Exhibit B

U.S. Patent No. 8,244,465 – General Motors Navigation Systems And Software

The following claim chart includes illustrations, diagrams, and references relating to General Motors GMC, Chevrolet, Buick, and Cadillac (collectively referred to as "GM" for brevity herein) vehicles' navigation systems, including the Next-Generation Embedded Navigation and Maps+ systems found on GM vehicles' infotainment systems. Various components cited herein are intended to illustrate theories of infringement and are not intended to exclude other components used in GM navigation systems from allegations of infringement. Upon information and belief, including based on public information and information appearing on GM's website, the infringement contentions and evidence of infringement set forth in these charts apply to each GM vehicle equipped with Next-Generation Embedded Navigation and/or Maps+, including those identified in Part II of Mel NavIP's Disclosures.

To the extent that multiple cases of infringement are set forth in the below charts, if no reference is made to a specific case with respect to a claim or claim element, the evidence of infringement applies to all cases of infringement set forth for that claim, or the claim(s) on which that claim depends.

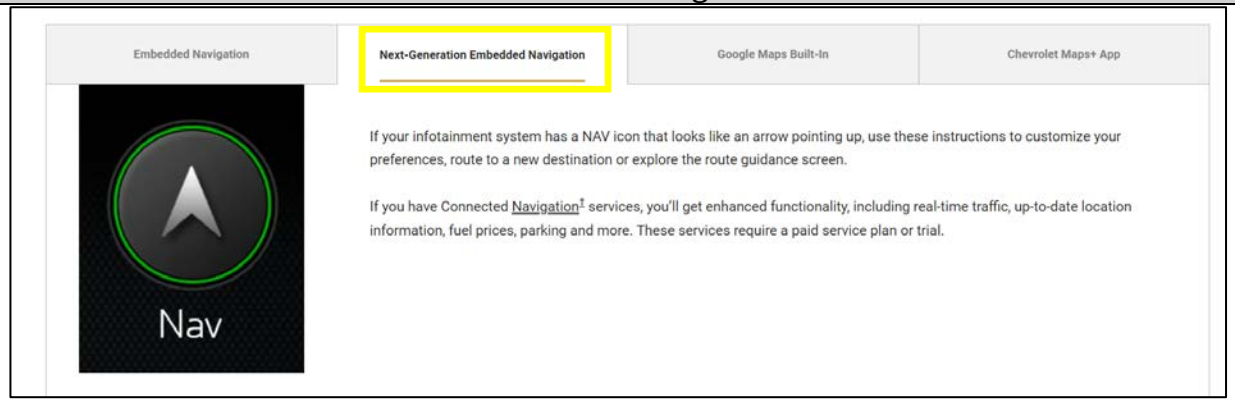
To the extent there are any differences between the accused instrumentalities and the following claim elements, any such differences are insubstantial, and the claim(s) is infringed under the doctrine of equivalents.

Claim	Claim Element	Evidence of Infringement
1[a]	A navigation system comprising:	General Motors ("GM") vehicles comprise a navigation system. For example, GM vehicles, including under the Chevrolet, GMC, Buick, and Cadillac brands, have a navigation system, such as Next-Generation Embedded Navigation on the Infotainment 3 Plus system (also referred to as the Next Generation Infotainment system) found in the, *inter alia*, 2022 Chevrolet Silverado 2500 HD. *See, e.g.*, Next-Generation Embedded Navigation:

Claim	Claim Element	Evidence of Infringement
		CHEVROLET … 2022 SILVERADO HD … SPECIFICATIONS (CONTINUED) ● STANDARD ○ AVAILABLE – NOT AVAILABLE … 2022 Chevy Silverado HD Brochure at https://www.chevrolet.com/content/dam/chevrolet/na/us/english/index/shopping-tools/download-catalog/08-pdf/2022-chevrolet-silverado-hd-ebrochure.pdf (yellow annotations added) (MEL_GM_TECH_00000020 and MEL_GM_TECH_00000051).

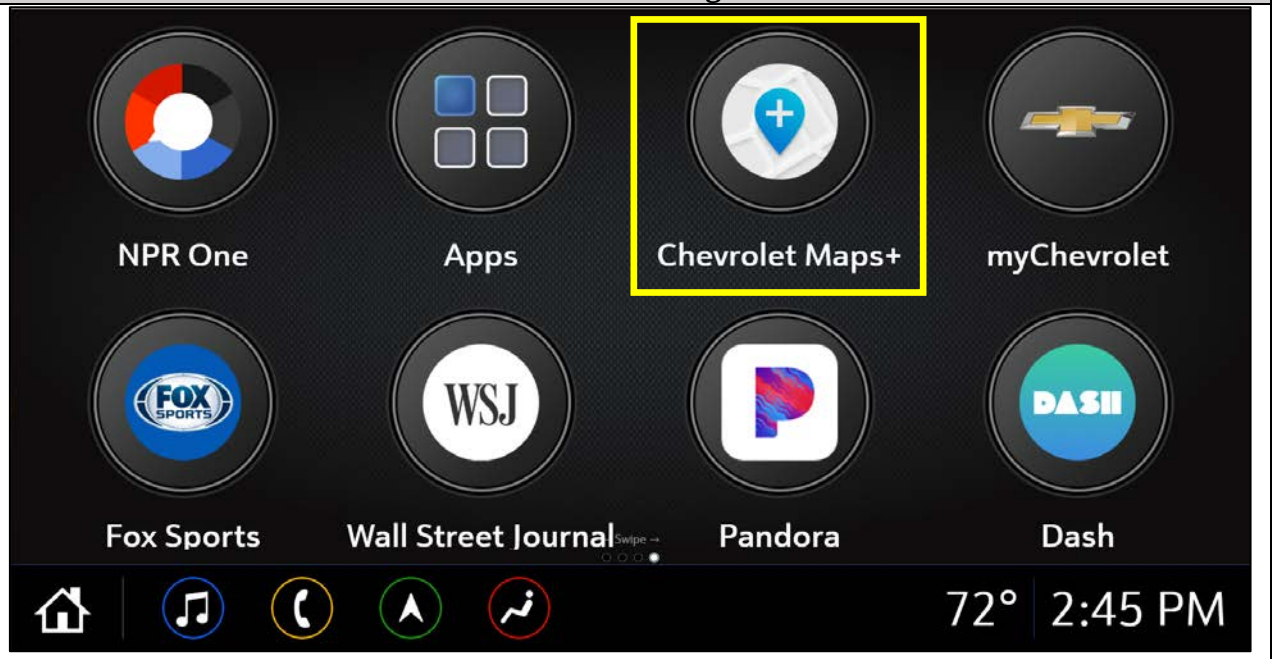
ENTERTAINMENT	WT	CUSTOM	LT	LTZ	HIGH COUNTRY
Chevrolet Infotainment 3 Plus system[1] with 8-inch diagonal HD color touch-screen, AM/FM stereo, Bluetooth audio streaming[2] for two active devices, voice command pass-through to compatible phone, wireless Apple CarPlay[3] and wireless Android Auto[4] compatibility, available Alexa Built-In,[5] voice recognition and available In-Vehicle Apps[6] (LT requires available Convenience Package II or Advanced Trailering Package)	–	–	○	●	–

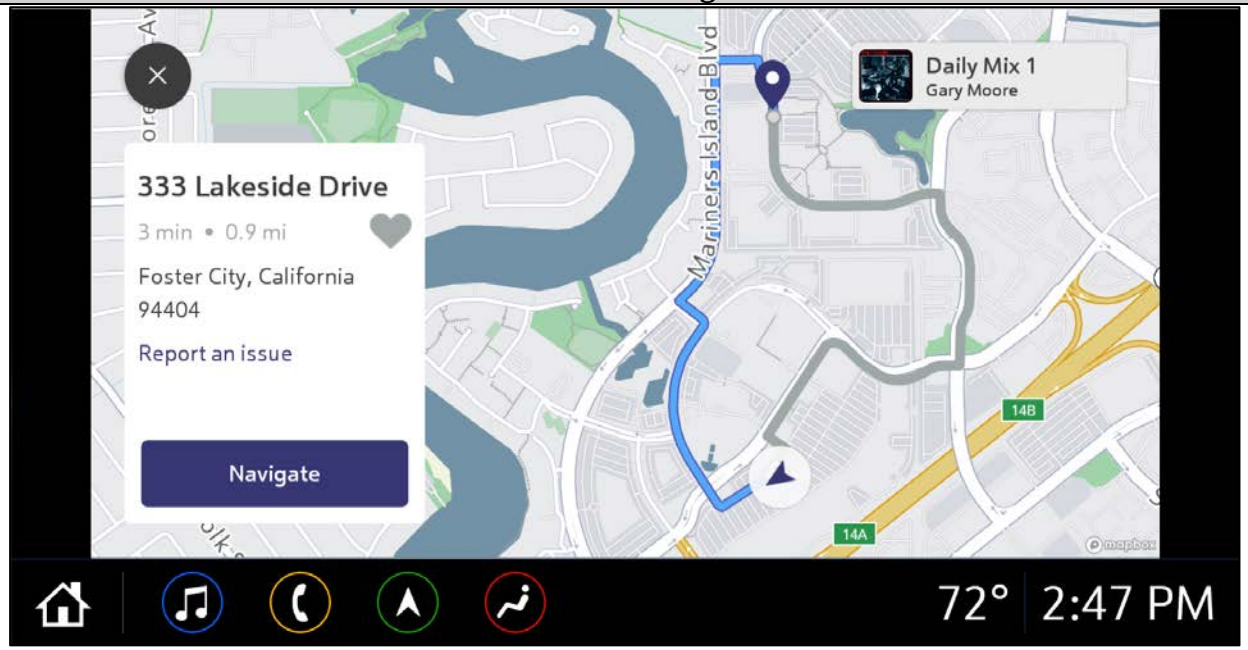
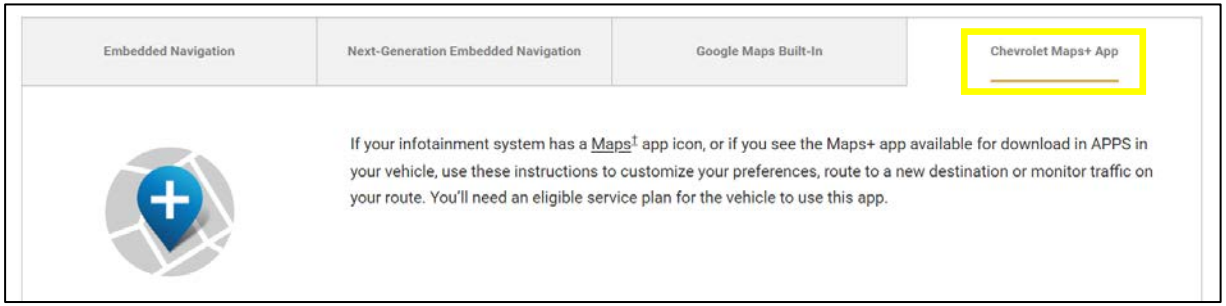
Claim	Claim Element	Evidence of Infringement
		See also: Chevrolet Infotainment 3 Plus System Demo at https://chevroletdemo.com/invehicleapps (yellow annotations added) (MEL_GM_TECH_00002417). *See also:*

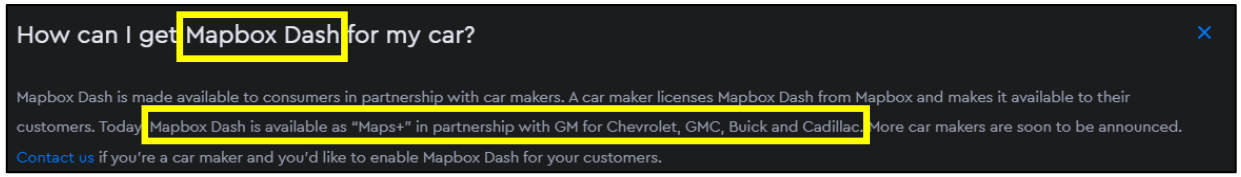
Claim	Claim Element	Evidence of Infringement
		 How to Use Navigation in Your Vehicle, Chevrolet, at https://www.chevrolet.com/support/vehicle/smartphone-connections/navigation/preferences (yellow annotations added) (MEL_GM_TECH_00002430). *See also* GMC Navigation at https://www.gmc.com/support/vehicle/smartphone-connections/navigation/preferences; Buick Navigation at https://www.buick.com/support/vehicle/smartphone-connections/navigation/preferences; and Cadillac Navigation at https://www.cadillac.com/support/vehicle/smartphone-connections/navigation/preferences. *See also:*

Claim	Claim Element	Evidence of Infringement
		Navigation Map View … **Navigation** **Using the Navigation System** **If equipped, launch the Nav application by touching the Nav icon on the Home Page or on the shortcut tray near the bottom of the infotainment display.** 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at pp. 163-164 (available at https://my.chevrolet.com/content/dam/gmownercenter/gmna/dynamic/manuals/2022/chevrolet/silverado/2022-chevrolet-silverado-2500-hd-3500-hd-owners-manual.pdf) (MEL_GM_TECH_00001800-MEL_GM_TECH_00001801).

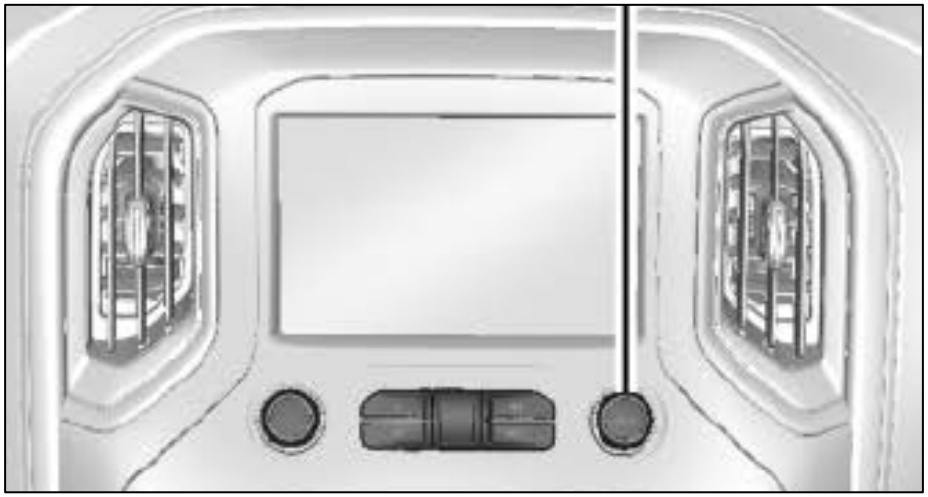
Claim	Claim Element	Evidence of Infringement
		For example, GM vehicles, including under the Chevrolet, GMC, Buick, and Cadillac brands, have a navigation system, such as Maps+ on the Infotainment 3 system. *See, e.g.,* Maps+: **DETROIT** – General Motors today announced the launch of Maps+, an in-vehicle, app-based navigation solution, upgrading capabilities for select model year 2018 and newer Chevrolet, Buick, GMC and Cadillac vehicles by the end of 2021. Maps+, which is powered by Mapbox, is expected to begin its rollout to approximately 900,000 vehicles on April 30, as part of select Connected Services plans. General Motors Debuts Maps+, An In-Vehicle App-Based Navigation System, GM Newsroom, at https://news.gm.com/newsroom.detail.html/Pages/news/us/en/2021/apr/0412-maps.html (MEL_GM_TECH_00002516). *See also:*

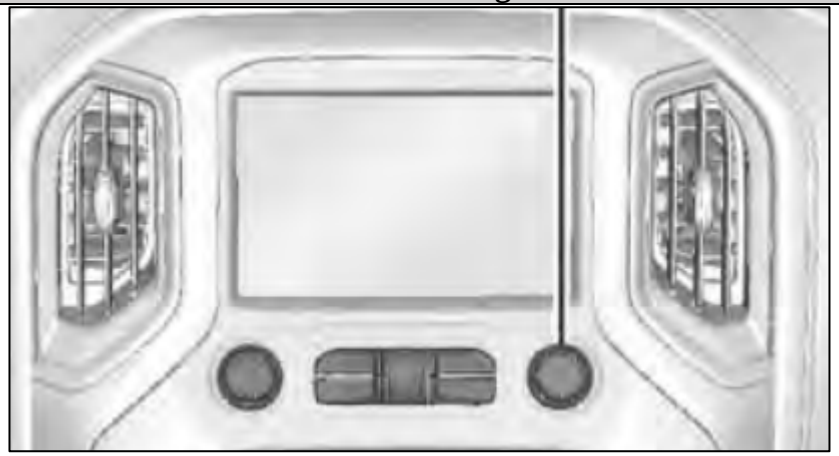
Claim	Claim Element	Evidence of Infringement
		 …

