



**DEPARTMENT OF HOMELAND SECURITY
U.S. Customs and Border Protection**

**Notice of Issuance of Final Determination Concerning
Three Vehicle Tracking Devices, a Satellite Device,
an NFC Reader, and an NFC Keyring FOB**

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 three vehicle tracking devices, a satellite device, a near field communication (NFC) reader, and an NFC keyring fob. Based upon the facts presented, CBP has concluded that the country of origin of the three vehicle tracking devices, the satellite device, and the NFC reader is Canada for purposes of U.S. Government procurement. The country of origin of the NFC keyring fob will be determined by the country of origin of the contactless integrated circuit (IC), which is usually Taiwan, but if unavailable, then either Thailand or Singapore will be the source country and the country of origin for purposes of U.S. Government procurement.

DATES: The final determination was issued on November 25, 2020. 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 within [insert 30 days from date of publication in the *Federal Register*].

FOR FURTHER INFORMATION CONTACT: Beth Jenior, Valuation and Special Programs Branch, Regulations and Rulings, Office of Trade, at (202) 325-0347.

SUPPLEMENTARY INFORMATION: Notice is hereby given that on November 25, 2020, pursuant to subpart B of part 177, U.S. Customs and Border Protection

Regulations (19 CFR part 177, subpart B), CBP issued a final determination concerning the country of origin of three vehicle tracking devices, one satellite device, one NFC reader, and one NFC keyring fob imported by Geotab USA, Inc. (Geotab), which may be offered to the U.S. Government under an undesignated government procurement contract. This final determination, Headquarters Ruling Letter H309128, was issued 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 concluded that the country of origin of the three vehicle tracking devices, the satellite device, and the NFC reader is Canada for purposes of U.S. Government procurement. Regarding the NFC keyring fob, CBP concluded that the country of origin will be the country where the contactless integrated circuit is manufactured. In most cases, this will be Taiwan, but if the contactless integrated circuit cannot be sourced there, then it will be sourced from either Thailand or Singapore, and the corresponding sourcing country would then be the country of origin for purposes of U.S. Government procurement.

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*.

Dated: November 25, 2020.

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

HQ H309128

November 25, 2020

OT:RR:CTF:VS H309128 EGJ

CATEGORY: Origin

Mr. James Lay
Geotab USA, Inc.
770 E. Pilot Rd., Suite A
Las Vegas, NV 89119

Re: U.S. Government Procurement; Country of Origin of Three Vehicle Tracking Devices, Satellite Device, NFC Reader, and NFC Keyring Fob; Substantial Transformation

Dear Mr. Lay:

This is in response to your ruling request, dated February 6, 2020, requesting a final determination on behalf of Geotab USA, Inc. (“Geotab”) pursuant to subpart B of Part 177 of the U.S. Customs and Border Protection (“CBP”) Regulations (19 C.F.R. Part 177).

This final determination concerns the country of origin of three vehicle tracking devices, one satellite device, one near field communication (“NFC”) reader, and one NFC identification keyring fob. As a U.S. importer, Geotab is a party-at-interest within the meaning of 19 C.F.R. § 177.22(d)(1) and is entitled to request this final determination.

FACTS:

Geotab is a technology company which designs and imports vehicle tracking systems, and has submitted six different products for our review. The products’ descriptions, pictures, and manufacturing processes are set forth below.

Product Descriptions

The first three products are telematics devices, which are designed to transmit vehicle tracking information over long distances. Specifically, the three products are:

- The GO9 device and its component harnesses;
- The GO9-NOGPSF, which is a GO9 device with the GPS permanently disabled, and its component harness; and
- The GR8 (ATT-GRLTEA1), which is a rugged version of the GO8 device that can be used for harsh conditions and installed on the exterior of a vehicle, for example on a truck trailer or on heavy equipment, and its component harness.

