

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

GREENTHREAD, LLC,

Plaintiff,

v.

OMNIVISION TECHNOLOGIES, INC.,

Defendant.

**Case No. 2:23-cv-00212-JRG
(Consolidated Lead Case)**

JURY TRIAL DEMANDED

GREENTHREAD, LLC,

Plaintiff,

v.

TEXAS INSTRUMENTS INCORPORATED,

Defendant.

**Case No. 2:23-cv-00157-JRG
(Member Case)**

JURY TRIAL DEMANDED

GREENTHREAD, LLC,

Plaintiff,

v.

AMS-OSRAM AG ET AL.

Defendant.

**Case No. 2:23-cv-00179-JRG
(Member Case)**

JURY TRIAL DEMANDED

**GREENTHREAD'S PRELIMINARY INFRINGEMENT CONTENTIONS FOR
OMNIVISION TECHNOLOGIES INC.**

Pursuant to the Court's Scheduling Order (Dkt. 17) and Patent Rules 3-1 and 3-2, Plaintiff Greenthread, LLC ("Greenthread") provides its initial disclosures and infringement contentions, including identification of asserted patents and claims, the priority date for each asserted claim, accused products, and accompanying document production. Claim charts are attached as Exhibits

A-1 through A-6. Pursuant to Local Patent Rule 2-2, some of the document production accompanying these disclosures are marked “Restricted – Outside Attorneys Eyes Only,” and such documents labeled or designated as “Restricted – Outside Attorneys Eyes Only” shall be disclosed only to outside attorneys of record and the employees of such outside attorneys.

Greenthread’s disclosures are based on publicly available materials regarding the accused infringing products of OmniVision Technologies, Inc. (“OmniVision”). Greenthread does not yet have access to any of Defendant’s discovery materials that may be relevant to its infringement claims and thus relies on publicly available materials. In light of the absence of discovery and reliance on publicly available materials, Greenthread has procured limited physical testing to the extent practicable, of certain products believed to be representative of, and similar to, the accused infringing products in pertinent respects. Greenthread explicitly reserves the right to supplement or alter its disclosures herein, as a matter of right, as permitted by the Court, based on the Court’s claim constructions, based on additional information obtained through formal discovery or other means, and/or based on other circumstances.

I. P.R. 3-1(A) & 3-1(E) – ASSERTED PATENTS AND CLAIMS AND PRIORITY DATE

Based on the information presently available to it, Greenthread identifies the asserted claims of each asserted patent that Greenthread alleges is infringed by Defendant, and the priority date of those claims, as set forth in the table below. Based on the information presently available to it, Greenthread alleges that all asserted claims of each particular asserted patent are entitled to the same priority date, which is the earliest priority date afforded to the asserted patents.

Asserted Patents	Asserted Claims ¹	Priority Date of Asserted Claims
10,510,842 ("the '842 patent")	1, 2, 5-10, 13-18	September 3, 2004
10,734,481 ("the '481 patent")	1, 2, 4-9, 13, 15-20, 22, 24-27, 31-36	September 3, 2004
11,121,222 ("the '222 patent")	1, 2, 4-9, 13, 15-20, 21, 23, 25-28, 32-42, 44	September 3, 2004
8,421,195 ("the '195 patent")	1-2, 5-6	September 3, 2004
9,190,502 ("the '502 patent")	7-12	September 3, 2004
11,316,014 (the "'014 Patent")	1-2, 4-9, 13, 15-21, 23, 25-28	September 3, 2004

Greenthread notes that the claims identified in the table reflect the asserted claims in this case, and the absence of a claim from the list does not imply that the claim is not infringed. Greenthread explicitly reserves the right to supplement or alter its identification of asserted claims and priority dates, as a matter of right, as permitted by the Court, based on any further claim constructions, additional information obtained through formal discovery or other means, and/or based on other circumstances.

II. P.R. 3-1(B) – OMNIVISION ACCUSED PRODUCTS

Based upon information presently available to it, Greenthread asserts infringement by the accused products set forth below in this section. For each accused product identified below, Greenthread's contentions apply to the accused product and any other similar past, present, or future products, as well as systems incorporating the accused products or other products with the same or substantially similar features.

¹ To the extent Exhibits A-1 through A-6 describe infringement of additional claims those claims are likewise asserted.

As described further in Exhibits A-1 through A-6, OmniVision's products infringe one or more asserted claims of each of the asserted patents.

