/24/2002

## VI. Pending Foreign Patent Applications

Serial Number	Country	Patent Application Title	Filing Date
2000-504635	Japan	Semiconductor Laser Power Monitoring Arrangements & Methods	6/9/1998
2350463	Canada	Vertical Cavity Surface Emitting Lasers with Consistent Slope Efficiencies	11/2/1999
99964979.1	European	Vertical Cavity Surface Emitting Lasers with Consistent Slope Efficiencies	11/12/1999
93903595.2	European	Integration of Transistors with Vertical Cavity Surface Emitting Lasers	1/21/1993
5-512721	Japan	Integration of Transistors with Vertical Cavity Surface Emitting Lasers	1/21/1993
98115197.0	European	Vertical Cavity Surface Emitting Lasers with Intra-Cavity Structures	8/12/1998
5-519633	Japan	Vertical Cavity Surface Emitting Lasers with Intra-Cavity Structures	5/6/1993
94918079.8	European	Parallel Optical Interconnect	5/23/1994
7-500852	Japan	Parallel Optical Interconnect	5/23/1994
95-705249	Korea	Parallel Optical Interconnect	5/23/1994
2159305	Canada	Control Circuits for Parallel Optical Interconnects	9/27/1995
95306869.9	European	Control Circuits for Parallel Optical Interconnects	9/28/1995
7-289122	Japan	Control Circuits for Parallel Optical Interconnects	9/29/1995
95-32779	Korea	Control Circuits for Parallel Optical Interconnects	9/29/1995
2367362	Canada	VCSEL Power Monitoring System Using Plastic Encapsulation Techniques	3/20/2000
00918208.0	European	VCSEL Power Monitoring System Using Plastic Encapsulation Techniques	3/20/2000

2366583	Canada	Encapsulated Optoelectronic Devices with Controlled Properties	3/24/2000
00916636.4	European	Encapsulated Optoelectronic Devices with Controlled Properties	3/24/2000
Not yet assigned	Canada	Single Mode Vertical Cavity Surface Emitting Laser	6/2/2000
00944616.2	European	Single Mode Vertical Cavity Surface Emitting Laser	6/2/2000
US01/30690	PCT	High Speed Optical Subassembly with Ceramic Carrier	10/1/2000
US01/30382	PCT	Apparatus and Methods for VCSEL Monitoring Using Scattering and Reflection of Emitted Light	9/29/2000
US01 /30383	PCT	VCSEL Monitoring Using Reflected Ray Coupling	9/29/2000
Not yet assigned	PCT	Long Wavelength Vertical Cavity Surface Emitting Laser	4/11/2001
7-180424	Japan	Sensor for Analyzing Molecular Species	7/17/1995
6-519184	Japan	Multiple Beam Optical Memory System with Solid-State Lasers	2/17/1994
6-519183	Japan	Multiple Beam Optical Memory System	2/17/1994
2000-545050	Japan	Passively Aligned Opto-Electronic Coupling Assembly	4/20/1999
2000-7011673	Korea	Passively Aligned Opto-Electronic Coupling Assembly	4/20/1999



## VII. Foreign Patent Applications (Recently Expired)

5-508726	Japan	Visible Light Surface Emitting Semiconductor Laser	11/6/1992
2329370	Canada	Passively Aligned Opto-Electronic Coupling Assembly	4/20/1999
99921417.4	European	Passively Aligned Opto-Electronic Coupling Assembly	4/20/1999
30995/00	Australia	Vertical Cavity Surface Emitting Lasers with Consistent Slope Efficiencies	11/12/1999
00945243.4	PCT	Closely-Spaced VCSEL and Photodetector for Applications Requiring Their Independent Operation	7/7/2000
US00/29967	PCT	Optical Device Using Chip-on-Board Technology	10/31/2000

## VIII. Draft Applications and Invention Disclosures

Serial Number	Patent Application Title
	Apparatus for Interfacing a VCSEL Array with a Monitor Diode
	Monitoring Optical Power of VCSELs
	Alleviation of Cross Talk and Noise In Receiver Optical Sub-Assemblies
	ROSA with Thin Plate EMI Shielding
	Fiber Optic Module Packaging Architecture For IC and Optical Sub Assembly Integration for Size Reduction and High-Speed Performance Enhancement
	Method and Apparatus for Backside Monitoring of VCSELs
	Non-Hermetic Packaging Using an Optical Epoxy and Silicon Lid and Integrated Ferrule Stop in Ceramic Structure
	Arsenic Capping to Improve MBE Throughput
	Use of Digital Alloy to Improve 85/85 Performance
	Improved Dust Plug Data Dependent Biasing for Nonlinear Devices

## IX. Trademarks

*Cielo*, Registration No. 259901

*Cielo Interconnecting the World at Gigabit Speed (plus design)*, Registration No. 2460792

## X. Domain Names

[www.cieloinc.com](http://www.cieloinc.com)

[www.cielocommunications.com](http://www.cielocommunications.com)

[www.opticalsubsystem.com](http://www.opticalsubsystem.com)

## XI. Copyrights

There are no registered copyrights.

Unregistered copyrights include, without limitation, the following:

A. All white papers and other technical papers assigned to Cielo by employees or contractors, including without limitation such technical papers and other written material that appear on Cielo's website, [www.cieloinc.com](http://www.cieloinc.com);

B. All mask works;

C. Any software programs developed by Cielo employees or consultants and assigned to Cielo, including without limitation any diagnostic software; and MBE control software; and

D. Any other technical data, including without limitation any laboratory notebooks, inventors notes or summaries, or internal technical memorandum.

## XII. Trade Secrets

The trade secrets being transferred hereunder include, without limitation, the following:

- A. Recipes and growth conditions for manufacturing short wave and long wave VCSELs, as well as the structures of such VCSELs \*
- B. Processes for testing and evaluating VCSEL performance\*
- C. Control software for molecular beam epitaxy equipment used in VCSEL growth\*
- D. VCSEL packaging materials and methodologies\*
- E. Information regarding VCSEL operating characteristics required for successful incorporation in modules and other packaging
- F. Technical specifications for various components of the array, transponder and module products
- G. Manufacturing, product and marketing plans and strategies
- H. Customer lists and contact information
- I. Supplier lists
- J. Financial information and forecasts
- K. Custom modifications to manufacturing equipment, including without limitation, molecular beam epitaxy systems.

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\* Cielo considers this information protected to the extent not described in an issued patent or a published application.