



U.S. Customs and Border Protection

Notice of Issuance of Final Determination Concerning Trimble R980 GNSS Receiver

AGENCY: U.S. Customs and Border Protection, Department of Homeland Security.

ACTION: Notice of final determination.

SUMMARY: This document provides notice that U.S. Customs and Border Protection (CBP) has issued a final determination concerning the country of origin of the Trimble R980 Global Navigation Satellite System (GNSS) Receiver. Based upon the facts presented, CBP has concluded that the last substantial transformation of the R980 GNSS Receiver occurs in the United States.

DATES: The final determination was issued on June 18, 2025. A copy of the final determination is attached. Any party-at-interest, as defined in 19 CFR 177.22(d), may seek judicial review of this final determination no later than [INSERT DATE 30 DAYS FROM PUBLICATION IN THE *FEDERAL REGISTER*].

FOR FURTHER INFORMATION CONTACT: Anna Hedstrom, Valuation and Special Programs Branch, Regulations and Rulings, Office of Trade, at (202) 325-0227.

SUPPLEMENTARY INFORMATION: Notice is hereby given that on June 18, 2025, CBP issued a final determination concerning the country of origin of the Trimble R980 GNSS Receiver for purposes of Title III of the Trade Agreements Act of 1979. This final determination, Headquarters Ruling Letter (HQ) H345749, was issued at the request of Trimble, Inc. under procedures set forth at 19 CFR Part 177, subpart B, which implements Title III of the Trade Agreements Act of 1979, as amended (19 U.S.C. 2511-18). In the final determination, CBP has concluded that the last substantial transformation of the R980 GNSS Receiver occurs in the United States. The final determination also finds that the R980 GNSS Receiver is exempt from the country of origin marking requirements of 19 U.S.C. 1304.

Section 177.29, CBP Regulations (19 CFR 177.29), provides that a notice of final determination shall be published in the *Federal Register* within 60 days of the date the final determination is issued. Section 177.30, CBP Regulations (19 CFR 177.30), provides that any party-at-interest, as defined in 19 CFR 177.22(d), may seek judicial review of a final determination within 30 days of publication of such determination in the *Federal Register*.

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



HQ H345749

June 18, 2025

OT:RR:CTF:VS H345749 ACH

CATEGORY: Origin

John McKenzie
Baker & McKenzie LLP
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San Francisco, CA 94111-3802

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 R980 Global Navigation Satellite System Receiver; Country of Origin Marking

Dear Mr. McKenzie,

This is in response to your February 3, 2025 request, on behalf of Trimble, Inc. (“Trimble”), for a final determination concerning the country of origin of the R980 Global Navigation Satellite System (“GNSS”) Receiver, 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.*). Trimble 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. You also requested a determination on whether the product is exempt from country of origin marking requirements.

FACTS:

Trimble is a Delaware corporation based in Colorado, specializing in the production and design of industrial technology for the agricultural, construction, and geospatial transportation industries. At issue in this case is the R980 GNSS Receiver, which you describe as designed for “surveying and mapping in challenging environments.”

The R980 GNSS Receiver consists of seven main components, which undergo final assembly into a chassis in Thailand:

1. Main Board Assembly,
2. Power Supply and Communications Board Assembly,
3. Antenna Element Assembly,
4. Radio Interface,

5. Antenna Low Noise Amplifier,
6. Battery subscriber identity model ("SIM"), and
7. 450MHz Radio.

Four of these components, the main board assembly, the power supply and communications board assembly, the antenna element assembly, and the radio interface are stated to be manufactured in the United States. You characterize three of these U.S.-origin components as printed circuit board assemblies ("PCBAs"). You state that the main board assembly is the primary PCBA, which provides the "essential character" of the R980 GNSS Receiver, including the central processing unit ("CPU"), random access memory ("RAM"), flash memory module, RF processor, baseband processor, and Global Positioning System ("GPS") Components. These components are assembled onto the board using Surface Mount Technology ("SMT") in the United States. You additionally state that the Radio Interface is a separate PCBA with 59 components assembled onto a bare circuit board with SMT. You also state that the power supply and communications board assembly is a PCBA with 593 components assembled onto a circuit board using SMT and includes all communication functions of the R980 GNSS Receiver.

Two of the main components, the antenna low noise amplifier and battery SIM, are produced in Thailand. You state that these "perform subsidiary roles with respect to the R980 GNSS device." The low noise amplifier is assembled in Thailand and then shipped to the United States and built into the Antenna Element Assembly. Additionally, the battery SIM is a PCBA produced by assembling five components onto a bare printed circuit board.

The final main component is a 450MHz Radio, which is produced in Finland. You provide no details about the production process of this component, but it has a higher cost than the materials from any other country. This radio is only available for R980 GNSS Receivers sold in the United States, Canada, Australia, and New Zealand.