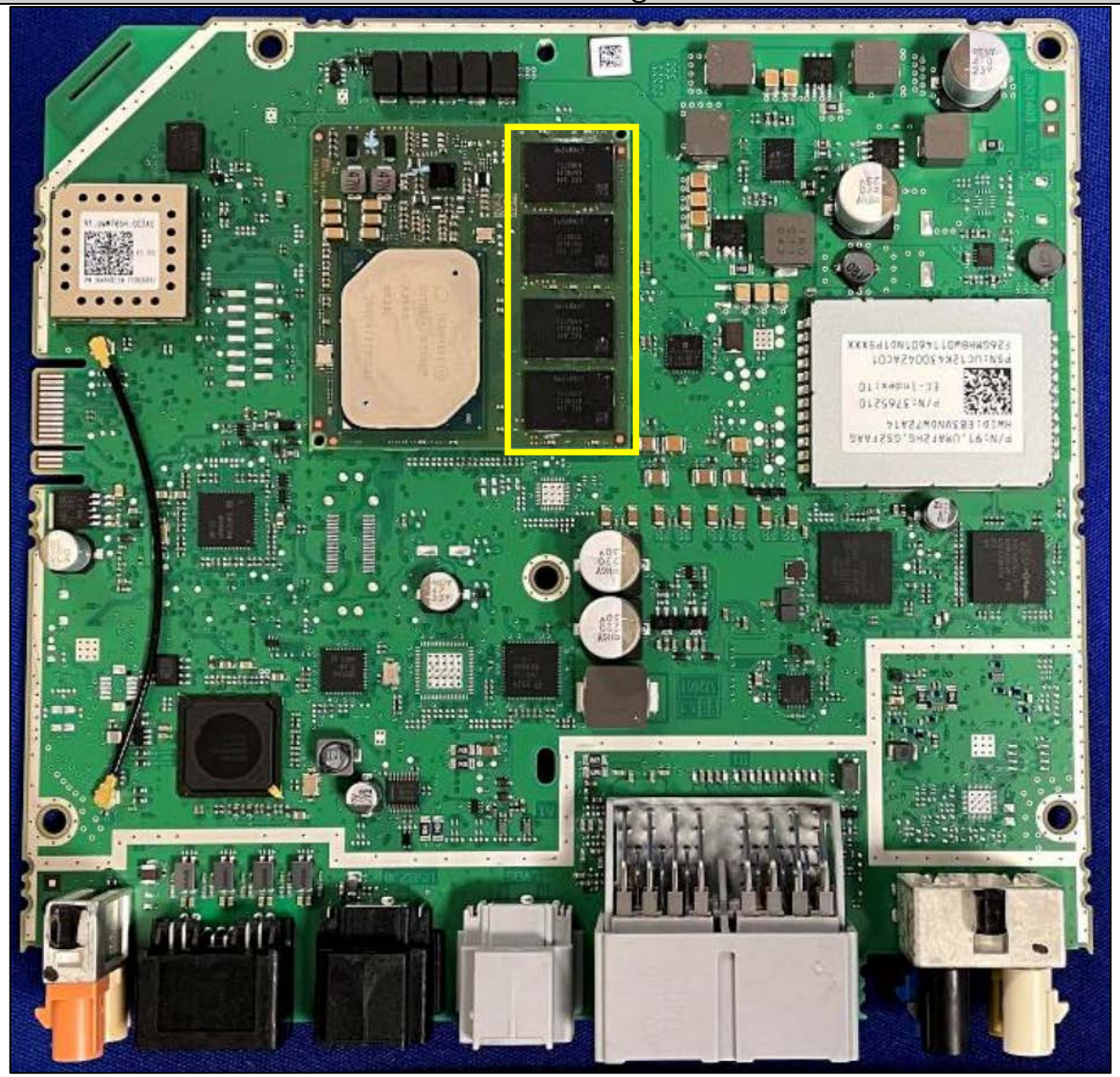
Claim	Claim Element	Evidence of Infringement
		 Chevrolet Infotainment 3 Plus System Demo at https://chevroletdemo.com/invehicleapps (yellow annotations added) (MEL_GM_TECH_00002421). *See also:*  How to Use Navigation in Your Vehicle, Chevrolet, at https://www.chevrolet.com/support/vehicle/smartphone-connections/navigation/preferences (yellow annotations added) (MEL_GM_TECH_00002433). *See also* GMC Navigation at

Claim	Claim Element	Evidence of Infringement
		https://www.gmc.com/support/vehicle/smartphone-connections/navigation/preferences; Buick Navigation at https://www.buick.com/support/vehicle/smartphone-connections/navigation/preferences; and Cadillac Navigation at https://www.cadillac.com/support/vehicle/smartphone-connections/navigation/preferences. *See also:*  How can I get Mapbox Dash for my car? Mapbox Dash is made available to consumers in partnership with car makers. A car maker licenses Mapbox Dash from Mapbox and makes it available to their customers. Today Mapbox Dash is available as "Maps+" in partnership with GM for Chevrolet, GMC, Buick and Cadillac. More car makers are soon to be announced. Contact us if you're a car maker and you'd like to enable Mapbox Dash for your customers. Mapbox Dash at https://www.mapbox.com/dash (yellow annotations added) (MEL_GM_TECH_00002514). For example, Next-Generation Embedded Navigation and/or Maps+ is equipped on and/or available for the exemplary 2022 Chevy Silverado 2500 HD (MEL_GM_TECH_00000020-MEL_GM_TECH_00000060) as well as other GM vehicles with the Infotainment 3 Plus system, including at least the 2022/2023 Chevy Trailblazer (MEL_GM_TECH_00000372-MEL_GM_TECH_00000390 and MEL_GM_TECH_00000755-MEL_GM_TECH_00000773), 2022/2023 Chevy Equinox (MEL_GM_TECH_00000001-MEL_GM_TECH_00000019 and MEL_GM_TECH_00000675-MEL_GM_TECH_00000694), 2022/2023 Chevy Blazer (MEL_GM_TECH_00000310-MEL_GM_TECH_00000331 and MEL_GM_TECH_00000559-MEL_GM_TECH_00000578), 2022/2023 Chevy Traverse (MEL_GM_TECH_00000391-MEL_GM_TECH_00000415 and MEL_GM_TECH_00000774-MEL_GM_TECH_00000798), 2022 Chevy Colorado (MEL_GM_TECH_00000348-MEL_GM_TECH_00000371), 2022/2023 Chevy Bolt EV (MEL_GM_TECH_00000416-MEL_GM_TECH_00000430 and MEL_GM_TECH_00000595-MEL_GM_TECH_00000609), 2022/2023 Chevy Bolt EUV (MEL_GM_TECH_00000332-MEL_GM_TECH_00000347 and MEL_GM_TECH_00000579-MEL_GM_TECH_00000594), 2022/2023 Chevy Malibu (MEL_GM_TECH_00000540-MEL_GM_TECH_00000558 and MEL_GM_TECH_00000695-MEL_GM_TECH_00000713), 2022/2023 Chevy Camaro (MEL_GM_TECH_00000278-MEL_GM_TECH_00000309 and MEL_GM_TECH_00000610-MEL_GM_TECH_00000642), 2022/2023 Chevy Corvette (MEL_GM_TECH_00000431-MEL_GM_TECH_00000460 and MEL_GM_TECH_00000643-

Claim	Claim Element	Evidence of Infringement
		MEL_GM_TECH_00000674), 2022 GMC Canyon (MEL_GM_TECH_00000945-MEL_GM_TECH_00000985), 2022 GMC Sierra 1500 Limited (MEL_GM_TECH_00001153-MEL_GM_TECH_00001182), 2022/2023 GMC Sierra 2500 HD/3500 HD (MEL_GM_TECH_00000881-MEL_GM_TECH_00000944 and MEL_GM_TECH_00001183-MEL_GM_TECH_00001246), 2022/2023 GMC Terrain (MEL_GM_TECH_00001072-MEL_GM_TECH_00001152), 2022/2023 GMC Acadia (MEL_GM_TECH_00000986-MEL_GM_TECH_00001071), 2022/2023 Buick Encore GX (MEL_GM_TECH_00000487-MEL_GM_TECH_00000512 and MEL_GM_TECH_00000799-MEL_GM_TECH_00000825), 2022/2023 Buick Envision (MEL_GM_TECH_00000513-MEL_GM_TECH_00000539 and MEL_GM_TECH_00000853-MEL_GM_TECH_00000880), 2022/2023 Buick Enclave (MEL_GM_TECH_00000461-MEL_GM_TECH_00000486 and MEL_GM_TECH_00000826-MEL_GM_TECH_00000852), 2022/2023 Cadillac XT4 (MEL_GM_TECH_00000150-MEL_GM_TECH_00000163 and MEL_GM_TECH_00000237-MEL_GM_TECH_00000250), 2022/2023 Cadillac XT5 (MEL_GM_TECH_00000164-MEL_GM_TECH_00000175 and MEL_GM_TECH_00000251-MEL_GM_TECH_00000263), 2022/2023 Cadillac XT6 (MEL_GM_TECH_00000176-MEL_GM_TECH_00000188 and MEL_GM_TECH_00000264-MEL_GM_TECH_00000277), 2022/2023 Cadillac CT4 (MEL_GM_TECH_00000061-MEL_GM_TECH_00000075 and MEL_GM_TECH_00000189-MEL_GM_TECH_00000202), and 2022/2023 Cadillac CT5 (MEL_GM_TECH_00000094-MEL_GM_TECH_00000110 and MEL_GM_TECH_00000221-MEL_GM_TECH_00000236). *See, generally*, Chevrolet Brochures at https://www.chevrolet.com/download-catalog; GMC Brochures at https://www.gmc.com/download-2022-brochure and https://www.gmc.com/download-2023-brochure; Buick Brochures at https://www.buick.com/download-brochure; and Cadillac Brochures at https://www.cadillac.com/vehicle-brochures.
1[b]	a map data storage section for storing map data together with attributes and classes of the map data, the map data being composed of	GM's navigation system comprises a map data storage section for storing map data together with attributes and classes of the map data, the map data being composed of roads necessary for a route search and display elements including city centers and facilities, and the city centers being a display element each representing a city and indicating a representative position of the city, wherein the attributes are indicative of whether or not each of the roads should be displayed for each of a plurality of map scales.

Claim	Claim Element	Evidence of Infringement
	roads necessary for a route search and display elements including city centers and facilities, and the city centers being a display element each representing a city and indicating a representative position of the city, wherein the attributes are indicative of whether or not each of the roads should be displayed for each of a plurality of map scales;	For example, GM's navigation system has a map data storage section as memory located on the Infotainment 3 Plus system. On information and belief, GM's Infotainment 3 Plus system is, *e.g.*, manufactured by Harman, and every version of GM's navigation system has a substantially similar map data storage section as memory and operate in a substantially similar manner. *See, e.g.*,  2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 4 (MEL_GM_TECH_00001642). *See also:*

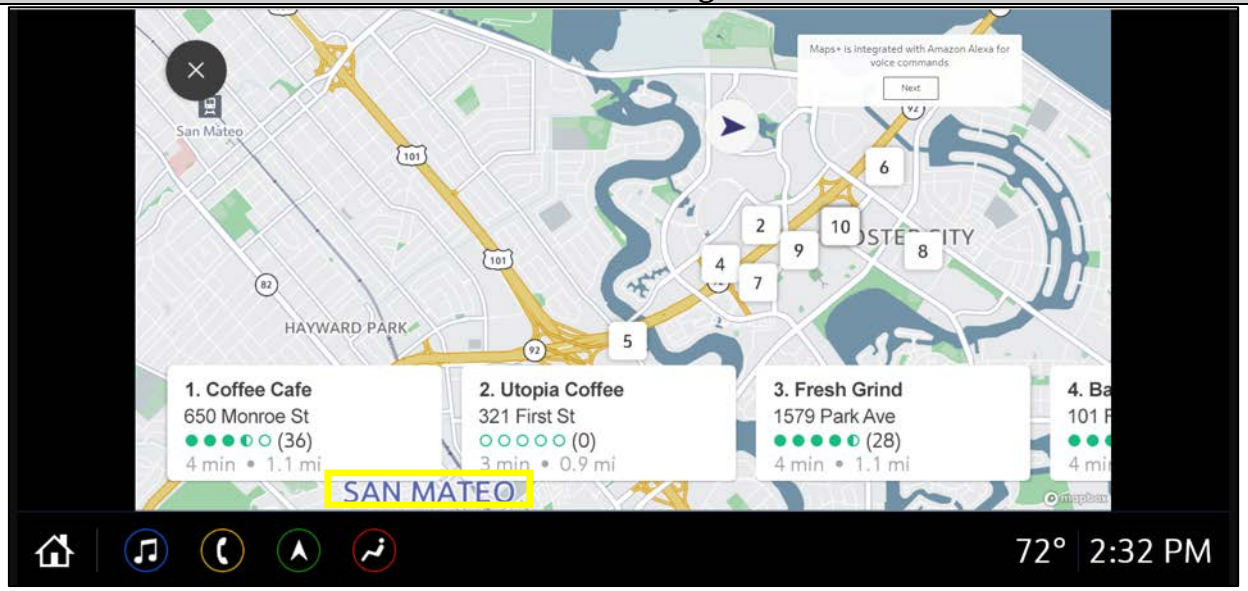
Claim	Claim Element	Evidence of Infringement
		 User Manual, FCC Filings for FCC ID: 2AHPN-BE2843, at p. 5, at https://fccid.io/2AHPN-BE2843 (MEL_GM_TECH_00001255). *See also:* ID Label/Location Info, FCC Filings for FCC ID: 2AHPN-BE2843, at https://fccid.io/2AHPN-BE2843 (MEL_GM_TECH_00001253). *See also:*

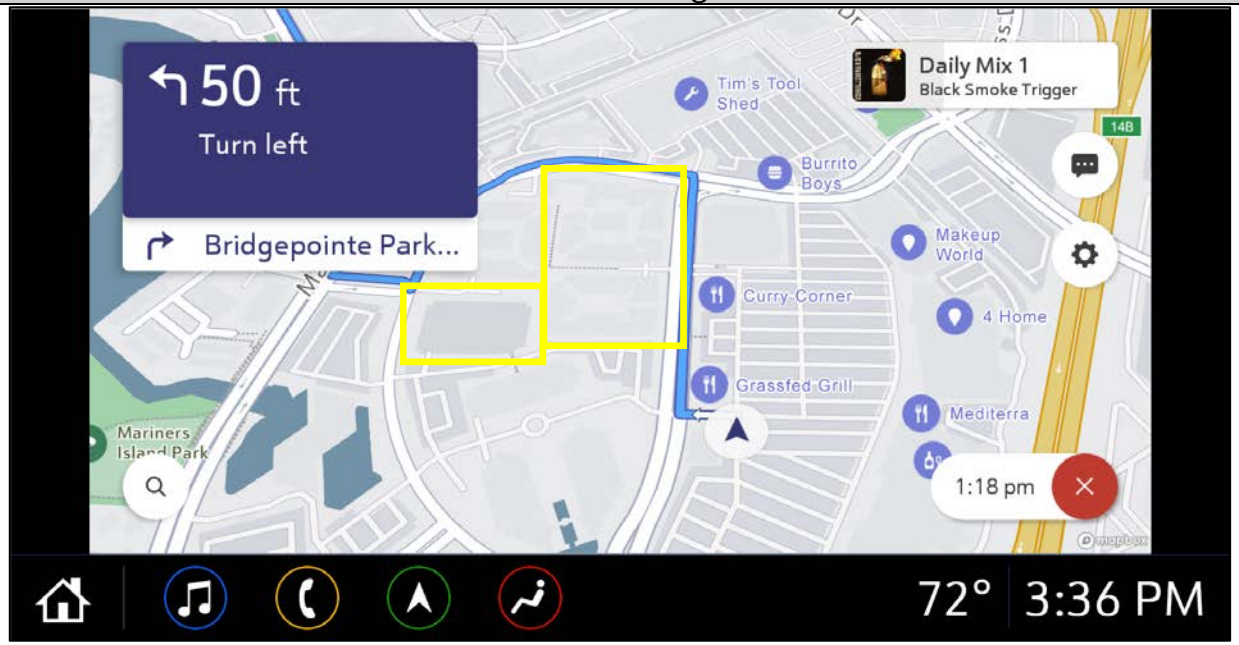
Claim	Claim Element	Evidence of Infringement
		 Internal Photos, FCC Filings for FCC ID: 2AHPN-BE2843, at https://fccid.io/2AHPN-BE2843 (yellow annotations added) (MEL_GM_TECH_00001247).