OmniVision Accused Products include products made (in whole or in part), used, sold, offered for sale, or imported into the United States by OmniVision, that comprise or consist of the same or similar structures, features, or functionalities as the exemplary OmniVision OV24A1Q shown in Exhibits A-1 through A-6. As shown in Exhibits A-1 through A-6, OmniVision Accused Products each infringe one or more claims of the Asserted Patents. OmniVision Accused Products include products from at least the following product categories/types: image sensors, ASICs, CameraCubeChip®, LCOS, power management, touch and display, OVMed® ISP, and OVMed® cable module devices. The following listing of OmniVision semiconductor products is derived from publicly available information at OmniVision's website, e.g., as noted in Exhibit 8 to Greenthread's Complaint (Dkt. 1-8), and also from <https://www.ovt.com/products/>.

Greenthread reserves the right to supplement the list of OmniVision Accused Products as discovery proceeds and as permitted by the Court, the Local Patent Rules, the Federal Rules of Procedure, and any other applicable rules or law.

Product Name / Part Number
Nyxel OX02C1S
Nyxel OX01H1B
Nyxel OX05B1S GS
OVMed® OCHTA Cable Module
OP03011 LCOS panel
OV02E CMOS image sensor
OS04D CMOS image sensor
OS04L image sensor
OX01E20 system-on-chip (SoC)
OV50H
OG0VE global shutter (GS) image sensor
CameraCubeChip® package (OCH2B)
OS04E10 CMOS image sensor

OS04L CMOS 4-megapixel (MP)
OS05B CMOS image sensor
OS04L image sensor
OV50E image sensor
OAX4600
OS03B10 CMOS image sensor
OX05B1S
OVB0B
OX03D
OX03D4C
TD4377 TDDI
OV32C
OA0428 bridge chip
OH0FA image sensor
OVM6946
PureCel®Plus-S
OCHSA and OCHTA cable modules
OH0TA image sensor
OH08A CMOS image sensors
OH08B CMOS image sensors
OV60A
OV02C
OAX4000 ASIC Image Signal Processor
OVMed® OCHTA camera module
OH0TA image sensor
OH0TA OVMed® medical image sensor
OV50A image sensor
OS02H10 image sensor
OX03F10 automotive image sensor
OV40A image sensor
OS04C10 image sensor
OV32B image sensor
OAX8000
OV64A image sensor
OH02A1S
OH0130 ASIC-based board
OH0120 ASIC-based board
OS02G10 security image sensor
OX03C10 ASIL-C automotive image sensor
OVM9284 CameraCubeChip® module
OX03A2S image sensor
OX01E10 SoC
OV64B

Nyxel®2
OV02B
OV64C
OV48C
OS12D40 image sensor
OG0VA image sensor
OC0VA CameraCubeChip®
OA805
OA798
OX08A
OX08B
OCHSA
OCOSA
OV7251-2B
OV6948
OVM6948 CameraCubeChip®
OV12D
OX01F10 SoC
OG01A sensor
OS04A10
OV48B
OV0VA10 SoC
OVM7251 CameraCubeChip® module
OV5678
OX01D10
OAX4010 automotive image signal processor
OV2312 automotive image sensor
OV2778 automotive image sensor
OV08B image sensor
OV32A image sensor
OH0119 OVMed® medical image signal processor
OH0137 OVMed® medical image signal processor
OH0138 OVMed® medical image signal processor
OH0142 OVMed® medical image signal processor
OH0105 OVMed® medical image signal processor
OV02K image sensor
OV13B image sensor
OV16A image sensor
OV9284 image sensor
OV16E10 image sensor
OP02220 quid crystal on silicon (LCOS) microdisplay
OV24B1Q
OV24B2Q

OV24B1B
OV24B10
OS02F10 image sensor
OS04B10 image sensor
OS02C10 image sensor
OG02B1B image sensor
OG02B10 image sensor
OV9285 image sensor
OV9286 image sensor
OV2741 image sensor
OH01A image sensor
OVMed® image signal processor
OS08A20 image sensor
OV9738 image sensor
OV01A image sensor
OV01A10
OV01A1B
OV01A1S
OX03A10 image sensor
OX01B40 image sensor
OV24A sensor family
OV24A1Q
OV24A1B
OV24A10
OS05A20 image sensor
OV2775 image sensor
OV495 image signal processor and serializer camera module
OV13A10 image sensor
OV13A1Q image sensor
OV16B10 image sensor
OV6948 image sensor
OV493
OX1A10 image sensor
OX2A10 image sensor
OV2311 image sensor
OS02A image sensor
OV2736 image sensor
OV12A10 image sensor
OV12A1B
OV13880
OV20381 image sensor
OV9716 image sensor

