



**HQ H350894**

December 19, 2025

**OT:RR:CTF:VS** H350894 ACH

**CATEGORY:** Origin

Gary Zheng  
Lumens Digital Optics, Inc.  
5F No. 20 Taiyung Street  
Jhubei, 301 Taiwan

**RE:** U.S. Government Procurement; Title III, Trade Agreements Act of 1979 (19 U.S.C. § 2511); Subpart B, Part 177, CBP Regulations; Country of Origin of Lumens Camera

Dear Mr. Zheng,

This is in response to your July 8, 2025 request for a final determination concerning the country of origin of the Pan Tilt Zoom (“PTZ”) Lumens VC-TR60A Camera (“Camera”) pursuant to Title III of the Trade Agreements Act of 1979 (“TAA”), as amended (19 U.S.C. 2511 *et seq.*), and subpart B of Part 177, U.S. Customs and Border Protection (“CBP”) Regulations (19 CFR 177.21, *et seq.*). Lumens is a party-at-interest within the meaning of 19 CFR 177.22(d)(1) and 177.23(a) and is therefore entitled to request this final determination.

**FACTS:**

The merchandise under consideration is the Lumens PTZ Camera, Model Number TR60A. This camera is designed for video conferencing in office environments. It features speaker tracking that allows the camera to move toward the person speaking during a discussion. The camera also can combine two video images in a picture-in-picture display, providing both a wide-angle view and a close-up shot of the meeting. Additionally, it has a dual lens 12 times optical zoom, wide-angle fix lens, Artificial Intelligence (“AI”) motion detection, and simultaneous output for High-Definition Multimedia Interface (“HDMI”), Ethernet, and Universal Serial Bus (“USB”).

The camera production consists of nine main steps: (1) zoom lens module assembly and calibration; (2) PTZ camera body assembly; (3) panoramic lens module

assembly; (4) zoom lens and panoramic lens optical axis alignment; (5) run in test; (6) firmware programming to camera; (7) system function test; (8) quality control inspection; and (9) final packaging and shipping. One camera takes around three hours to produce.

The camera's initial source code, which includes requirements for the graphical user interface that provides product status information and the user operation interface, is developed in China and sent to Taiwan for burning. This software has been developed over a year and a half and has undergone multiple updates. The ultimate consumer is unable to customize or remove the software.

The printed circuit boards ("PCB"), electronic components, optical parts, and mechanical parts of the camera are sourced from global suppliers (including regions outside TAA countries). The camera includes seven printed circuit board assemblies ("PCBAs"): the main board (claimed to be the brains of the camera), driver board, power over Ethernet ("POE") board, home sensor board, panoramic sensor board, zoom lens sensor board, and microphone board. The bare PCB and PCBA components (e.g., resistors, capacitors, diodes, etc.) are sourced through third parties in China.

It is stated that two components fulfill the image conversion and capture function: the sensors and the image signal processor. The sensors are responsible for light conversion, and the image signal processor is responsible for transferring the sensor data into visible images through digital signal processing. These two components are included on the zoom lens sensor board, panoramic sensor board, and main board.

In Taiwan, the main PCBA board, the panoramic sensor board, the POE board, the zoom lens sensor board, the driver board, and the home sensor board are produced through a complex surface mount technology ("SMT") process, which results in fully functional PCBAs. Of all of the PCBA components that are used to make the various boards, around 72% of them are used to make the main PCBA board. The SMT process involves solder paste printing component placement, reflow soldering, inspection, and testing. Additionally, a Chinese lens is joined with other components to create a lens module in Taiwan. The final assembly process operations, firmware programming, calibration, function testing, quality control inspection, packaging, and shipping also occur in Taiwan. In China, the microphone board is manufactured. No other manufacturing takes place in China.

The longest production process is the zoom lens module pre-processing, processing, and assembly which takes approximately 44% of the camera's production time, longer than any other steps. This process includes integrating the zoom lens, sensor board, and driver board, calibration, integration, adjustment of parts, mounting, and enclosing the module. This production is said to take place in Taiwan.

**ISSUE:**

What is the country of origin of the Lumens Camera for the purposes of U.S. Government procurement?

**LAW AND ANALYSIS:**

CBP issues country of origin advisory rulings and final determinations as to whether an article is or would be a product of a designated country or instrumentality for the purpose of granting waivers of certain “Buy American” restrictions in U.S. law or practice for products offered for sale to the U.S. Government, pursuant to subpart B of Part 177, 19 CFR 177.21-177.31, which implements Title III of the TAA, as amended (19 U.S.C. 2511-2518).

CBP’s authority to issue advisory rulings and final determinations stems from 19 U.S.C. 2515(b)(1), which states:

For the purposes of this subchapter, the Secretary of the Treasury shall provide for the prompt issuance of advisory rulings and final determinations on whether, under section 2518(4)(B) of this title, **an article is or would be a product of a foreign country or instrumentality designated pursuant to section 2511(b) of this title.**

Emphasis added.

The Secretary of the Treasury’s authority mentioned above, along with other customs revenue functions, are delegated to the Secretary of Homeland Security via Treasury Department Order (“TO”) 100-20 “Delegation of Customs revenue functions to Homeland Security,” dated October 30, 2024, and are subject to further delegations to CBP (*see also* 19 CFR Part 177, subpart B).