Claim	Claim Element	Evidence of Infringement
		For example, GM's navigation system stores map data composed of roads (represented as green, white and/or yellow lines in the images below) for a route search, and display elements, such as, *inter alia*, city centers (represented as text such as "Sterling Heights" or "SAN MATEO" in the images below), and facilities (represented by graphical icons, building outlines, and/or text in the images below). *See, e.g.*, Next-Generation Embedded Navigation: **Map Information** Road network attributes are contained in the map database for map information. Attributes include information such as street names, street addresses, and turn restrictions. A detailed area includes all major highways, service roads, and residential roads. The detailed areas include Places of Interest (POIs) such as restaurants, airports, banks, hospitals, police stations, gas stations, tourist attractions, and historical monuments. If the vehicle does not have an applicable service plan, the map database may not include data for newly constructed areas or map database corrections that are completed after production. The navigation system provides full route guidance in the detailed map areas. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 167 (yellow annotations added) (MEL_GM_TECH_00001805). *See also:*

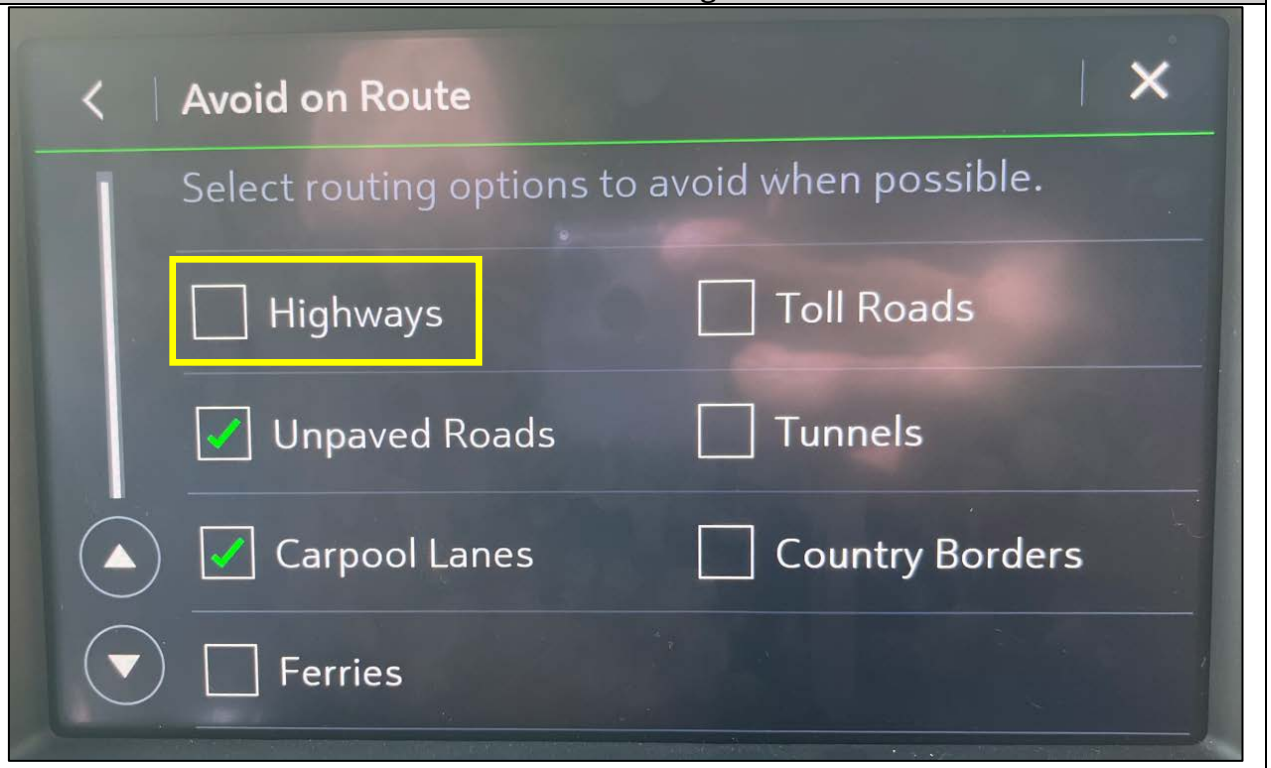
Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 2:53, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001260). *See also:*

Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 3:19, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001262). *See, e.g.*, Maps+:

Claim	Claim Element	Evidence of Infringement
		 …

Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (yellow annotations added) (MEL_GM_TECH_00002421-MEL_GM_TECH_00002422). For example, map data includes classes, such as a road class, city center class, and a facility class. As a non-limiting example, a road class has attributes such as a highway/primary attribute. *See, e.g.*, Next-Generation Embedded Navigation:

Claim	Claim Element	Evidence of Infringement
		• Avoid on Current Route – Choose any of the road features to avoid while on route: - Highways - Unpaved Roads - Ferries - Carpool Lanes - Toll Roads - Tunnels - Country Borders 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 164 (yellow annotations added) (MEL_GM_TECH_00001802). *See also:*

Claim	Claim Element	Evidence of Infringement
		 Photo of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002535). *See, e.g.*, Maps+:

Claim	Claim Element	Evidence of Infringement

`class` *text*

The main field used for styling the road layer is `class`.

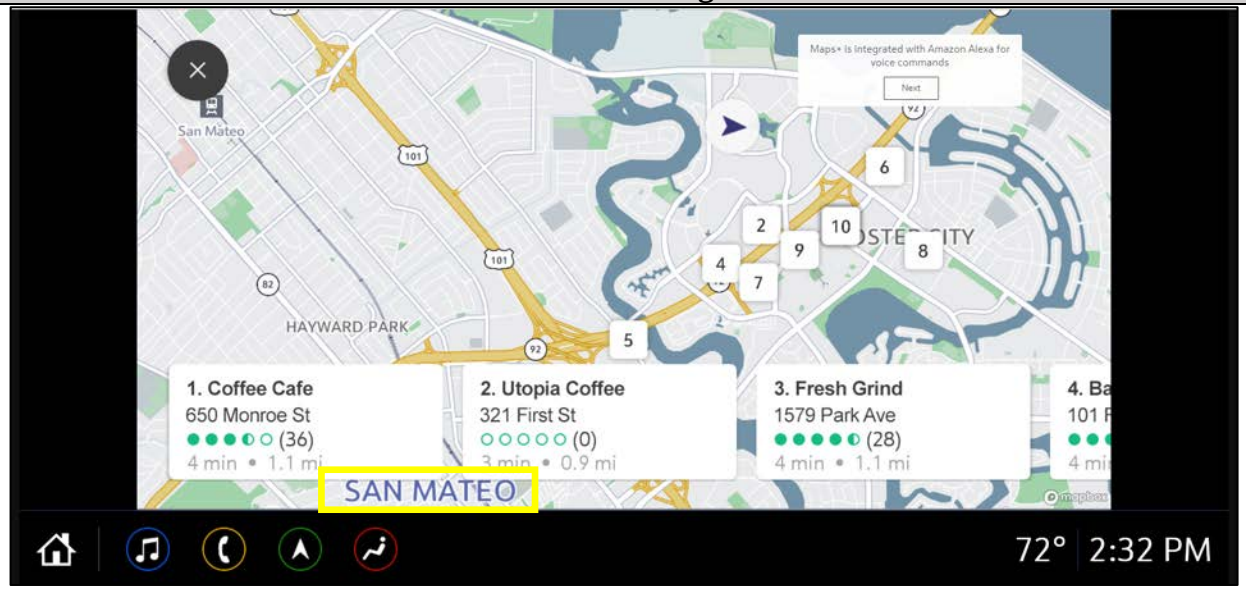
Value	Description
`motorway`	High-speed, grade-separated highways.
`motorway_link`	Link roads/lanes/ramps connecting to motorways.
`trunk`	Important roads that are not motorways.
`trunk_link`	Link roads/lanes/ramps connecting to trunk roads.
`primary`	A major highway linking large towns.
`primary_link`	Link roads/lanes connecting to primary roads.
`secondary`	A highway linking large towns.
`secondary_link`	Link roads/lanes connecting to secondary roads.
`tertiary`	A road linking small settlements, or the local centers of a large town or city.
`tertiary_link`	Link roads/lanes connecting to tertiary roads.
`street`	Standard unclassified, residential, road, and living_street road types.
`street_limited`	Streets that may have limited or no access for motor vehicles.
`pedestrian`	Includes pedestrian streets, plazas, and public transportation platforms.
`construction`	Includes motor roads under construction (but not service roads, paths, etc.).
`track`	Roads mostly for agricultural and forestry use.
`service`	Access roads, alleys, agricultural tracks, and other services roads. Also includes parking lot aisles, and public and private driveways.

Mapbox Documentation at https://docs.mapbox.com/data/tilesets/reference/mapbox-streets-v8/ (yellow annotations added) (MEL_GM_TECH_00002494).

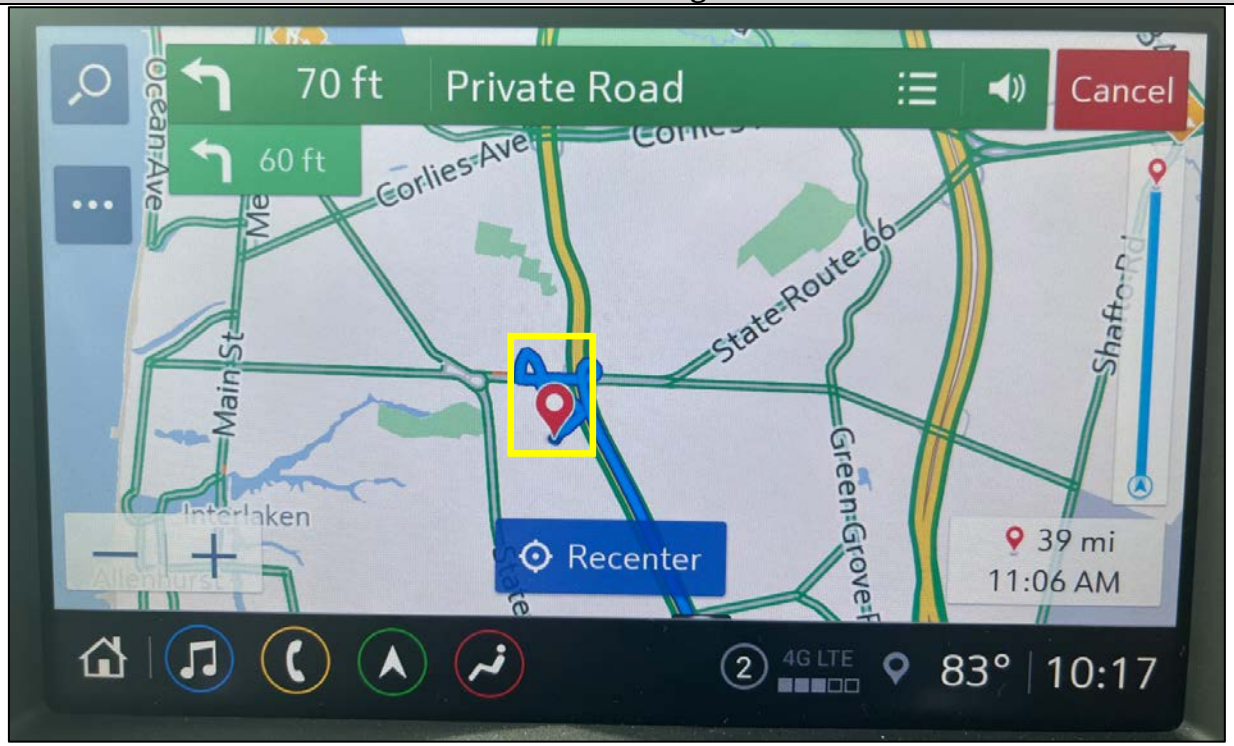
For example, display element city centers (represented as text such as “Sterling Heights” or “SAN MATEO” in the images below) represent a city and indicate a representative position of the city.

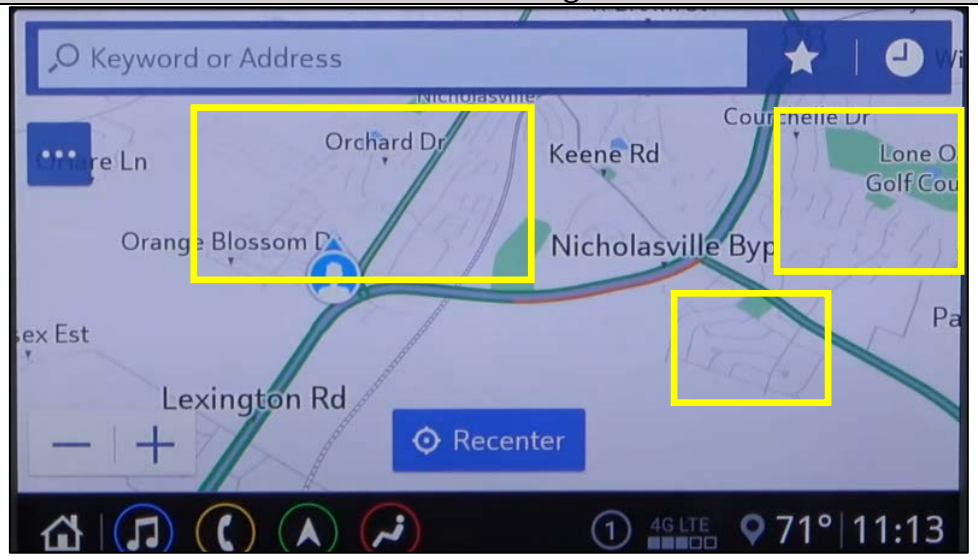
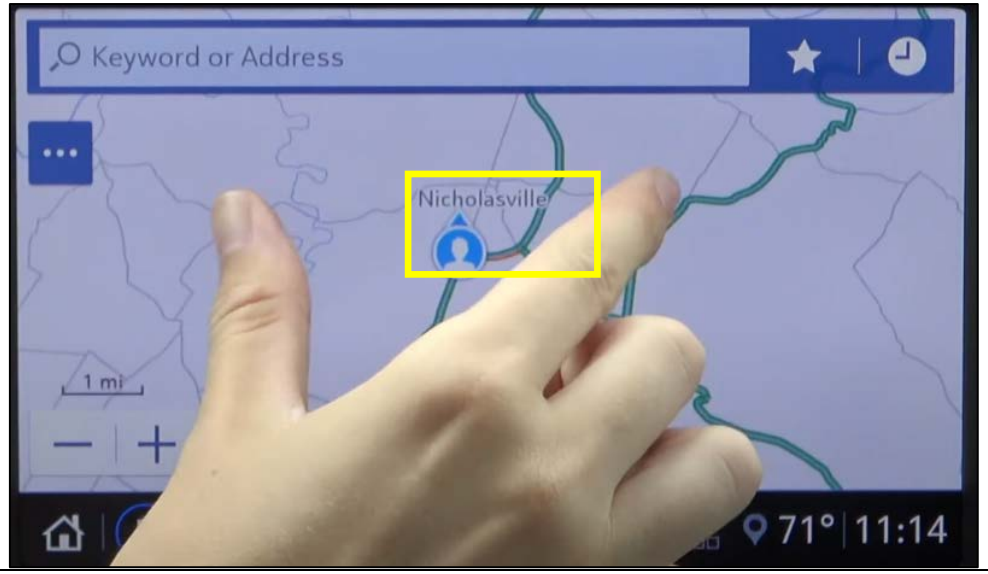
See, e.g., Next-Generation Embedded Navigation:

Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 2:53, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001260). *See, e.g.,* Maps+:

Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/5 (yellow annotations added) (MEL_GM_TECH_00002423). For example, roads have attributes, *e.g.*, a size attribute such as small (such as residential roads) or large roads (such as highways), that indicate whether or not each of the roads should be displayed depending on the map scale. For example, only large roads will be displayed when the map scale is large. *See*, *e.g.*, Next-Generation Embedded Navigation:

Claim	Claim Element	Evidence of Infringement
		 …

Claim	Claim Element	Evidence of Infringement
		 Photos of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002531-MEL_GM_TECH_00002532). *See also:*

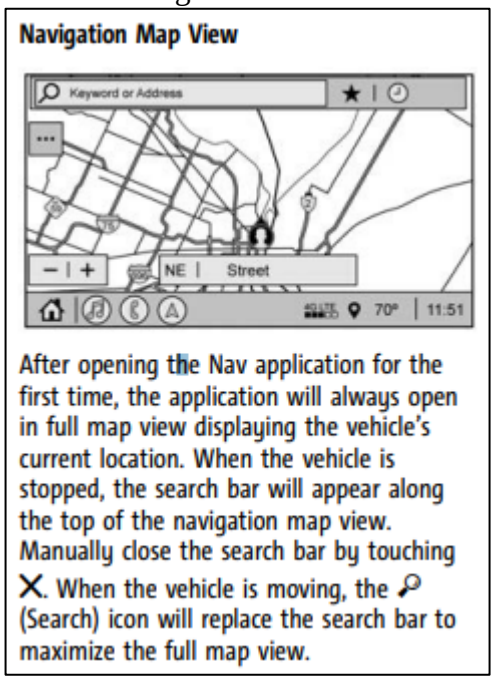
Claim	Claim Element	Evidence of Infringement
		 … 

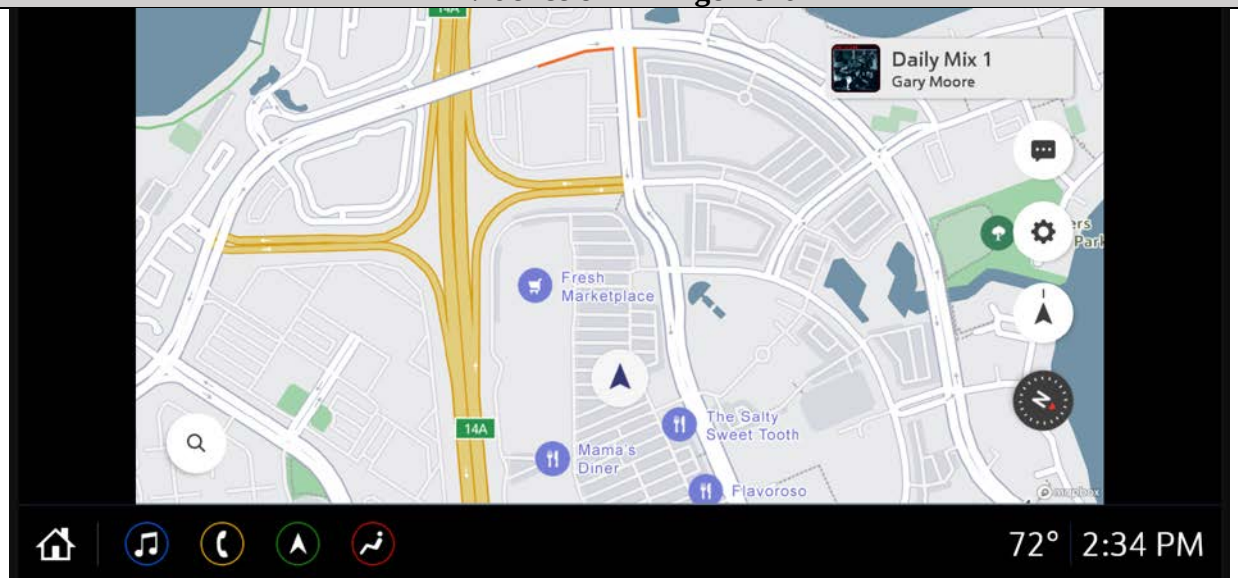
Claim	Claim Element	Evidence of Infringement
		Chevy Infotainment 3 (2021) Detailed Tutorial and Review: Tech Help, at 3:17-3:28, at https://www.youtube.com/watch?v=GG-XCGp4dmo&ab_channel=CarConfections (yellow annotations added) (MEL_GM_TECH_00001256- MEL_GM_TECH_00001257). *See, e.g.*, Maps+: `sizerank` *number* The `sizerank` field is a value from 0-16 included in label layers where points or lines have been derived from polygons, such as `poi_label`, `natural_label`, `airport_label`. It lets you style and filter based on the size of a feature relative to the current zoom level. The tileset assigns the largest objects `sizerank=0` and assigns points `sizerank=16`. A single feature has a changing sizerank as you zoom in and the relative size of the feature increases. For example, a park might have a `sizerank` of 9 at z11, 6 at z12, and 2 at z13. The value is never *null* and is always be within the range 0-16. …

Layer Reference

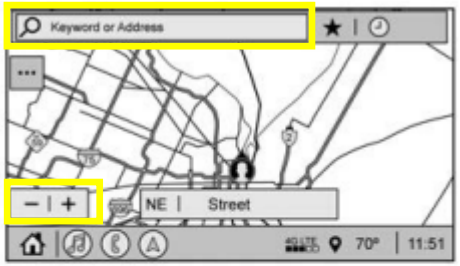
The Mapbox Streets v8 tileset contains the following layers. For reference, the current minimum-available zoom level for each layer is mentioned, but note that this is subject to change as we roll out updates and improvements. It also does not apply to all features within a layer - only the most prominent features are available at lower-numbered zoom levels, and more features are available as you zoom in. Labels for physically-large features also have a maximum zoom level based on their size.