You state that the three vehicle tracking devices are very similar in design. When each end product is packaged, it includes the tracking device with one or more harnesses (communications and data cables), and other minor components, such as zip ties, mounting brackets, decals or stickers, and screws. A harness may be an external component that is plugged into the device or it may be a component built into the item. You have provided the following picture of the GO9 device, which does not have a built-in harness:



You have also provided the following picture of the GR8 device, which does have a built-in harness:



In addition, you have asked for a determination of the country of origin of a satellite device, which is an auxiliary item that plugs into a GO9 or GO8 device and that allows the GO9 or GO8 device to communicate over the satellite network when cellular connectivity is lost. The satellite add-on is a single device with two external components. Pictured below, it consists of the satellite device (the silver box on the lower left side), an IOX integrated receiver/decoder (IRD) (the rectangular unit at the bottom of the image), and an external antenna (the black square unit on the top right of the image), which are delivered connected together with a zip tie:



Finally, you have also requested a determination regarding an NFC reader and an NFC keyring fob, described as follows:

- An IOX NFC reader (IOX-NFC-READERA), which allows dispatchers or managers to easily view where each driver is at any point in time and to monitor each driver as s/he operates a vehicle; and
- An NFC identification keyring fob (GEO-NFC FOB BLUE20), used in conjunction with the NFC reader to identify the individual driver operating a vehicle.

NFC technology allows two devices placed within a few centimeters of each other to exchange data. In order for this to work, both devices must be equipped with an NFC chip and an antenna.¹ According to your website, the NFC reader plugs into the Geotab vehicle tracking device. Each authorized vehicle driver has an assigned NFC keyring fob with a specific serial number assigned to that driver. The driver swipes the NFC keyring fob across the NFC reader before beginning the trip so that the vehicle tracking device can register who is driving the vehicle. See “NFC Driver ID Technology: How to Use and Install,” (April 5, 2018) *available at* <https://www.geotab.com/blog/driver-id/>.

You state that the NFC reader is a single unit featuring a black rectangular casing and a long connecting wire. It is pictured below with the NFC keyring fob (the blue item with an attached key ring, second from the right) and other minor components, such as the mounting bracket and screws, double sided tape for installation (the red item), the NFC sticker (the item on the far right), and a zip tie. You note that the NFC keyring fob and the sticker are sold separately.



Three Vehicle Tracking Devices

You state that the GO9, the GO9-NOGPSF, and the GR8 vehicle tracking devices all have a similar manufacturing process. Each device consists of both Canadian and non-Canadian components, and two main components of each product are a printed circuit board assembly (“PCBA”) and proprietary software. The PCBAs for each of these products are manufactured in Canada. Additionally, all of the PCBAs for these three devices are loaded with software developed in Canada. You have provided us with the details of the manufacturing process for the GO9 device as a representative example.

For the GO9 and other two devices, most of the components are imported into Canada from China. At a facility in Canada, the PCBAs are assembled from two major components: a main card and a daughter card. To produce these two boards, blank printed circuit boards are run through surface mount technology (“SMT”) machines and are populated with different components. The GPS device is surface mounted to the main board and an antenna is attached to the daughter board. Next, the two boards are combined together into a single PCBA.

The inert PCBAs are shipped from the manufacturing facility to Geotab’s facility which is also in Ontario, Canada. At Geotab’s facility, the following six processes are performed: (1) programming and testing, (2) closing, (3) scanning, (4) packaging, (5) labeling, and (6) debugging. During the first programming and testing phase, Geotab

¹ See “Everything you need to know about NFC and mobile payments,” CNET (September 9, 2014) *available at* <https://www.cnet.com/how-to/how-nfc-works-and-mobile-payments/>.

loads the final firmware and configurations onto the PCBA's subassembly. This firmware was also developed in Canada. Then a SIM card is placed into the subassembly and the unit is tested. Various labels are affixed to parts of the unit, including the casing. The subassembly is inserted into the casing, then the unit is tested, inspected, and finally the casing is closed. Then the light pipe, labels, and decals are added. The device is placed in a box with its product literature and zip tie.

You note that the harness is a communication and data cable that is either hard-wired into the device or plugs into the device. The harness allows interaction between the device and the vehicle; it also provides connectivity to facilitate the transmission and collection of data. In many instances, an external harness is not necessary because the device can be plugged directly into the vehicle's On-Board Diagnostics ("OBD") port. You state the harnesses are subsidiary items, and that all of harnesses for these devices are currently sourced from China. You state that the devices are packaged together with their harnesses when they are shipped to the final customer in the United States.