The rule of origin set forth under 19 U.S.C. 2518(4)(B) states:

An article is a product of a country or instrumentality only if (i) it is wholly the growth, product, or manufacture of that country or instrumentality, or (ii) in the case of an article which consists in whole or in part of materials from another country or instrumentality, it has been substantially transformed into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was so transformed.

*See also* 19 CFR 177.22(a).

In rendering advisory rulings and final determinations for purposes of U.S. Government procurement, CBP applies the provisions of subpart B of Part 177 consistent with the Federal Procurement Regulation (“FAR”). *See* 19 CFR 177.21. In

this regard, CBP recognizes that the FAR restricts the U.S. Government's purchase of products to U.S.-made or designated country end products for acquisitions subject to the TAA. See 48 CFR 25.403(c)(1).

The FAR, 48 CFR 25.003, defines "U.S.-made end product" as:

... an article that is mined, produced, or manufactured in the United States or that is substantially transformed in the United States into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was transformed.

To determine whether a substantial transformation occurs when components of various origins are assembled into completed products, CBP considers the totality of the circumstances and makes such determinations on a case-by-case basis. The country of origin of the item's components, extent of the processing that occurs within a country, and whether such processing renders a product with a new name, character, and use are primary considerations in such cases. Additionally, factors such as the resources expended on product design and development, the extent and nature of post-assembly inspection and testing procedures, and worker skill required during the actual manufacturing process will be considered when determining whether a substantial transformation has occurred. No one factor is determinative. See, e.g., Headquarters Ruling Letter ("HQ") H311606, dated June 16, 2021; and HQ H302801, dated October 3, 2019.

*Energizer Battery, Inc. v. United States*, 190 F. Supp. 3d 1308 (Ct. Int'l Trade 2016), involved manufacture of a flashlight in which all the components of the flashlight were of Chinese origin, except for a white LED and a hydrogen getter. The components were imported into the United States and assembled into the finished Generation II flashlight. The *Energizer Battery* court applied the "name, character and use" test to determine whether a substantial transformation had occurred and noted, citing *Uniroyal, Inc. v. United States*, 542 F. Supp. 1026, 1031 (Ct. Int'l Trade 1982), that when "the post-importation processing consists of assembly, courts have been reluctant to find a change in character, particularly when the imported articles do not undergo a physical change." *Energizer Battery* at 1318. In addition, the court noted that "when the end-use was pre-determined at the time of importation, courts have generally not found a change in use." *Energizer Battery* at 1319, citing as an example, *National Hand Tool Corp. v. United States*, 16 C.I.T. 308, 312 (1992), *aff'd*, 989 F.2d 1201 (Fed. Cir. 1993). Further, courts have considered the nature of the assembly, i.e., whether it is a simple or complex assembly, such that individual parts lose their separate identities and become integral parts of a new article. *Energizer Battery*, 190 F. Supp. 3d 1308.

Regarding electronic equipment, CBP has found that circuit boards undergo a substantial transformation into PCBAs when various components are assembled onto the board via SMT. See C.S.D. 85-25, 19 Cust. Bull. 844 (1985) (determining that the assembly of the PCBA involved a very large number of components and a significant number of different operations, required a relatively significant period of time as well as skill, attention to detail, and quality control, and resulted in significant economic benefit

to the beneficiary developing country from the standpoint of both value added to the PCBA and the overall employment generated thereby). Additionally, CBP has found that the mere attachment of wires to a PCBA and installation into a case, along with minor tuning processes, does not result in a substantial transformation. See HQ 561232, dated April 20, 2004.

In rulings concerning the country of origin of a device containing multiple PCBAs, CBP has examined the function of the PCBAs contained in the device to determine the origin of the device. See HQ H311606, dated June 16, 2021. In New York Ruling Letter (“NY”) N348165, dated May 12, 2025, CBP found the country of origin of a camera to be the country in which the PCBA became fully functional. In multiple rulings, CBP determined that the PCBAs contributed to the main functionality of a finished camera. In NY N339727, dated May 21, 2024, CBP stated that the PCBAs contributed to the main functionality of security cameras and that there was no substantial transformation after the PCBAs were constructed. In NY N330296, dated February 8, 2023, and NY N328151, dated October 6, 2022, CBP stated that the PCBAs for a surveillance camera contributed to the main functionality of the camera.

Here, the zoom sensor board, panoramic sensor board, and main board are essential to the character of the finished camera as they are responsible for capturing and converting images. These boards enable the camera to function as intended. These boards are produced in Taiwan. Additionally, the zoom lens assembly, which is the longest and most complex assembly process, takes place in Taiwan. Therefore, the Lumens PTZ Camera is a product of Taiwan for purposes of U.S. Government procurement.

**HOLDING:**

Based on the information provided, for purposes of U.S. Government procurement, the Lumens PTZ Camera is a product of Taiwan.

Notice of this final determination will be given in the *Federal Register*, as required by 19 CFR 177.29. Any party-at-interest other than the party which requested this final determination may request, pursuant to 19 CFR 177.31, that CBP reexamine the matter anew and issue a new final determination. Pursuant to 19 CFR 177.30, any party-at-interest may, within 30 days of publication of the *Federal Register* Notice referenced above, seek judicial review of this final determination before the U.S. Court of International Trade.

Sincerely,

Alice A. Kipel  
Executive Director  
Regulations and Rulings  
Office of Trade