Layer	Min. zoom level
admin	0
aeroway	9
airport_label	8
building	13
housenum_label	16
landuse_overlay	5
landuse	5
motorway_junction	11
natural_label	0
place_label	0
poi_label	5
road	5
structure	13
transit_stop_label	11
water	0
waterway	7

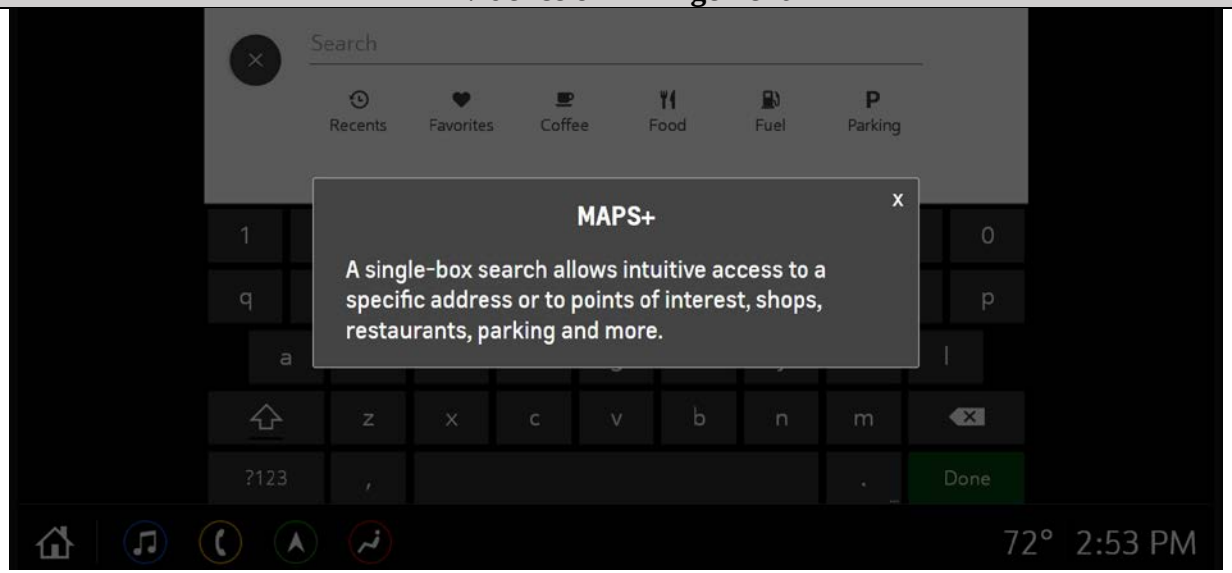
Claim	Claim Element	Evidence of Infringement
		Mapbox Documentation at https://docs.mapbox.com/data/tilesets/reference/mapbox-streets-v8/ (yellow annotations added) (MEL_GM_TECH_00002482).
1[c]	a display section for displaying the map data;	GM's navigation system comprises a display section for displaying the map data. For example, GM's navigation system has a display section for displaying the map data discussed above on a screen. *See, e.g.,* Next-Generation Embedded Navigation:  2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 163 (MEL_GM_TECH_00001801). *See, e.g.,* Maps+:

Claim	Claim Element	Evidence of Infringement
		 Maps+ demo at https://chevroletdemo.com/invehicleapps/mapsplus/1 (MEL_GM_TECH_00002424).
1[d]	an input section for inputting an instruction from a user; and	GM's navigation system comprises an input section for inputting an instruction from a user. For example, GM's navigation system has an input section for inputting instruction, *e.g.*, inputting a destination address to route the user to and the desired scale of the map using touchscreen, button, and/or voice input controls. *See*, *e.g.*, Next-Generation Embedded Navigation:

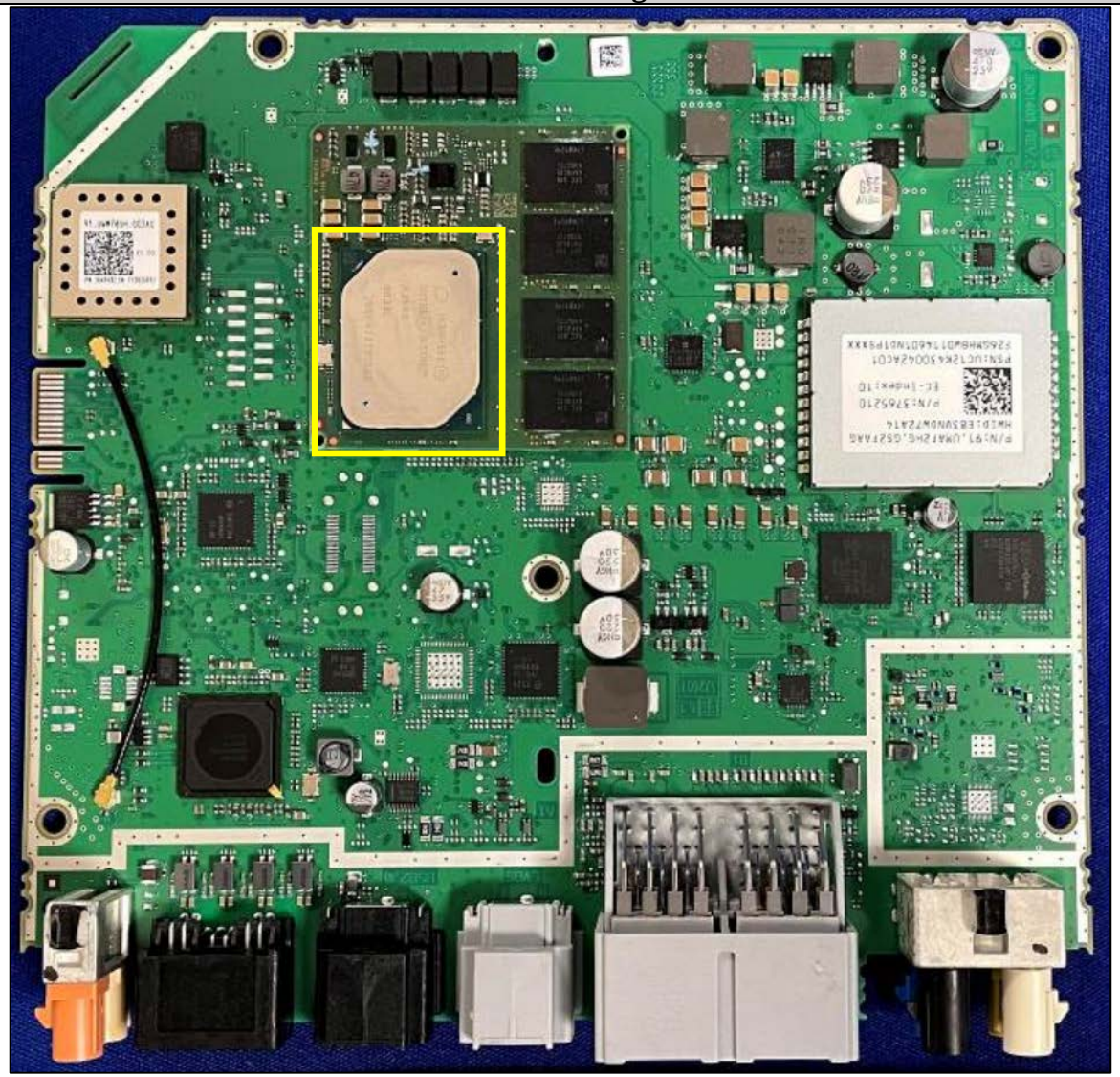
Claim	Claim Element	Evidence of Infringement
		Zoom Control The zoom control display is shown on the map view. A few ways to zoom in or out are: • Touch + or – to zoom in or out on the map. • Double tap with one finger to zoom in or single tap with two fingers to zoom out on the map. … **Map Gestures and Map Scale** Use the following gestures on the infotainment display to adjust the map scale and display options. • Pinch to zoom in or out. • Pan the map. • Use two fingers to tilt down and change from 2D to 3D. Tilt up to change back to 2D. • Rotate the map. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 167-168 (MEL_GM_TECH_00001805-MEL_GM_TECH_00001806). *See also:*

Claim	Claim Element	Evidence of Infringement
		Navigation Map View  After opening the Nav application for the first time, the application will always open in full map view displaying the vehicle's current location. When the vehicle is stopped, the search bar will appear along the top of the navigation map view. Manually close the search bar by touching X. When the vehicle is moving, the (Search) icon will replace the search bar to maximize the full map view. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 163 (yellow annotations added) (MEL_GM_TECH_00001801).

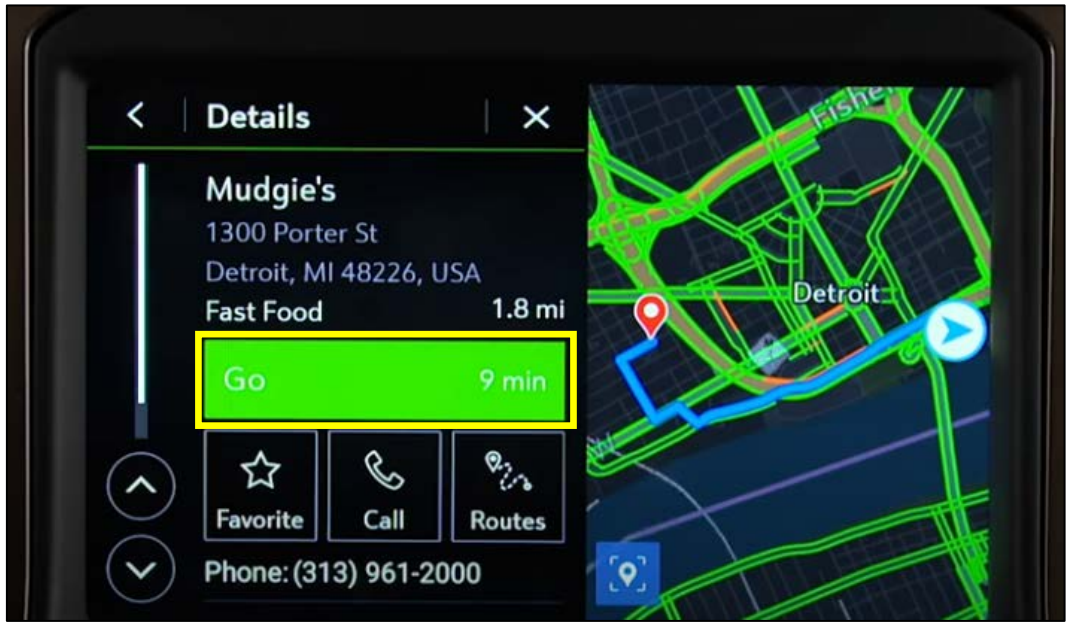
Claim	Claim Element	Evidence of Infringement
		 Chevy Infotainment 3 (2021) Detailed Tutorial and Review: Tech Help, at 3:48, at https://www.youtube.com/watch?v=GG-XCGp4dmo&ab_channel=CarConfections (MEL_GM_TECH_00001259). *See, e.g.*, Maps+:

Claim	Claim Element	Evidence of Infringement
		 …

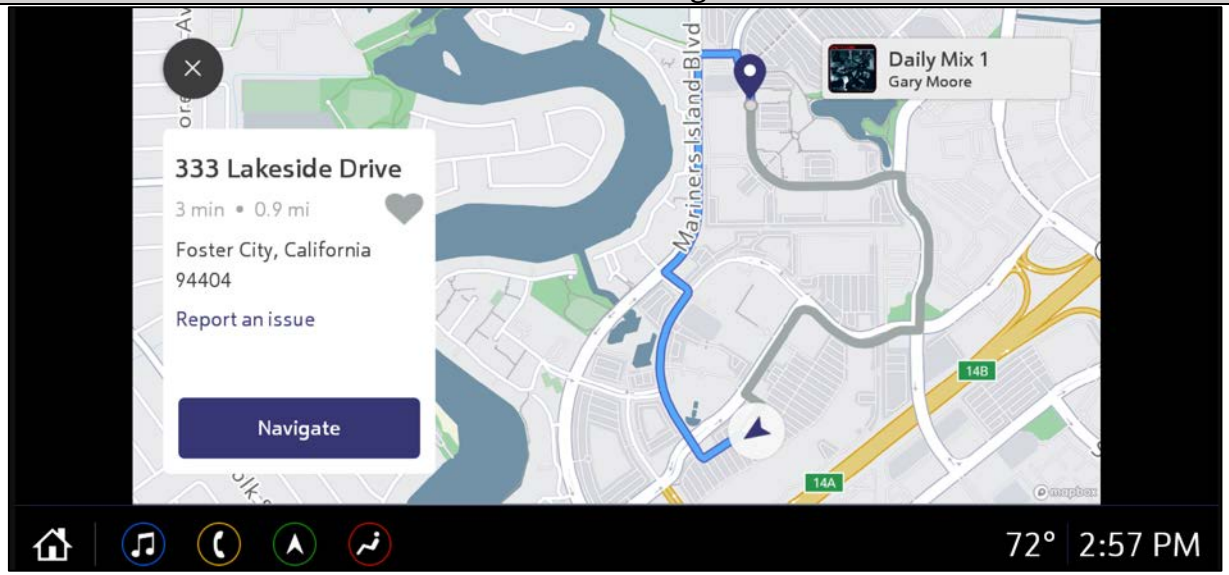
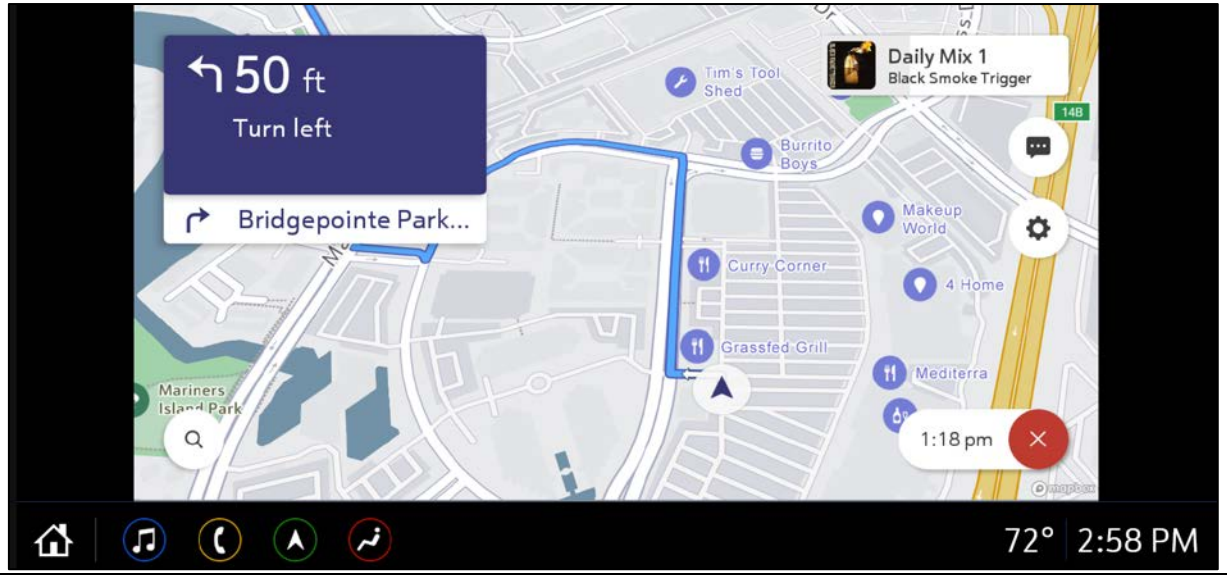
Claim	Claim Element	Evidence of Infringement
		Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/2 (MEL_GM_TECH_00002419-MEL_GM_TECH_00002420).
1[e]	a control section for carrying out:	GM's navigation system comprises a control section. For example, GM's navigation system has a control section, *e.g.*, a CPU processor, for carrying out a procedure for calculating a route (*see* element 1[f] below) and a procedure for displaying a map (*see* element 1[g] below). On information and belief, every version of GM's navigation system has a substantially similar control section as a CPU processor and operate in a substantially similar manner. *See, e.g.*,

Claim	Claim Element	Evidence of Infringement
		 Internal Photos, FCC Filings for FCC ID: 2AHPN-BE2843, at https://fccid.io/2AHPN-BE2843 (yellow annotations added) (MEL_GM_TECH_00001247).