IOX Satellite Add-On

Turning to the satellite device, it is made up of three major components which connect to each other via an electrical cord: the satellite box, an IOX integrated receiver/decoder ("IRD"), and an external antenna. The satellite box contains a PCBA, an internal antenna, and a modem. All of the discrete components of the satellite box are imported into Canada. The blank board is populated with the discrete components, including the modem, using SMT equipment at a facility in Canada. Then, the PCBA is shipped to Geotab's facility in Canada. At Geotab, the antenna is attached to the PCBA, which is then tested and packaged in its outer casing. This finished satellite box is the component that provides an alternative data connection based on a satellite signal when the GO device loses its cell tower based signal.

The IRD is the component which communicates and facilitates the data flow between the satellite box and the vehicle tracking device. The IRD is built in China, where it is loaded with proprietary software developed by Geotab in Canada. It is shipped to Canada to be packaged together with the satellite box. The final component is the external antenna, which is completely manufactured in China and shipped to Canada to be packaged together for shipment with the other two components.

NFC Reader

With regard to the NFC Reader, it contains two PCBAs, a main board, and an antenna board. Just like the components for the vehicle tracking devices, most of the components of these PCBAs are imported from China. At a Canadian facility, the blank imported boards are all populated with their components using SMT equipment. The two PCBAs and the two boards are combined together into a single assembly. The new PCBA subassembly is loaded with Geotab firmware developed in Canada. In addition, the NFC reader's harness from China is wired into the PCBA at this facility.

Next, the PCBA subassembly is shipped to Geotab's Ontario facility, where it is inserted between two plastic pieces which will form the outer casing. The unit is tested, labelled, and packaged with a mounting bracket and a zip tie for delivery to customers.

NFC Fobs

With regard to the NFC fobs, they are manufactured in Taiwan. Each fob is made up of the following parts, sourced in Taiwan: (1) plastic casing, (2) an “Ultralight C – contactless ticket integrated circuit (“IC”) chip,” (3) coil / antenna, (4) metal ring, and (5) label paint. However, you note that occasionally the manufacturer in Taiwan is unable to source the contactless IC in Taiwan. In those instances, the manufacturer will source the IC from either Thailand or Singapore. The fob’s assembly always takes place in Taiwan.

After the finished fobs are imported into Canada, Geotab programs a serial number into each fob so that it can be uniquely identified. Then, Geotab marks the fobs and packages them into packs of 20 each for export.

ISSUE:

What is the country of origin of the three vehicle tracking devices, the satellite device, the NFC reader, and the NFC keyring fob for 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 purposes 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 C.F.R. § 177.21 *et seq.*, which implements Title III of the Trade Agreements Act of 1979, as amended (19 U.S.C. § 2511 *et seq.*).

Under the rule of origin set forth under 19 U.S.C. § 2518(4)(B):

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 C.F.R. § 177.22(a).

The test for determining whether a substantial transformation will occur is whether an article emerges from a process with a new name, character or use, different from that possessed by the article prior to processing. See *Texas Instruments Inc. v. United States*, 69 C.C.P.A. 151 (1982). In order to determine whether a substantial transformation has occurred, CBP considers the totality of the circumstances and makes such determinations on a case-by-case basis. CBP has stated that a new and different article of commerce is an article that has undergone a change in commercial designation or identity, fundamental character, or commercial use. A determinative issue is the extent of the operations performed and whether the materials lose their identity and become an integral part of the new article. This determination is based on the totality of the evidence. See *National Hand Tool Corp. v. United States*, 16 CIT 308 (1992), *aff'd*, 989 F.2d 1201 (Fed. Cir. 1993).

Three Vehicle Tracking Devices and the NFC Reader

In *Data General v. United States*, 4 CIT 182 (1982), the court determined that for purposes of determining eligibility under item 807.00, Tariff Schedules of the United States (predecessor to subheading 9802.00.80, Harmonized Tariff Schedule of the United States), the programming of a foreign PROM (Programmable Read-Only Memory chip) in the United States substantially transformed the PROM into a U.S. article. The court noted that the programs were developed by a U.S. project engineer with many years of experience in “designing and building hardware.” In addition, the court noted that while replicating the program pattern from a “master” PROM may be a quick one-step process, the development of the pattern and the production of the “master” PROM required much time and expertise. The court noted that it was undisputed that programming altered the character of a PROM.