OV12A10 image sensor
OV12A1B image sensor
OV9281 image sensor
OV9282 image sensor
OS08A image sensor
OV7261 image sensor
OS05A image sensor
OV16885 image sensor
OV16885-4C
OV20880
OV20880-4C
OV16885
OV16885-4C
OV20880
OV20880-4C
OV12895
OV2732
OV2735
OV10650 image sensor
OV10652 image sensor
OV491
OV495
OV2775
OV4689 CameraChip™ sensor
OV2718
OV9755 CameraChip™ sensor
OVM6946
OV12890 image sensor
OV13855 sensor
OV4686 sensor
OV9756 sensor
OV13870 PureCel®Plus-S image sensor
OVP2200 LCOS displays
OVP921
OV6946 CameraChip™ sensor
OV2744 image sensor
OV16860 image sensor
PureCel Plus
PureCel Plus-S
OV5675 image sensor
OV5695 image sensor
OV2718, a high definition (HD) CameraChip™ sensor

OV10823 sensor
OV788 video compression chip
OV9712 CameraChip™ image sensor
OV9750 CameraChip™
OV788 system-in-package
OV0788-U44G
CameraChip™
OV9732 CameraChip™
OV9733 (CameraChip™)
OV2281 PureCel® sensor
OV8856 PureCel® sensor
OV13853
OVM7699
OV6946
OV9734 CameraChip™
OV9752 CameraChip™
OV16880 image sensor

III. P.R. 3-1(C) – INFRINGEMENT CONTENTIONS CLAIM CHARTS

Based upon information presently available to it, Greenthread’s preliminary infringement claim charts are provided as attached Exhibits A-1 through A-6. In each claim chart, the discussion for dependent claims should be read as incorporating by reference the discussion corresponding to the claims from which they depend. In addition, the discussion for each row in the chart should be read within the context of the discussion for the entire claim to which that row pertains. Where the charts incorporate excerpts of particular documents, the reference to those excerpts is exemplary and not to the exclusion of any other excerpt or version of the document or any versions of related documents.

These infringement claim charts are based upon Greenthread’s investigation to date. More complete information about the OmniVision Accused Products is in the possession of Defendant and is expected to be obtained through discovery. Greenthread explicitly reserves the right to supplement or alter its preliminary infringement claim charts, as a matter of right, as permitted by

the Court, based on the Court's claim constructions, based on additional information obtained through formal discovery or other means, and/or based on other circumstances.

IV. P.R. 3-1(D) – LITERAL INFRINGEMENT AND/OR DOCTRINE OF EQUIVALENTS

Unless otherwise noted in the claim charts, Greenthread alleges that Defendant infringes literally all asserted claims. To the extent any differences are alleged to exist between the asserted claims and Defendant's Accused Products, such differences are insubstantial and Defendant's Accused Products perform substantially the same function, in substantially the same way, to yield substantially the same result, and therefore Defendant infringes under the doctrine of equivalents.

Greenthread explicitly reserves the right to supplement or alter its disclosure concerning the doctrine of equivalents, as a matter of right, as permitted by the Court, based on the Court's claim constructions, based on additional information obtained through formal discovery or other means, and/or based on other circumstances. In the event that a claim limitation is deemed to be missing under a literal infringement analysis, Greenthread also reserves the right to demonstrate the presence of a substantial equivalent of such limitation and to pursue infringement under the doctrine of equivalents.

V. P.R. 3-1(F) – GREENTHREAD'S PRACTICING PRODUCTS

Greenthread does not presently, and has not previously offered any products or used any services that practice any of the Asserted Claims of the Asserted Patent.

VI. P.R. 3-2 – DOCUMENT PRODUCTION

Greenthread is not aware of documents responsive to P.R. 3-2(a). Greenthread reserves the right to supplement and/or amend this production as more information becomes available and as permitted by the Court, the Local Patent Rules, the Federal Rules of Procedure, and any other applicable rules or law.

Greenthread is producing documents in the production range GT-EDTX-000001-0001642, including (1) documents evidencing conception and reduction to practice for each claimed invention at GT-EDTX_0001551-1597, GT-EDTX_0001598-1622, GT-EDTX_0001623-1642 (each of which is designated “Restricted – Outside Attorneys Eyes Only”), pursuant to P.R. 3-2(b); and (2) a copy of the file history for each patent in suit at the following, pursuant to P.R. 3-2(c):

Patent	File History Production Range
'195 patent	GT-EDTX_0000092-0483
'502 patent	GT-EDTX_0000484-0650
'842 patent	GT-EDTX_0000651-0849
'481 patent	GT-EDTX_0000850-0989
'222 patent	GT-EDTX_0000990-1274
'014 patent	GT-EDTX_0001275-1485

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing document was served on the following counsel of record on July 6, 2023 via electronic mail using the following contact information.

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