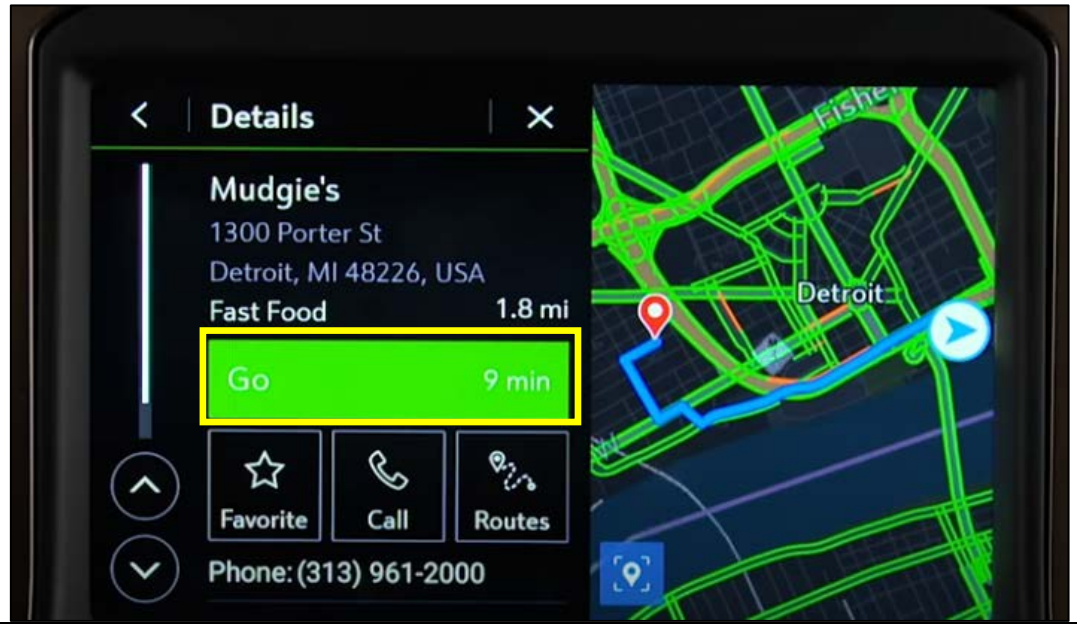
Claim	Claim Element	Evidence of Infringement
1[f]	a procedure of calculating a route between an own-vehicle position and a destination represented by one of the display elements, the destination being instructed via the input section,	The control section of GM's navigation system carries out a procedure of calculating a route between an own-vehicle position and a destination represented by one of the display elements, the destination being instructed via the input section. For example, the control section of GM's navigation system discussed above carries out a procedure of calculating a route (represented as blue lines in the images below), between an own-vehicle position, *e.g.*, using a GPS location of the vehicle represented by a current position arrow icon, and a destination represented by a display element, *e.g.*, the red/purple pin in the images below, wherein the destination was input by the user (*see* element 1[d] above). *See, e.g.*, Next-Generation Embedded Navigation: **Destination** **Receiving Destination Directions from Different Sources** Destinations can be received or transferred from different sources to the Nav application for route guidance. If equipped, some of these sources may include: • Navigation from search results. • OnStar Advisor destination download. • An address from the Contacts list. • An application on the smartphone that can send destinations to the vehicle. • An application downloaded to the vehicle such as OnStar Services that can send destinations to the navigation system. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 166 (MEL_GM_TECH_00001804). *See also:*

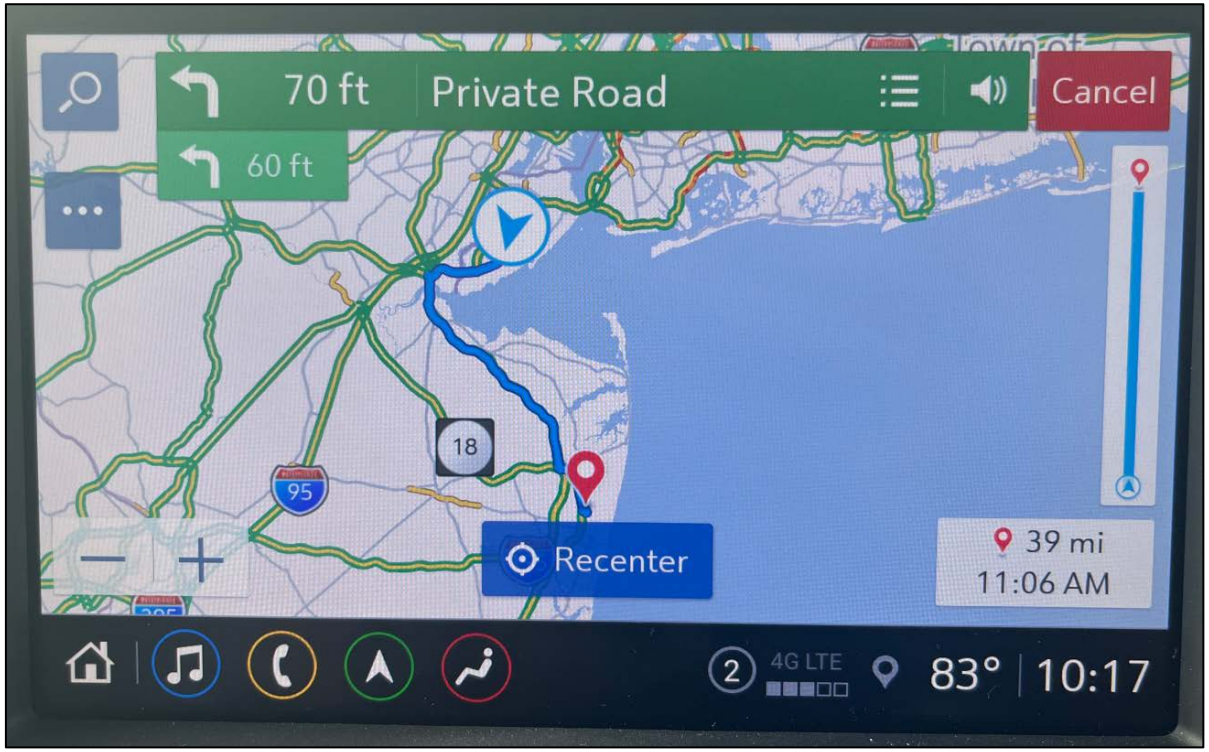
Claim	Claim Element	Evidence of Infringement
		The GPS shows the current position of the vehicle using signals sent by GPS satellites. When the vehicle is not receiving signals from the satellites, a symbol appears in the status bar. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 172 (MEL_GM_TECH_00001810). *See also:*  …

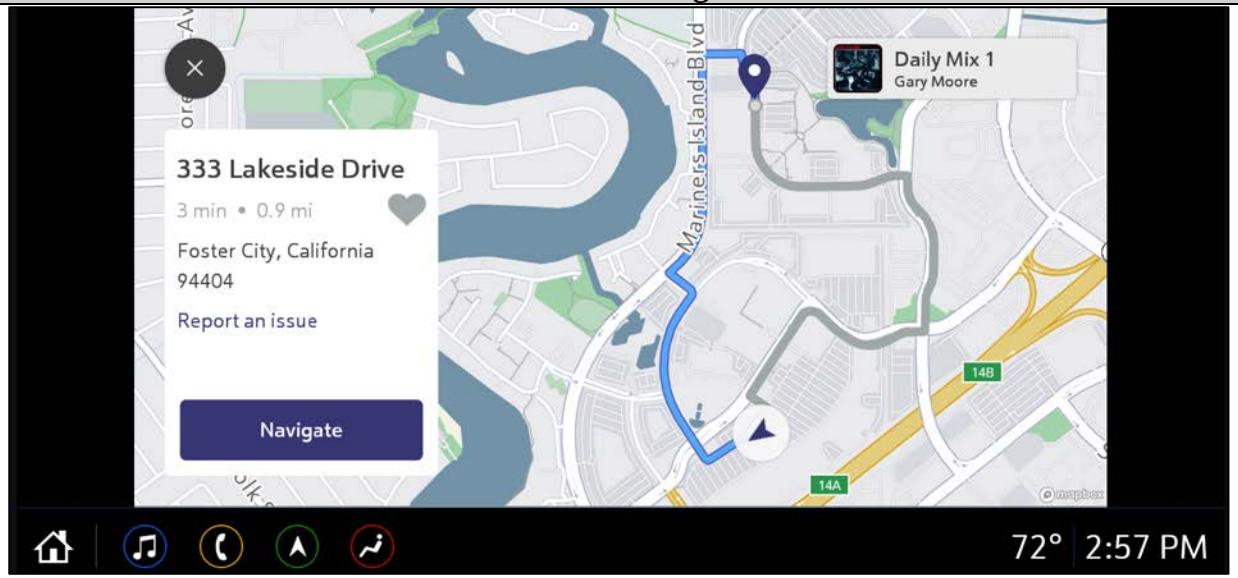
Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 3:17-3:19, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001261-MEL_GM_TECH_00001262). *See, e.g.*, Maps+:

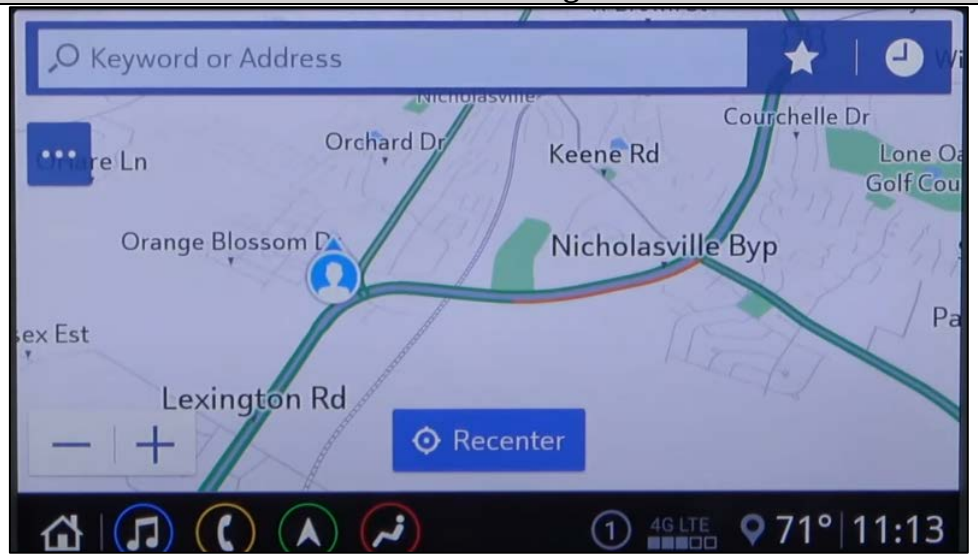
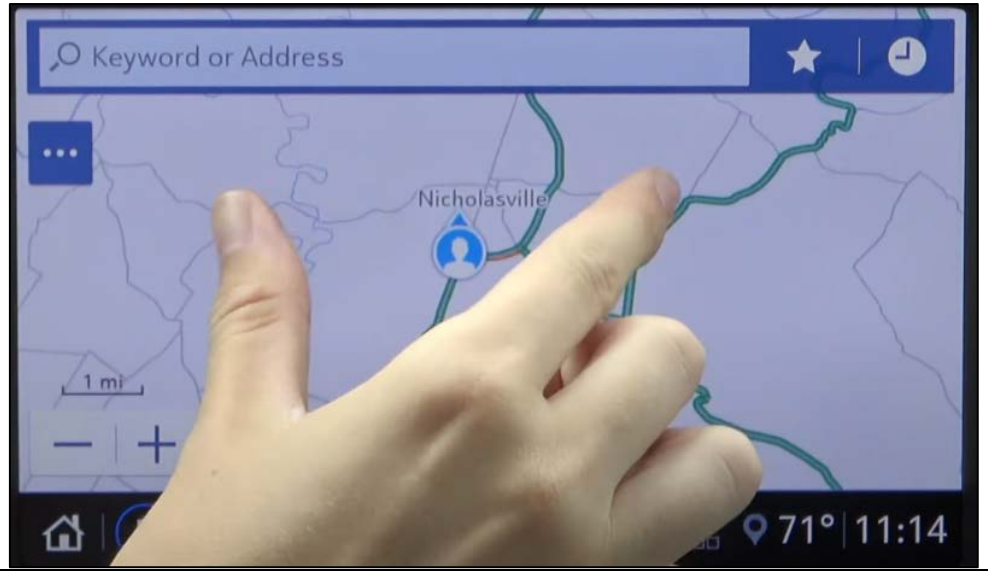
Claim	Claim Element	Evidence of Infringement
		 … 

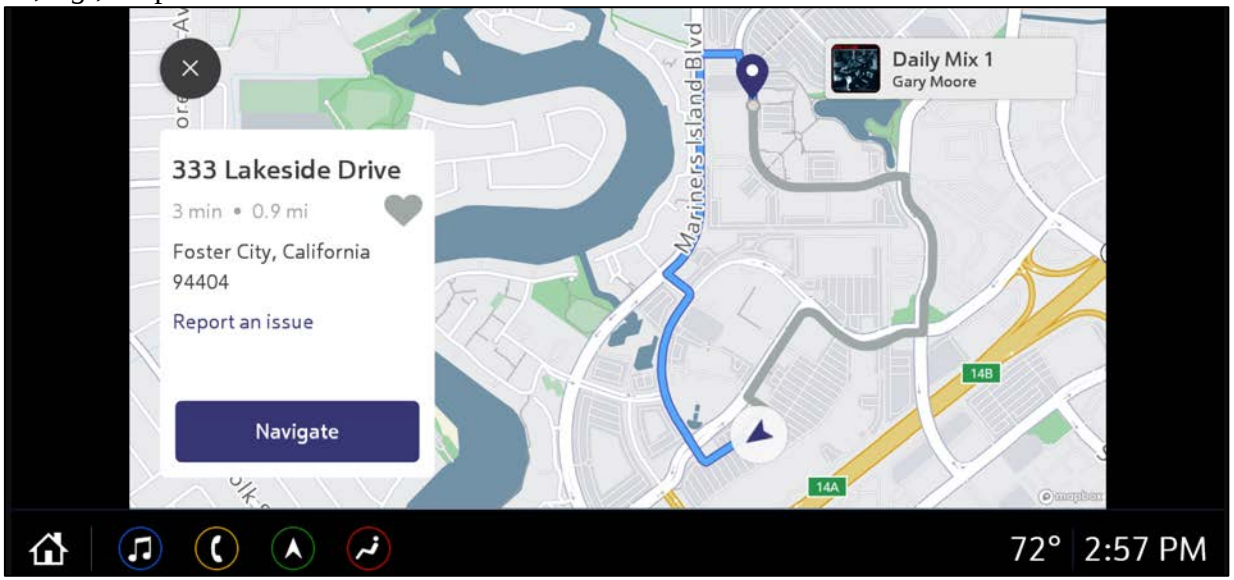
Claim	Claim Element	Evidence of Infringement
		Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421-MEL_GM_TECH_00002422).
1[g]	in accordance with one of the plurality of map scales instructed via the input section, a procedure of displaying a map on the display section by:	The control section of GM's navigation system carries out, in accordance with one of the plurality of map scales instructed via the input section, a procedure of displaying a map on the display section. For example, the control section of GM's navigation system discussed above carries out a procedure of displaying a map on the display section discussed above, wherein the map scale depends on the distance to the destination that was instructed by the input section discussed above and/or the desired map scale instructed by the input section discussed above. *See, e.g.*, Next-Generation Embedded Navigation: **Zoom Control** The zoom control display is shown on the map view. A few ways to zoom in or out are: • Touch + or – to zoom in or out on the map. • Double tap with one finger to zoom in or single tap with two fingers to zoom out on the map. …

Claim	Claim Element	Evidence of Infringement
		Map Gestures and Map Scale Use the following gestures on the infotainment display to adjust the map scale and display options. • Pinch to zoom in or out. • Pan the map. • Use two fingers to tilt down and change from 2D to 3D. Tilt up to change back to 2D. • Rotate the map. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 168 (yellow annotations added) (MEL_GM_TECH_00001806). *See also:* 

Claim	Claim Element	Evidence of Infringement
		Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 3:17, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (MEL_GM_TECH_00001261). *See also:*  Photo of GM Infotainment 3 Plus System (MEL_GM_TECH_00002530). *See, e.g.,* Maps+:

Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421).
1[h]	selecting the roads indicated by the attributes as being displayable according to the instructed map scale, and by selecting the display elements based on ranks,	The control section of GM's navigation system carries out a procedure of displaying a map by selecting the roads indicated by the attributes as being displayable according to the instructed map scale, and by selecting the display elements based on ranks. For example, GM's navigation system selects the roads according to its attributes, such as a size attribute, *e.g.*, small or large roads, to be displayed depending on the instructed map scale. For example, only highly ranked large roads (such as highways) will be displayed when the map scale is large. *See*, *e.g.*, Next-Generation Embedded Navigation:

Claim	Claim Element	Evidence of Infringement
		 … 

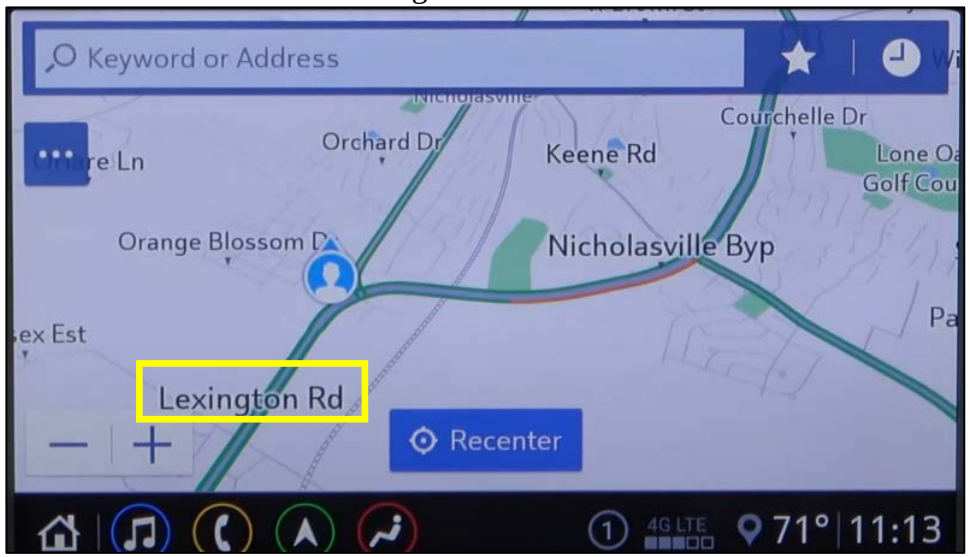
Claim	Claim Element	Evidence of Infringement
		Chevy Infotainment 3 (2021) Detailed Tutorial and Review: Tech Help, at 3:17-3:28, at https://www.youtube.com/watch?v=GG-XCGp4dmo&ab_channel=CarConfections (MEL_GM_TECH_00001256- MEL_GM_TECH_00001257). *See, e.g.*, Maps+:  Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421). *See also:*