Accordingly, in some cases we have found that programming a device in the same country where the software was developed can constitute a substantial transformation. In HQ 558868, dated February 23, 1995, we determined that blank cards embedded with microchips were substantially transformed when they were imported into the United States and programmed into Secure ID cards using software developed in the United States. We took the view that the programming changed the blank card from a card with many potential applications into a card that could only be used to enable the user to log into a secured computer. See *also* HQ 735027, dated September 7, 1993 (programming imported blank media (EEPROM) with U.S. software in the United States substantially transformed it into media which prevented the piracy of software).

We note that all four of these devices contain software developed and downloaded onto them in Canada. In addition to the software, these four devices all contain PCBAs built in Canada. The blank boards and the various capacitors, resistors, and other elements are permanently combined together using SMT machines at a facility in Canada. We note that the PCBAs are made up of a variety of parts from different countries, including non-TAA countries such as China.

For the four relevant devices, we note that they are imported into Canada as bare boards, PCBA parts, external housing, and wire harnesses. When the PCBAs are built in Canada, programmed with Canadian software in Canada, and changed into a finished vehicle tracking device or NFC reader in Canada, we find that they have a different name, character, and use than the imported articles. Therefore, we find that the discrete parts of these four devices are substantially transformed in Canada. As such, the country of origin for the purposes of government procurement of the three vehicle tracking devices and the NFC reader is Canada.

Satellite Device

Unlike the vehicle tracking devices and reader, the satellite device is made up of three different components: the satellite box, the IRD, and the external antenna. The satellite box contains a PCBA populated in Canada, which incorporates a modem and an internal antenna. The satellite box is the part of the system which connects to the satellite system in the event the vehicle tracking device loses its connection to cellular tower signals. The IRD communicates with the vehicle tracking device, and the external antenna provides additional connectivity. Both the IRD and the external antenna are completely manufactured in China; however, the IRD is loaded with proprietary software developed in Canada.

As stated previously in our analysis of the tracking devices and NFC reader, we have found that in certain situations, manufacturing a PCBA constitutes a substantial transformation. With regard to the satellite box, we find that populating a bare board with a modem, an internal antenna, and enclosing it in the finished housing constitutes a substantial transformation. The individual components lose their identities as modems, antennae, capacitors, and resistors – and have a new name, character, and use as a satellite device box.

With regard to the remaining two components, we find that their country of origin is China. Although Canadian software is downloaded onto the IRD in China, we note that they are entirely manufactured in China. In HQ H241177, dated December 3, 2013, we examined Ethernet switches assembled to completion in Malaysia and then shipped to Singapore, where U.S.-origin software was downloaded onto the switches. In that ruling, we noted that:

We find that the software downloading performed in Singapore does not amount to programming. Programming involves writing, testing and implementing code necessary to make a computer function in a certain way. *See Data General supra. See also "computer program", Encyclopedia Britannica (2013), (9/19/2013) <http://www.britannica.com/>, which explains, in part, that "a program is prepared by first formulating a task and then expressing it in an appropriate computer language, presumably one suited to the application."*

While the programming occurs in the U.S., the downloading occurs in Singapore. Given these facts, we find that the country where the last substantial transformation occurs is Malaysia, that is, where the major assembly processes are performed. The country of origin for purposes of U.S. Government procurement is Malaysia.

Like the Ethernet switches referenced above, downloading Canadian software onto the IRD in China is not sufficient to substantially transform the device. However, we note that both the IRD and the external antenna are packaged together with the satellite box to form a finished satellite device system. All three components of the satellite device system operate as a single system when exported to the United States; therefore, we must determine the singular country of origin for the entire system.