The final assembly operations occur in Thailand, involving the following steps:

1. The main board assembly, radio interface PCBA, power supply and communications PCBA, antenna assembly, and radio module are screwed onto a "hot box" with screws and then the "hot box" assembly is subject to functional testing.
2. A keypad is installed onto the chassis with glue and two screws.
3. The battery compartment floor, battery compartment, and battery SIM are assembled and affixed to the chassis with screws.
4. The "hot box" subassembly with the PCBAs and antenna element are affixed to the chassis.
5. The battery compartment door is installed to the outside of the chassis with two screws.
6. Various mechanical parts are installed into the chassis.
7. Four compliance labels, overlays and serial number labels are attached to the exterior of the chassis.
8. A series of functional tests are conducted (leak test; calibration confirmation; unit input/output testing; unit gyroscope testing).

You claim that the R980 GNSS Receiver would not be functional without Trimble's proprietary software. You estimate that software development "involved more

than 1 million developer hours,” and that 67 percent of the code was written by developers in the United States and 33 percent by developers in Germany. You state that this proprietary software has further undergone “software build” in the United States, where it was compiled from its constituent source code into machine readable binaries. This software will be flashed onto a memory component in the United States, which will then be assembled onto the main board PCBA by SMT in the United States. In total, you estimate that 70 percent of the R980 GNSS Receiver’s value is the result of this proprietary software.

ISSUE:

What is the country of origin of the R980 GNSS Receiver for the purposes of U.S. Government procurement and country of origin marking?

LAW AND ANALYSIS:

Country of Origin Determination

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.

Additionally, the FAR, 48 CFR 25.003 defines “designated country end product” as:

a WTO GPA [World Trade Organization Government Procurement Agreement] country end product, an FTA [Free Trade Agreement] country end product, a least developed country end product, or a Caribbean Basin country end product.

Section 25.003 defines “WTO GPA country end product” as an article that:

- (1) Is wholly the growth, product, or manufacture of a WTO GPA country; or
- (2) In the case of an article that consists in whole or in part of materials from another country, has been substantially transformed in a WTO GPA country 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.
The term refers to a product offered for purchase under a supply contract, but for purposes of calculating the value of the end product includes services (except transportation services) incidental to the article, provided that the value of those incidental services does not exceed that of the article itself.

Thailand is not a “designated country,” and products of Thailand are not eligible for U.S. Government procurement. 48 CFR 25.003

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.

You argue that, because the key components of the R980 GNSS Receiver are manufactured in the United States, it is a product of the United States. You further argue that the final production in Thailand is a “simple assembly” and does not result in a substantial transformation. You also argue that the main PCBA, once fully assembled and programmed, contains the “essential character” of the R980 GNSS Receiver. In support of this, you cite the U.S. Court of International Trade’s opinion in *Energizer Battery, Inc. v. United States*, 190 F. Supp. 3d 1308 (Ct. Int’l Trade 2016). *Energizer Battery* involved the 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. HQ 561232, dated April 20, 2004.

As you further highlight, the programming of a device may also affect its country of origin. In *Data General v. United States*, 4 C.I.T. 182 (1982), the court determined that the programming of a foreign PROM (“Programmable Read-Only Memory” chip) in the United States substantially transformed the PROM into a U.S. article. In the United States, the programming bestowed upon each integrated circuit its electronic function, that is, its “memory” which could be retrieved. A distinct physical change was effected in the PROM by the opening or closing of the fuses, depending on the method of programming. The essence of the article, its interconnections or stored memory, was established by programming. *Texas Instruments v. United States*, 681 F.2d 778, 782 (CCPA 1982) (stating the substantial transformation issue is a “mixed question of technology and customs law”).

CBP has issued multiple decisions involving articles containing several PCBAs and their functionality in the final article. For instance, in HQ H301910, dated August 5, 2019, which concerned mailing machine engines, CBP determined that the main PCBA, the print control firmware, and the print head constituted the primary and fundamental

essence of the mailing machine engine because these components controlled the engine's function, operations, and enabled the printing of the correct postage. In particular, the main PCBA was composed of components essential to the fundamental function and primary purpose of the engine, including the CPU, the memory, and the Field-Programmable Gate Array, which combined to form the "brain" of the device. CBP held that, inasmuch as the main PCBA, the print control firmware, and the print head were all produced in Japan, the country of origin of the mailing engine machine was Japan.

In HQ H302801, dated October 3, 2019, CBP considered the country of origin of certain "Fitbit" smart watches. The case involved multiple PCBAs from Taiwan or the Philippines, which were assembled together into a final product in China by installing PCBAs into a housing with a vibration motor, battery, display, and wristband. The assembly did not alter the PCBAs' functional or physical attributes, and the PCBAs had a predetermined end-use as the electronic "brain" of the device. Additionally, the final assembly in China was neither complex nor time intensive, whereas the assembly of the PCBAs required complex equipment for SMT, a high level of expertise, and involved more components and subassemblies than the final assembly in China. Therefore, the country of origin was Taiwan or the Philippines.

However, in HQ H304677, dated April 21, 2023, CBP found that the country of origin of laser printers was China, even though the main PCBAs were manufactured and installed into the final product in Mexico. In that case, the printer transports which included all the mechanical components of the device, such as the housing, scanner, power supply, and fuser, were manufactured in China. The PCBAs were manufactured in Mexico, where components were added to the board with SMT, and U.S. and Philippine-origin firmware was downloaded onto the PCBA. The PCBAs were then installed into the printers and the devices underwent a series of tests. CBP determined that the PCBAs were not the only fundamental functioning component of the printer, since the Chinese printer transports also provided character to the final article. Furthermore, since all of the mechanical printing functions were imparted by the Chinese transports, the country of origin was China.