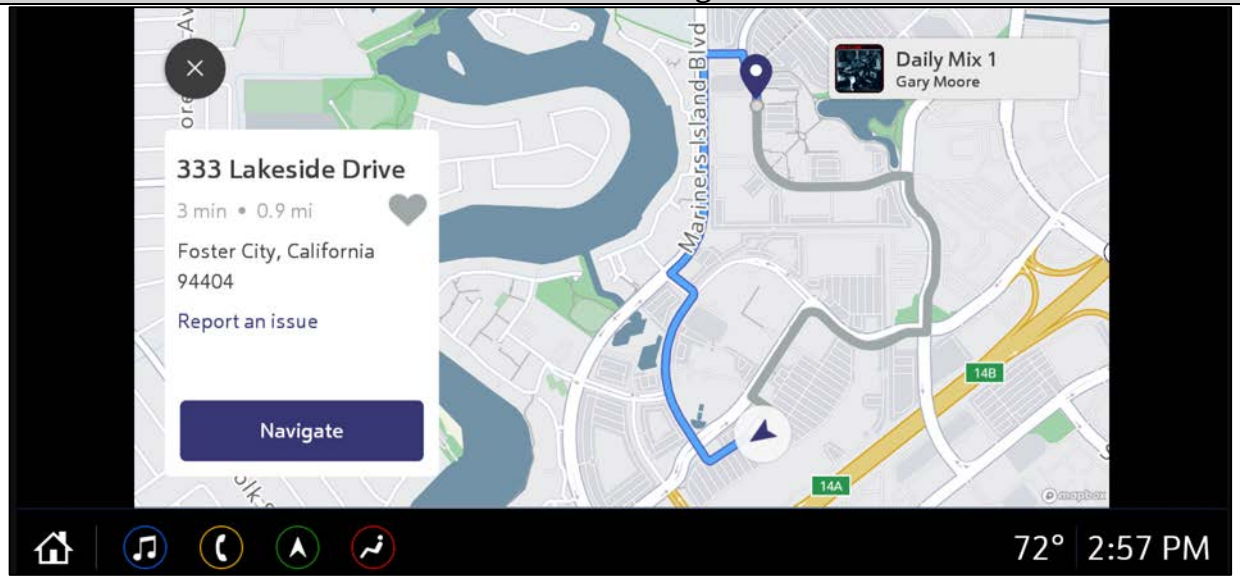
Claim	Claim Element	Evidence of Infringement
		Roads – ranking and simplifying linestrings This is a complex example that uses road data from Natural Earth Data. The recipe generates a ranked `quality` attribute for each feature based on the road `type` defined in the source data. Then, it filters features by these newly created `quality` attributes to include specific features per zoom level. `0` indicates ranking of the most importance, `6` indicates the least importance. As you zoom in, the `filter` checks to see if each feature's `quality` attribute are less than or equal to the zoom level. If that check is true, the feature appears at the designated zoom. For example, at zoom level 2, only `Ferry Route`, `Major Highway`, and `Secondary Highway` features will appear. The expression provided here gives a low simplification number, `1`, at the maximum zoom level, `5`, but higher simplification, `10`, at earlier zoom levels. Since the `maxzoom` in the recipe is `5`, it is the highest zoom where tiles will be generated. The simplification value used at the `maxzoom` should be low so the features are not simplified, maintaining fidelity to the original geometry. This provides the most possible accuracy when overzooming data at zoom levels after the `maxzoom`, which is done once the tileset is used in a style. Mapbox Documentation at https://docs.mapbox.com/mapbox-tiling-service/examples/natural-earth-data-roads/ (MEL_GM_TECH_00002505). *See also:* `sizerank` *number* The `sizerank` field is a value from 0-16 included in label layers where points or lines have been derived from polygons, such as `poi_label`, `natural_label`, `airport_label`. It lets you style and filter based on the size of a feature relative to the current zoom level. The tileset assigns the largest objects `sizerank=0` and assigns points `sizerank=16`. A single feature has a changing sizerank as you zoom in and the relative size of the feature increases. For example, a park might have a `sizerank` of 9 at z11, 6 at z12, and 2 at z13. The value is never *null* and is always be within the range 0-16.

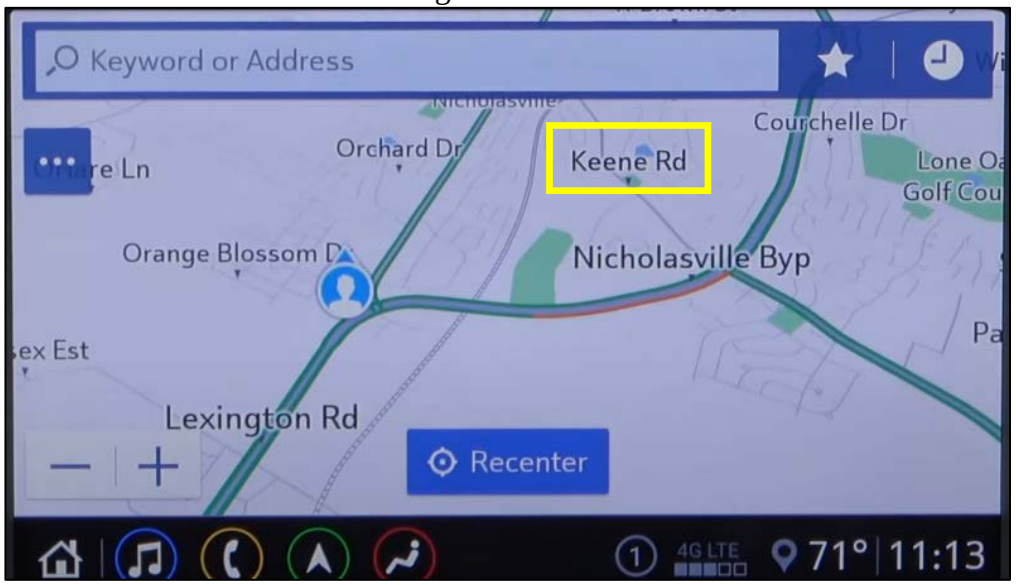
Layer Reference

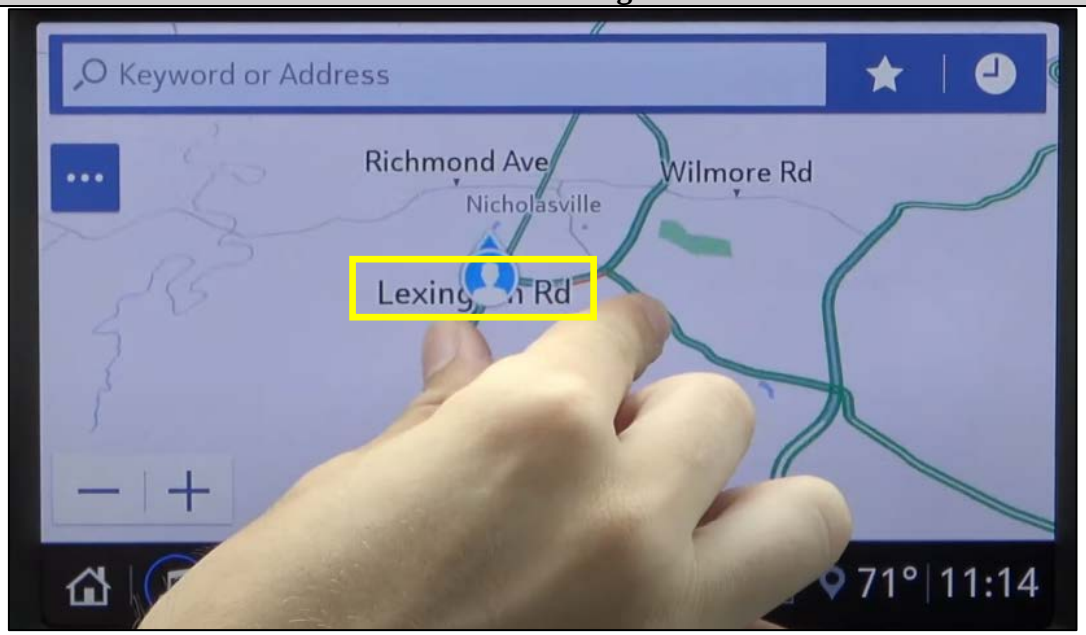
The Mapbox Streets v8 tileset contains the following layers. For reference, the current minimum-available zoom level for each layer is mentioned, but note that this is subject to change as we roll out updates and improvements. It also does not apply to all features within a layer - only the most prominent features are available at lower-numbered zoom levels, and more features are available as you zoom in. Labels for physically-large features also have a maximum zoom level based on their size.

Layer	Min. zoom level
admin	0
aeroway	9
airport_label	8
building	13
housenum_label	16
landuse_overlay	5
landuse	5
motorway_junction	11
natural_label	0
place_label	0
poi_label	5
road	5
structure	13
transit_stop_label	11
water	0
waterway	7

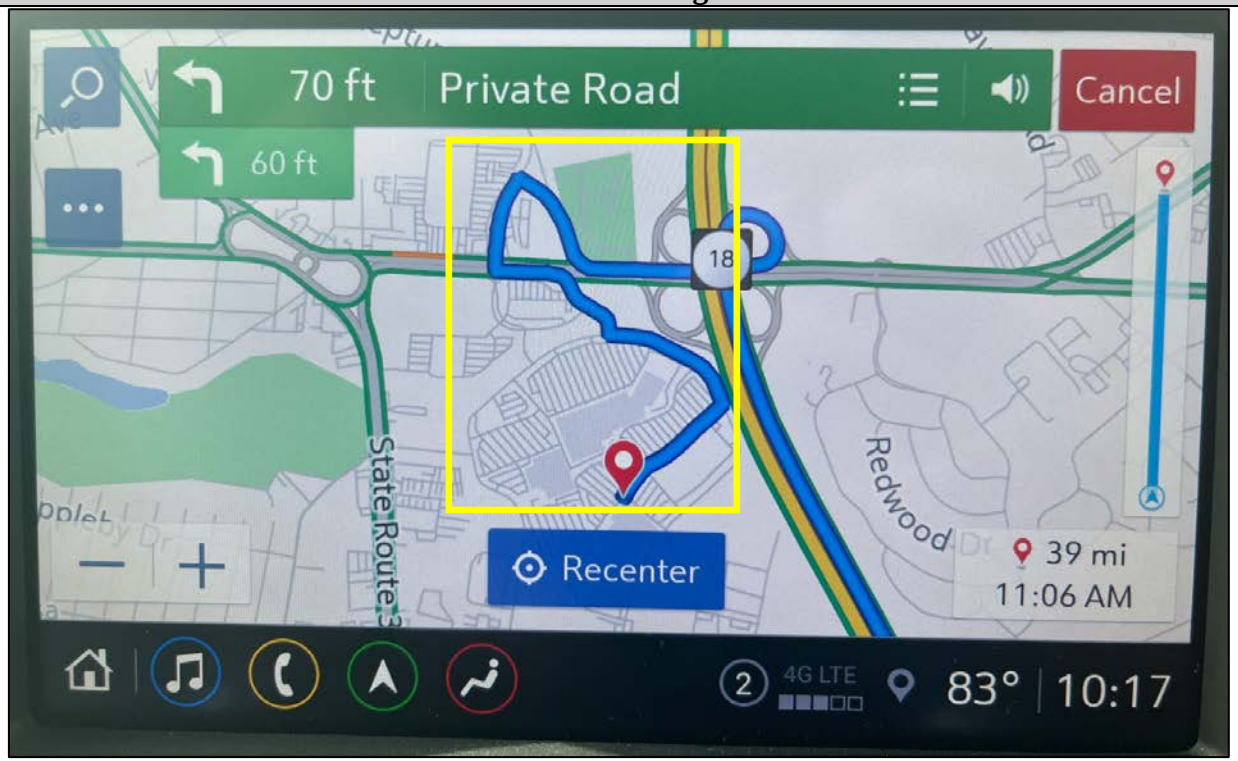
Claim	Claim Element	Evidence of Infringement
		Mapbox Documentation at https://docs.mapbox.com/data/tilesets/reference/mapbox-streets-v8/ (yellow annotations added) (MEL_GM_TECH_00002482). For example, GM's navigation system selects the display elements, such as street labels, based on ranks, *e.g.*, highly ranked street labels close to or on the route are displayed prominently (such as "Lexington Rd." or "Mariners Island Blvd" in the images below) and lower ranked street labels, such as residential road labels, are not displayed. *See, e.g.*, Next-Generation Embedded Navigation:  Chevy Infotainment 3 (2021) Detailed Tutorial and Review: Tech Help, at 3:17, at https://www.youtube.com/watch?v=GG-XCGp4dmo&ab_channel=CarConfections (yellow annotations added) (MEL_GM_TECH_00001256). *See, e.g.*, Maps+:

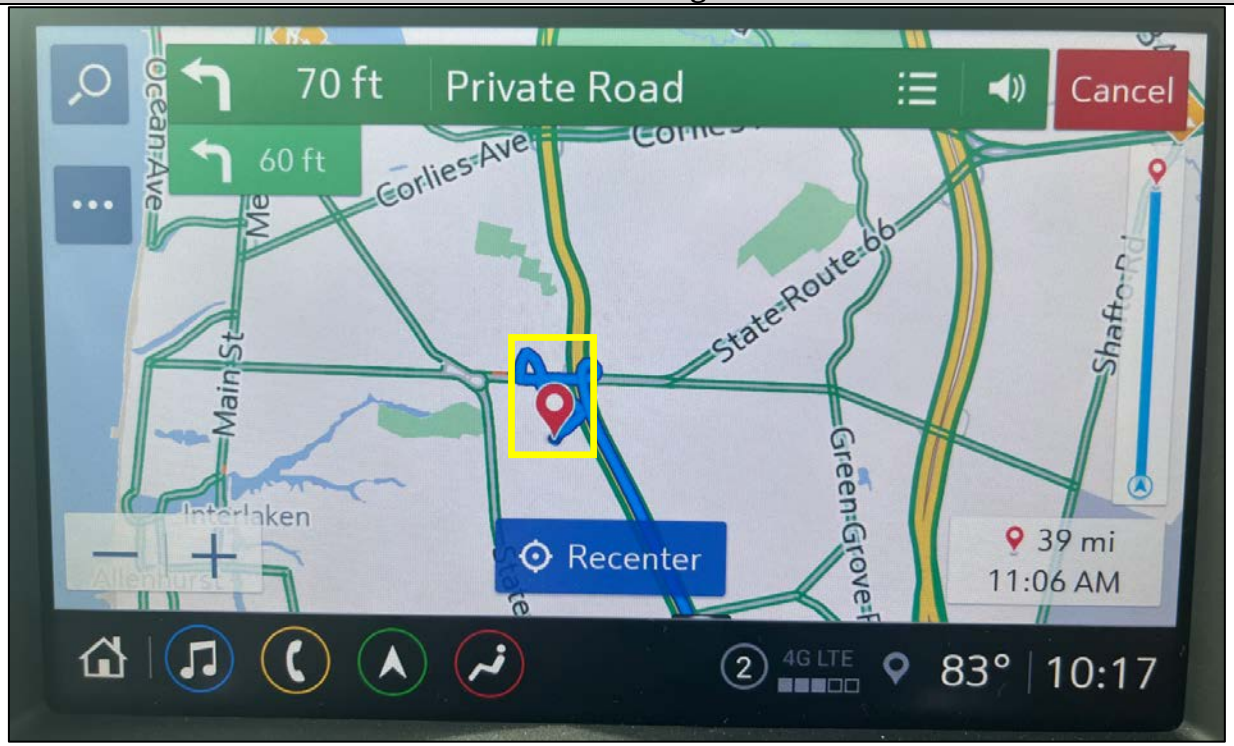
Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421). *See also:* **Roads – ranking and simplifying linestrings** This is a complex example that uses road data from Natural Earth Data. The recipe generates a ranked `quality` attribute for each feature based on the road `type` defined in the source data. Then, it filters features by these newly created `quality` attributes to include specific features per zoom level. `0` indicates ranking of the most importance, `6` indicates the least importance. As you zoom in, the `filter` checks to see if each feature's `quality` attribute are less than or equal to the zoom level. If that check is true, the feature appears at the designated zoom. For example, at zoom level 2, only `Ferry Route`, `Major Highway`, and `Secondary Highway` features will appear. The expression provided here gives a low simplification number, `1`, at the maximum zoom level, `5`, but higher simplification, `10`, at earlier zoom levels. Since the `maxzoom` in the recipe is `5`, it is the highest zoom where tiles will be generated. The simplification value used at the `maxzoom` should be low so the features are not simplified, maintaining fidelity to the original geometry. This provides the most possible accuracy when overzooming data at zoom levels after the `maxzoom`, which is done once the tileset is used in a style. Mapbox Documentation at https://docs.mapbox.com/mapbox-tiling-service/examples/natural-earth-data-roads/ (MEL_GM_TECH_00002505).