In determining the country of origin for the satellite device system, the Court of International Trade's ("CIT") analysis in *Uniroyal, Inc. v. United States* ("*Uniroyal*") is instructive, wherein the CIT examined whether a finished shoe upper was substantially transformed when it was combined with the shoe's outer sole. 3 CIT 220, 542 F. Supp. 1026 (1982), *aff'd* 702 F.2d 1022 (Fed. Cir. 1983). The CIT noted that "the upper -- which in its condition as imported is already a substantially complete shoe -- is readily recognizable as a distinct item apart from the outsole to which it is attached." *Id.* at 224. In addition, the CIT cited to *Grafton Spools, Ltd. v. United States*, 45 Cust. Ct. 16 (1960), another substantial transformation case in which the U.S. Customs Court noted that purchasers of typewriter ribbons were buying the ribbon, and not the spool upon which the ribbon was wound. The CIT noted that "in *Grafton Spools* the ribbon and not the spool was the essence of the finished article, while here the upper is the essence of the completed shoe." *Id.* at 226 – 227. In *Uniroyal*, the CIT ultimately concluded that adding the outer soles did not result in a substantial transformation of the uppers as the uppers were the very essence of the finished shoe.

In the satellite device system, we find that it is the satellite box which is the "very essence" of the finished system, while the other two devices perform subsidiary roles. The satellite box communicates with the satellite network when the vehicle tracking device loses its connection with cellular towers. The IRD facilitates the flow of information between the tracking device and the satellite box, while the external antenna boosts connectivity. For all of these reasons, we find that the country of origin of the complete system will be the country of origin of the satellite box. For government procurement purposes, the country of origin of the satellite device system will be Canada, where the PCBAs were populated with various components.

NFC Keyring Fob

With regard to the NFC fobs, each fob is made up of the following parts sourced in Taiwan: (1) plastic casing, (2) an "Ultralight C – contactless ticket IC chip," (3) coil / antenna, (4) metal ring, and (5) label paint. However, you note that occasionally the manufacturer in Taiwan is unable to source the contactless IC in Taiwan. In those instances, the manufacturer will source the IC from either Thailand or Singapore. The fob's assembly always takes place in Taiwan.

In Headquarters Ruling Letter ("HQ") H303864, dated December 26, 2019, an electric motor from China was shipped to Mexico for assembly with the impeller, the seal, and the plastic housing to form the finished pump assembly. In that case, we noted that the assembly was rather simple – it involved press fitting the parts into each

other. Moreover, the electric motor was the most expensive and substantive part of the finished pump assembly. We found that it imparted the “very essence” of the pump assembly, as it turned the impeller and moved the fluid through the pump.

The question presented is whether the contactless IC is substantially transformed when it is assembled together with the other components. We note that in NFC technology, an NFC chip and an antenna are combined to transmit information across short distances. In this case, the driver’s serial ID number is transmitted to the NFC reader for tracking purposes. Therefore, the NFC chip is central to the function of the finished NFC fob.

Similar to the shoe upper in *Uniroyal*, the ribbon in *Grafton Spools*, and the electric motor in HQ H303864, we find that the NFC chip constitutes the “very essence” of the finished NFC fob. After the chip is assembled into the finished fob, its use remains unchanged. Therefore, we find that the country of origin of the NFC fob will be the country where the NFC chip is produced. In most cases, the country of origin will be Taiwan, but when the Ultralight C – contactless ticket IC is unavailable from Taiwan, then the country of origin of the NFC fob will be where the chip is sourced, which in this case is either Thailand or Singapore.

HOLDING:

The country of origin of the three telematics devices, the satellite devices, and the NFC reader for purposes of U.S. Government procurement is Canada.

The country of origin of the NFC keyring fob for purposes of U.S. Government procurement is the country of origin of the contactless IC, which is usually Taiwan. However, if the contactless IC is sourced from Thailand or Singapore, then the country of origin for procurement would be Thailand or Singapore as the case may be.

Notice of this final determination will be given in the *Federal Register*, as required by 19 C.F.R. § 177.29. Any party-at-interest other than the party which requested this final determination may request, pursuant to 19 C.F.R. § 177.31, that CBP reexamine the matter anew and issue a new final determination. Pursuant to 19 C.F.R. § 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 Court of International Trade.

Sincerely,

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