Most significantly, CBP analyzed another, almost identical GNSS Receiver produced by Trimble in HQ H338116, dated June 4, 2024. In this final determination, CBP determined that the country of origin was the United States even though two PCBAs were manufactured in Thailand and a 450 MHz radio component was manufactured in China. Because the U.S.-origin components were notably more complex, CBP determined that the country of origin of these receivers was the United States.

In the instant case, based on the totality of the circumstances and consistent with the pertinent authorities, we find that the country of origin of the R980 GNSS Receiver is the United States. We agree that the U.S.-origin main board assembly imparts the "essential character" of the R980 GNSS Receiver. In addition, three other PCBAs are also manufactured in the United States. As in HQ H302801, the main PCBAs originate in one country, in this matter the United States, where most of the required production took place. The production process here includes assembling hundreds of electronic components onto the PCBA using SMT, including the CPU, RAM, GPS components, and communications components, which are central to the device's operation.

Furthermore, U.S. production involves programming and configuring the primary PCBA with Trimble's proprietary U.S.-origin software, which is required for the device to function and defines its use. This case is unlike HQ H304677, which involved U.S.-origin software programmed onto a Mexican-origin PCBA, because here both the software and the primary PCBA originate from the same country. Additionally, in H304677, all other fundamental functional components of the printer were produced in China, whereas in this instance, most of the primary components of the R980 GNSS Receiver are assembled in the United States. Furthermore, once they are fully assembled, all U.S.-origin components will have a predetermined end-use in the R980 GNSS Receiver when exported to Thailand and installed into the device.

We also find that the 450MHz Radio manufactured in Finland does not affect the country of origin determination. The receiver analyzed in HQ H338116 also included a 450MHz Radio, manufactured in China, and CBP determined that the radio component was not significant enough to the receiver's name, character, or use to affect the country of origin determination, and we note that it is only available when sold to certain countries.

We agree that the assembly in Thailand is a simple assembly that does not result in a substantial transformation. It primarily involves placing the PCBAs into a "hot box" subassembly and then affixing the "hot box," antenna, battery, and keypad to the chassis, in contrast to the complex SMT performed in the United States. While the two Thai-origin main components are also PCBAs and are produced using SMT, they play a subsidiary role within the device. They do not undergo any programming or process any communications or navigational information which are required for the R980 GNSS Receiver to function. The U.S.-origin components are notably more complex, which is why more worker hours are required to produce the U.S.-origin components. Therefore, based on the totality of the circumstances, we determine that the final assembly in Thailand does not result in a substantial transformation.

Accordingly, we find that the last substantial transformation occurs in the United States, and therefore, the finished R980 GNSS Receiver is not a product of a foreign country or instrumentality designated pursuant to 19 U.S.C. 2511(b). As to whether the R980 GNSS Receiver produced in the United States qualifies as a "U.S.-made end product," you may wish to consult with the relevant government procuring agency and review *Acetris Health, LLC v. United States*, 949 F.3d 719 (Fed. Cir. 2020).

Country of Origin Marking

Section 304 of the Tariff Act of 1930, as amended (19 U.S.C. 1304), provides that unless excepted, every article of foreign origin imported into the United States shall be marked in a conspicuous place as legibly, indelibly, and permanently as the nature of the article (or its container) will permit, in such a manner as to indicate to an ultimate purchaser in the United States the English name of the country of origin of the article.

For purposes of the marking requirement, the term "country of origin" is defined under 19 CFR 134.1(b), which adopts the same "substantial transformation" rule as the TAA and the FAR. See 19 U.S.C. 2518(4)(B); FAR, 48 CFR 25.003. Specifically, Section 134.1(b) of the CBP Regulations (19 CFR 134.1(b)), states that:

"Country of origin" means the country of manufacture, production, or growth of any article of foreign origin entering the United States. Further work or material

added to an article in another country must effect a substantial transformation in order to render such other country the “country of origin” within the meaning of this part;

Section 134.32 of the CBP Regulations (19 CFR 134.32) provides several exceptions to the marking requirement. Specifically, “products of the United States exported and returned” are exempt from the country of origin marking requirement. 19 CFR 134.32(m).

As discussed above, for purposes of section 2518(4)(B) of the TAA, the R980 GNSS Receiver is a product of the United States. Having already reached this determination, we also find that the R980 GNSS Receiver is a product of the United States for the purpose of country of origin marking, and therefore, the R980 GNSS Receiver may be excepted from country of origin marking when imported into the United States, pursuant to 19 CFR 134.32(m).

HOLDING:

Based on the information provided, for purposes of U.S. Government procurement and country of origin marking upon importation, the R980 GNSS Receiver is a product of the United States and is not substantially transformed by its final assembly in Thailand. Furthermore, as a product of the United States, it is excepted from country of origin marking pursuant to 19 CFR 134.32(m).

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