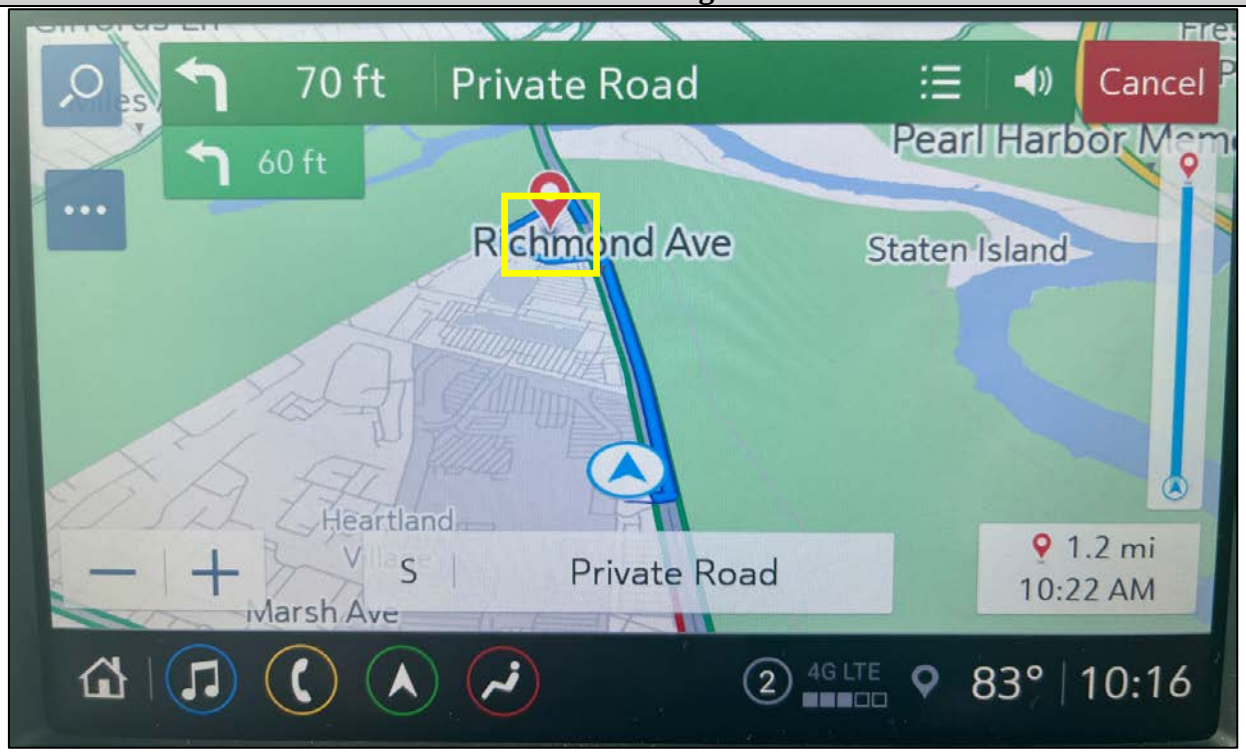
Claim	Claim Element	Evidence of Infringement
		As another example, GM's navigation system selects the display elements, such as labels, based on ranks, *e.g.*, lower ranked road labels (such as "Keene Rd" in the image below) are only displayed at lower scales while higher ranked labels (such as "Lexington Rd" in the image below) are displayed at larger scales. *See, e.g.*, Next-Generation Embedded Navigation:  …

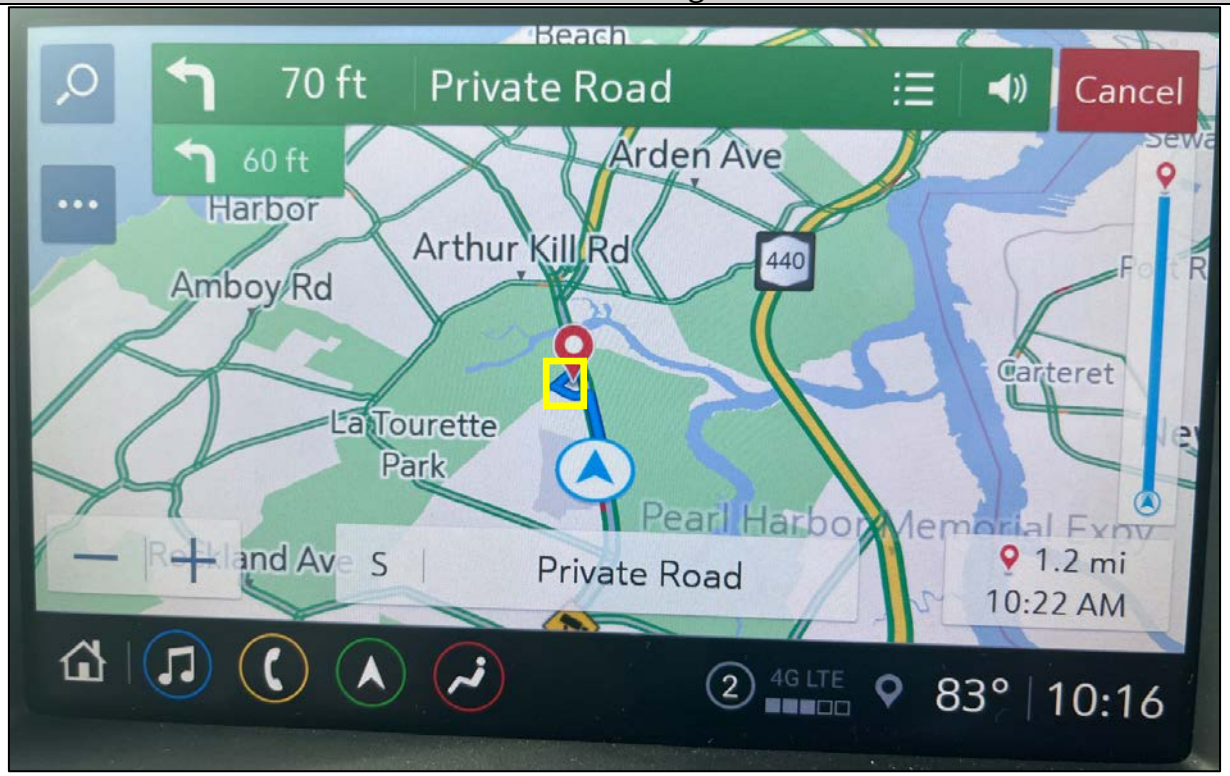
Claim	Claim Element	Evidence of Infringement
		 Chevy Infotainment 3 (2021) Detailed Tutorial and Review: Tech Help, at 3:17-3:28, at https://www.youtube.com/watch?v=GG-XCGp4dmo&ab_channel=CarConfections (yellow annotations added) (MEL_GM_TECH_00001256- MEL_GM_TECH_00001257). *See, e.g.*, Maps+: building min zoom level: 13 buffer: 2 Large buildings appear at zoom level 13, and all buildings are included in zoom level 16 and up. …

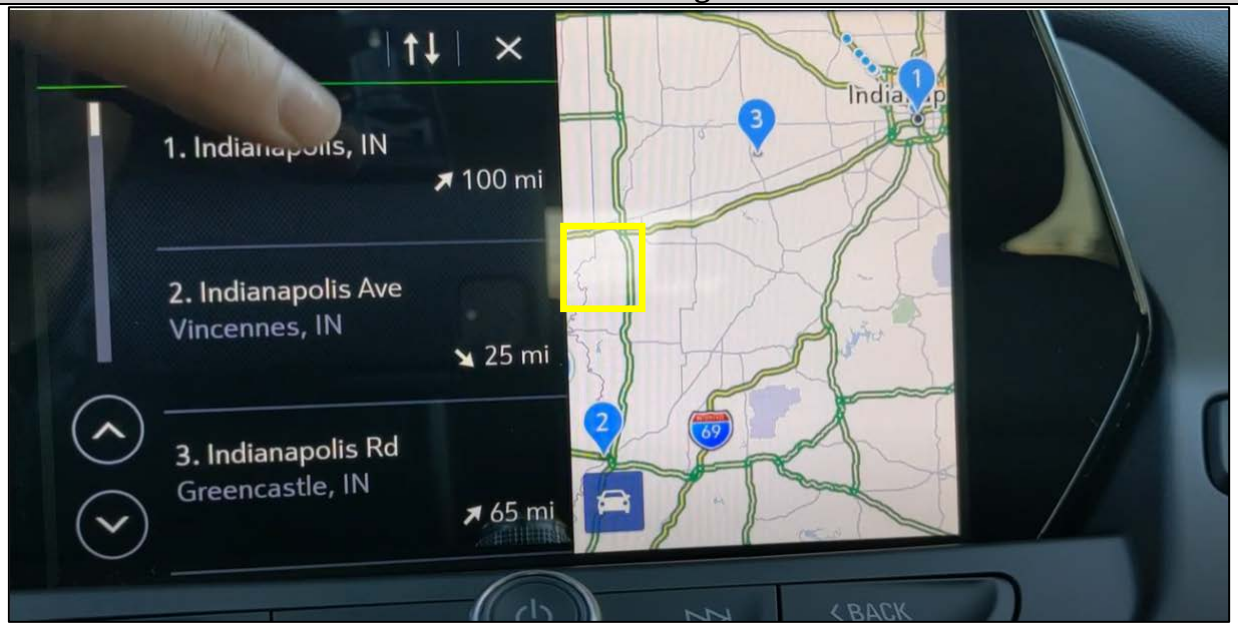
Claim	Claim Element	Evidence of Infringement
		poi_label min zoom level: 5 buffer: 64 This layer is used to place icons and labels for various points of interest (POIs). See names and name_script for information about names and translations available for label text. See sizerank and filterrank for information on using those fields to style text size and label density. See maki for more information about using this field for assigning icons. Mapbox Documentation at https://docs.mapbox.com/data/tilesets/reference/mapbox-streets-v8/ (yellow annotations added) (MEL_GM_TECH_00002488).
1[i]	further selecting each of the roads that is part of the calculated route but not indicated by the attributes as being displayable according to the instructed map scale, and	The control section of GM's navigation system carries out a procedure of displaying a map by further selecting each of the roads that is part of the calculated route but not indicated by the attributes as being displayable according to the instructed map scale. For example, GM's navigation system selects and displays the roads that are part of the calculated route even if based on their attribute they would normally be deemed too small to display according to the instructed map scale. For example, the highlighted roads in the image below are too small to be displayed at such a large map scale but are displayed because it is on the calculated route. *See, e.g.*, Next-Generation Embedded Navigation:

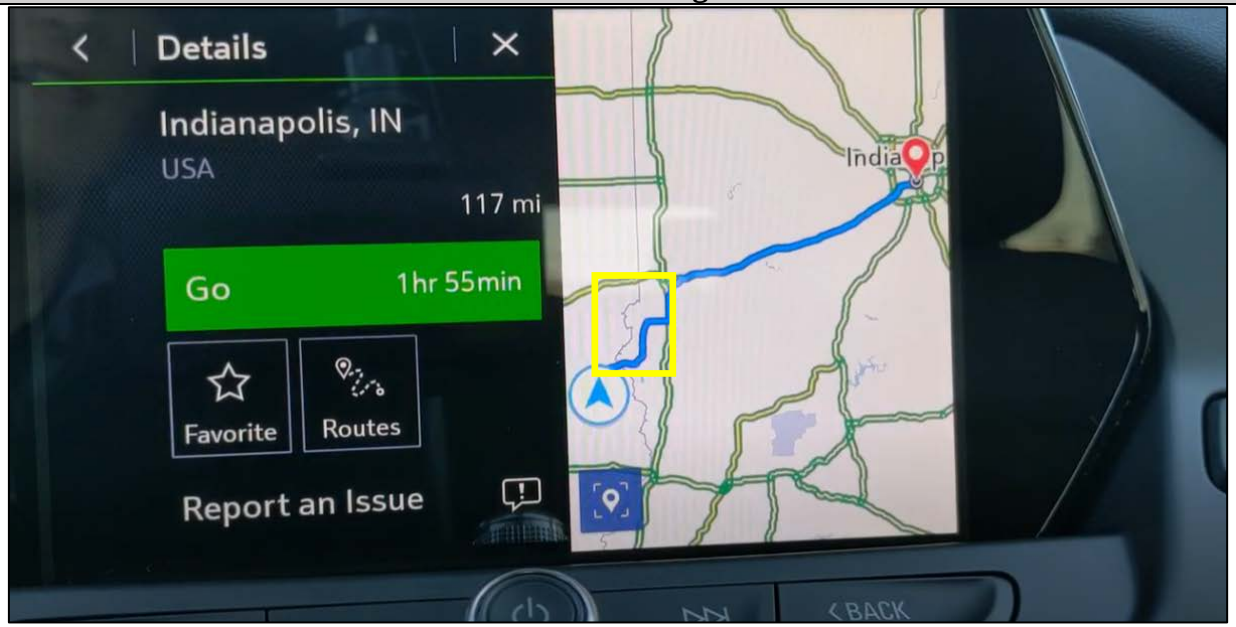
Claim	Claim Element	Evidence of Infringement
		 …

Claim	Claim Element	Evidence of Infringement
		 Photos of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002531-MEL_GM_TECH_00002532). *See also:*

Claim	Claim Element	Evidence of Infringement
		 …

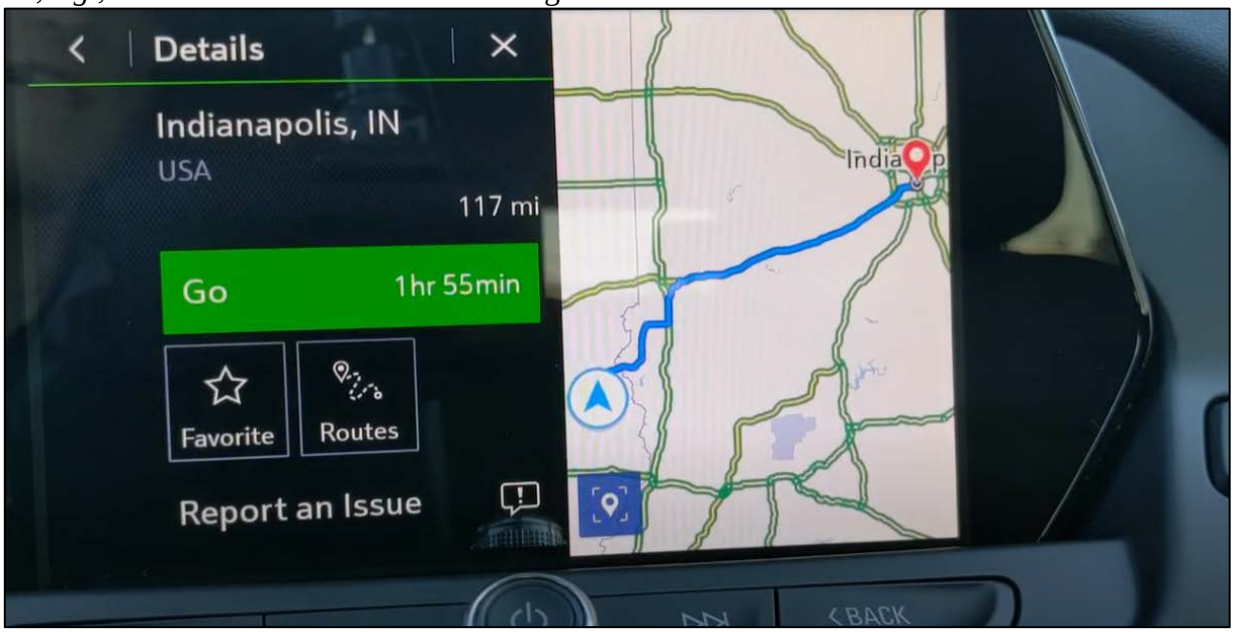
Claim	Claim Element	Evidence of Infringement
		 Photos of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002528-MEL_GM_TECH_00002529). *See also:*

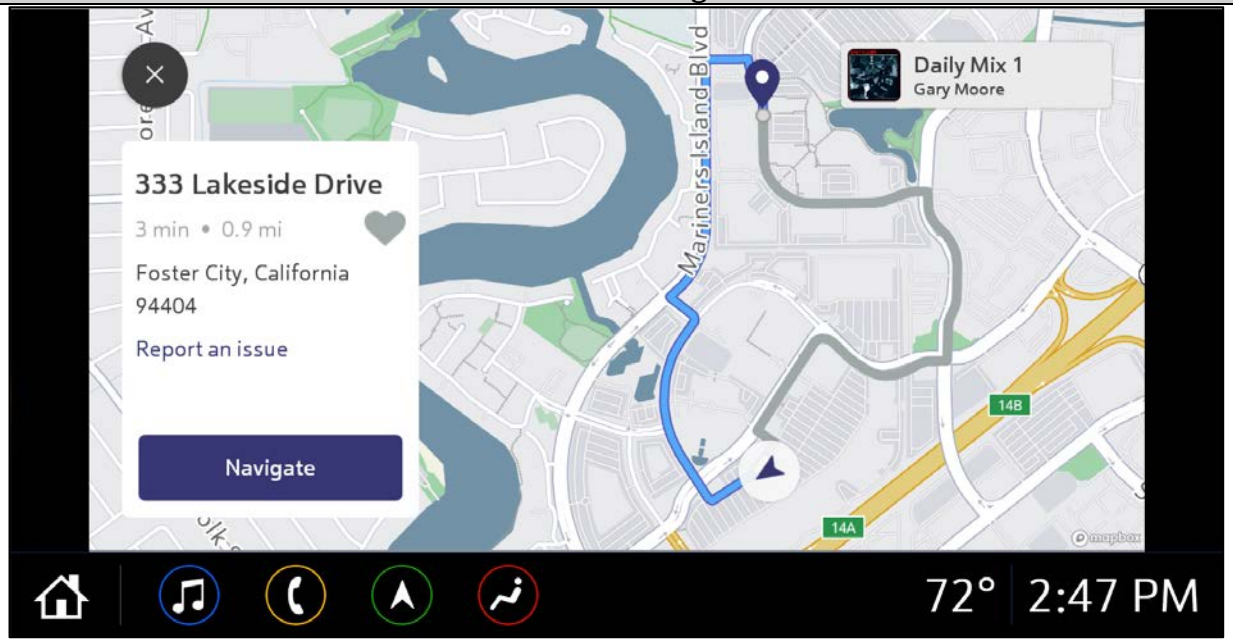
Claim	Claim Element	Evidence of Infringement
		 …

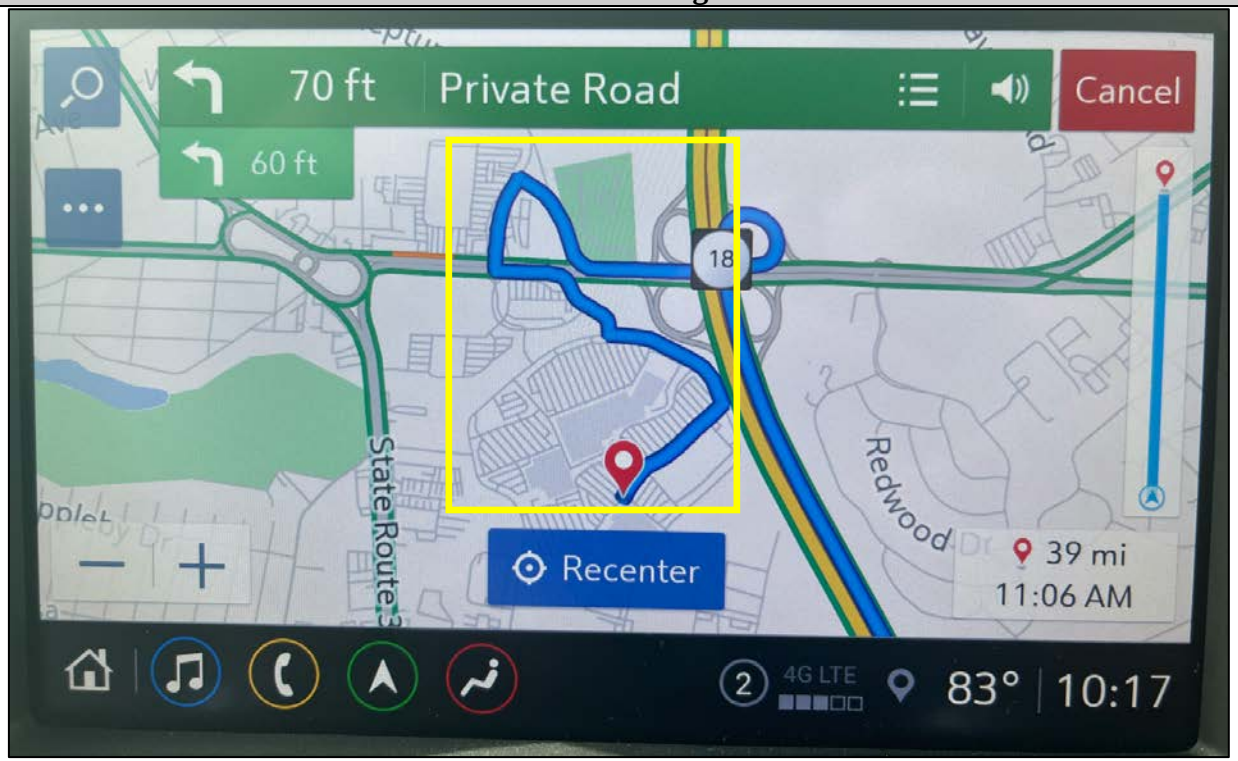
Claim	Claim Element	Evidence of Infringement
		 Tutorial of the 2020 Chevrolet Infotainment 3- Navigation, at 1:42-1:44, at https://www.youtube.com/watch?v=2ORHsVB3-tU (yellow annotations added) (MEL_GM_TECH_00001263- MEL_GM_TECH_00001264). *See, e.g.*, Maps+:

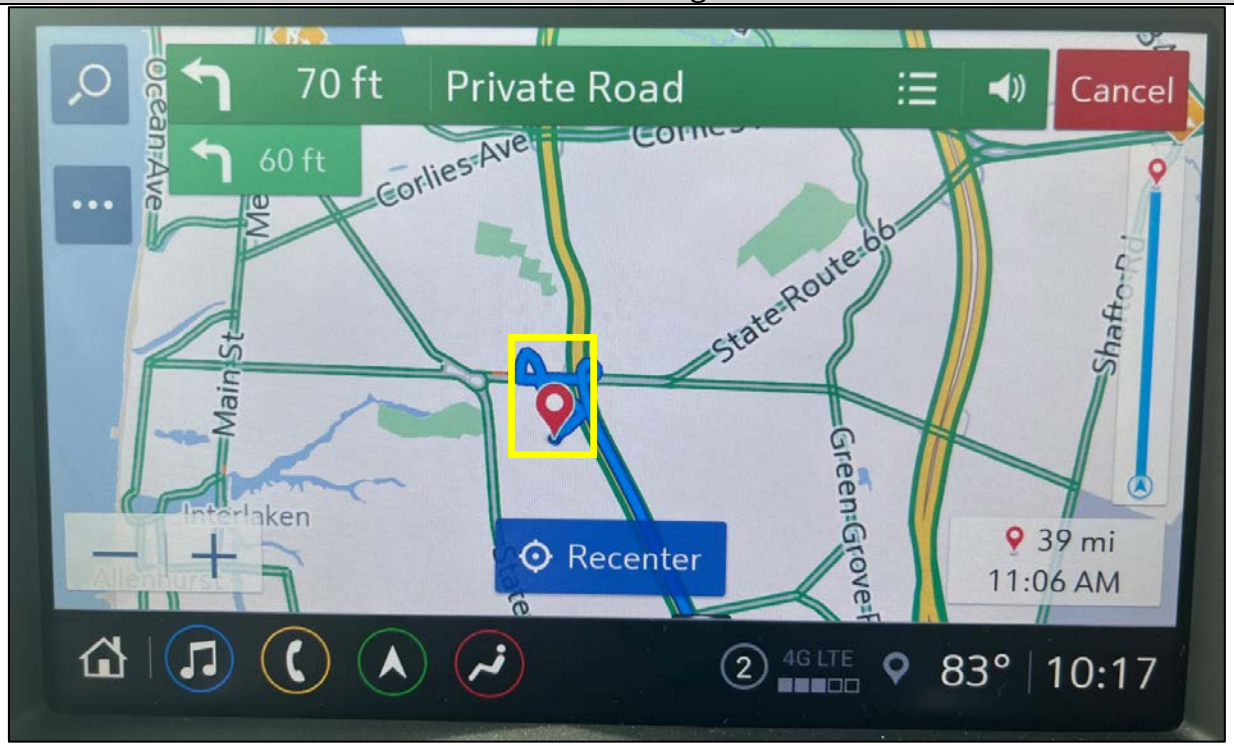
Claim	Claim Element	Evidence of Infringement

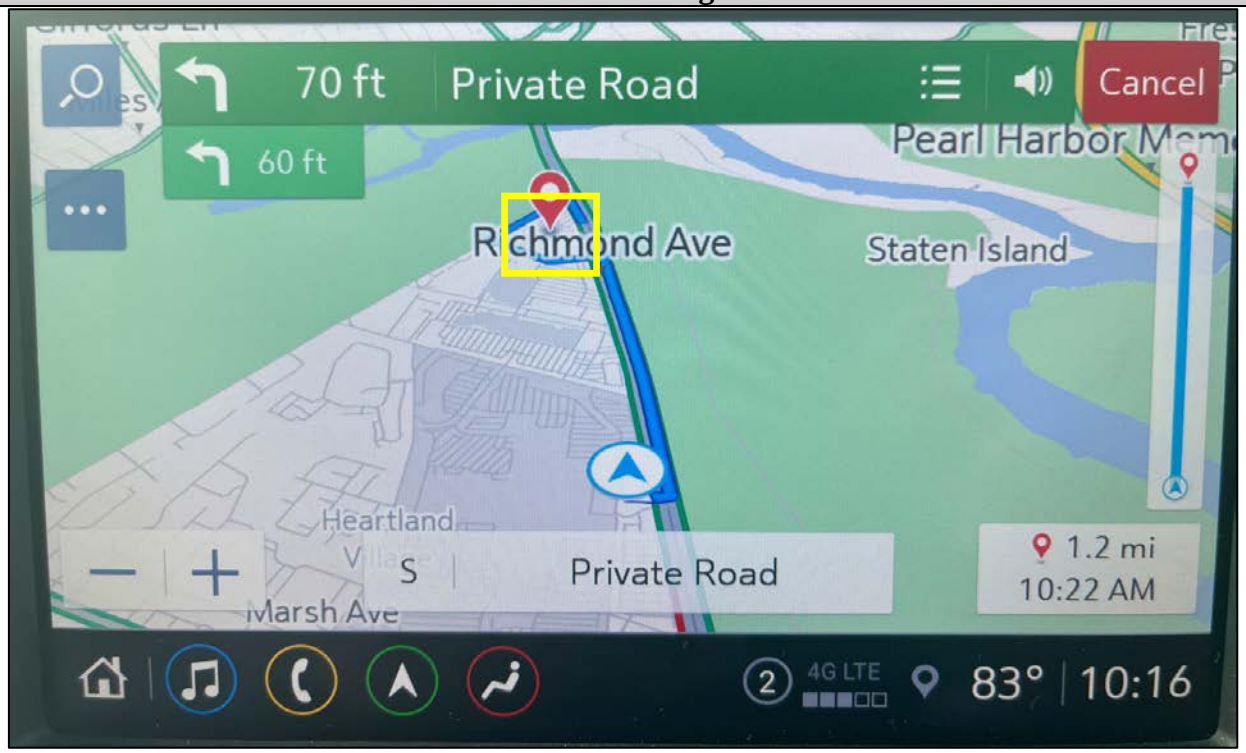
		Position the route line relative to map layers
		
		The map on which you are displaying your route line contains many individual layers (for example, roads, buildings, labels, and more). The route line UI component consists of three layers that are added to the map.
		
		By default, the route line is placed on top of all the other layers in the map. This is not always the most optimal position for a route line because it may appear on top of road labels and other labels on the map.
		
		You can specify the route line layers' veritcal position within all map layers using the `routeLineBelowLayerId` parameter of `MapboxRouteLineOptions`. The route line layers will be placed *below* the layer with the ID indicated in the `routeLineBelowLayerId` option.
		
		`val routeLineOptions = MapboxRouteLineOptions.Builder()`
		`.withRouteLineBelowLayerId("road-label")`
		`.build()`
		
		Which layer ID should I use?
		For navigation-related Mapbox map styles, you can use a `routeLineBelowLayerId` value of `"road-label"`, but this layer is not present in all map styles.
		
		If you are using a custom map style or another Mapbox-designed style, you can find the layer IDs that exist in the style by opening the style in Mapbox Studio or printing the style JSON to the console. For more information see Finding layer ids.
		
		Mapbox Documentation at https://docs.mapbox.com/android/navigation/guides/ui-components/route-line/#position-the-route-line-relative-to-map-layers (MEL_GM_TECH_00002450-MEL_GM_TECH_00002451).

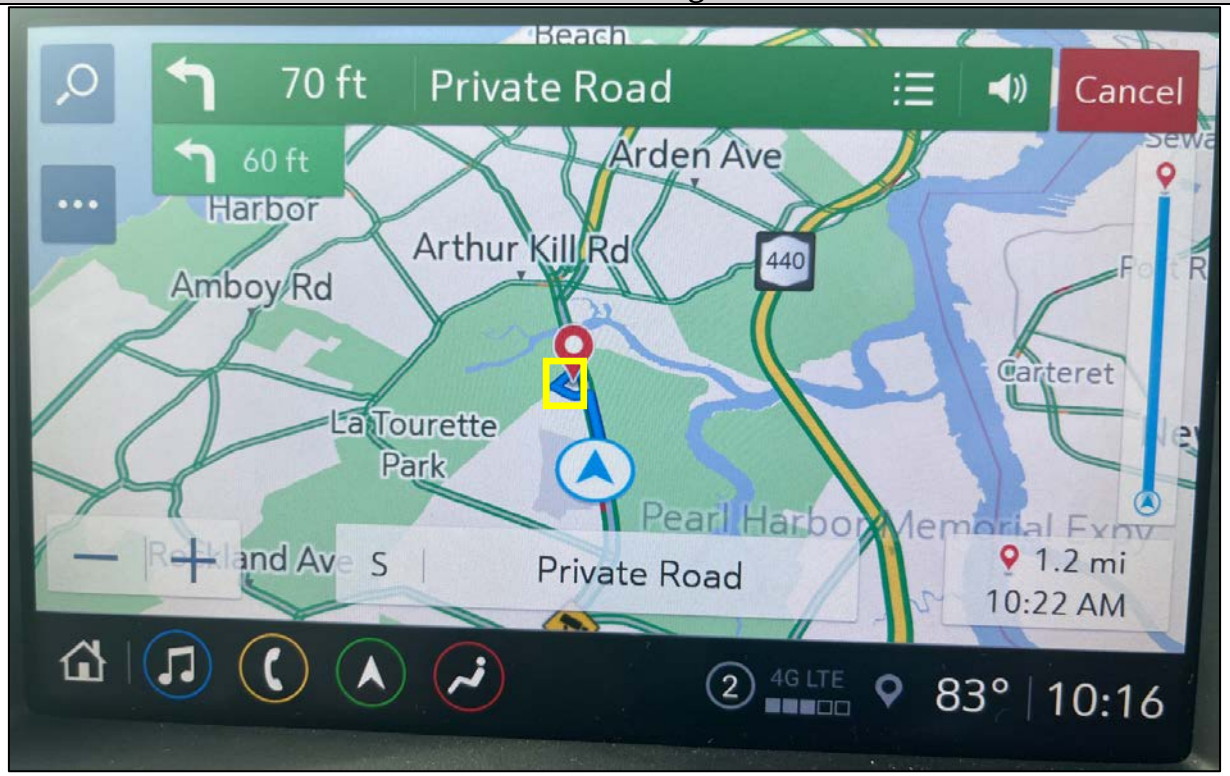
Claim	Claim Element	Evidence of Infringement
1[j]	displaying the selected roads and the selected display elements on the display selection as part of the map.	The control section of GM's navigation system carries out a procedure of displaying a map by displaying the selected roads and the selected display elements on the display selection as part of the map. For example, GM's navigation system displays the selected roads and the selected display elements on the vehicle infotainment system's map. *See, e.g.*, Next-Generation Embedded Navigation:  Tutorial of the 2020 Chevrolet Infotainment 3- Navigation, at 1:44, at https://www.youtube.com/watch?v=2ORHsVB3-tU (MEL_GM_TECH_00001264). *See, e.g.*, Maps+:

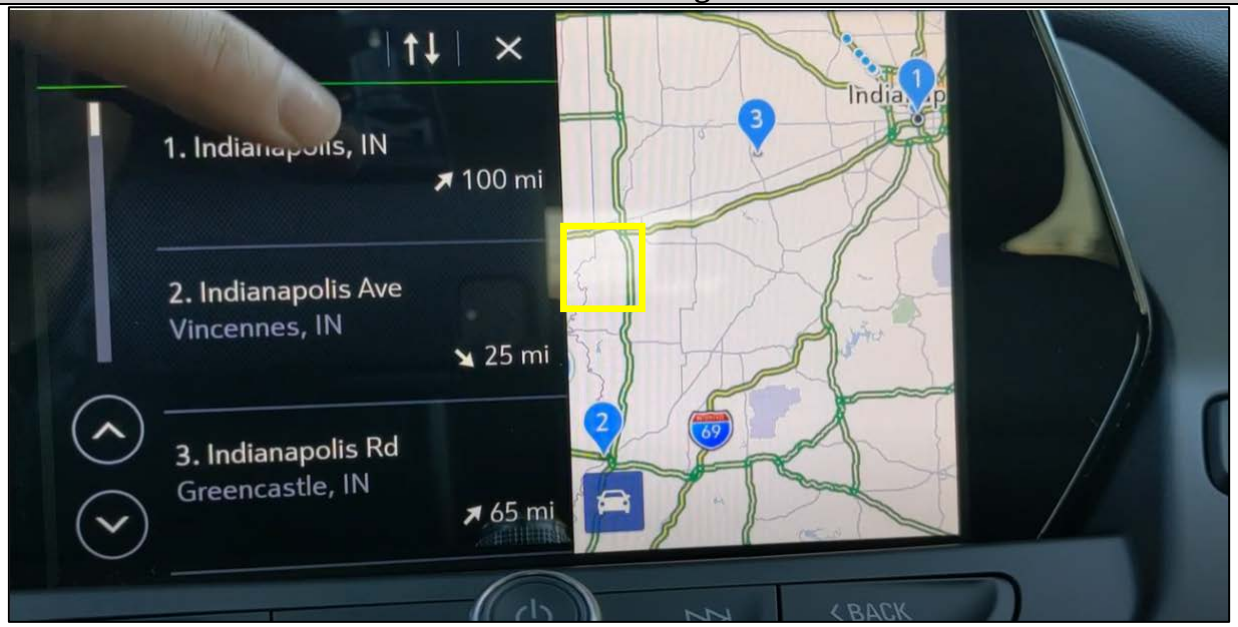
Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421).
2	The navigation system according to claim 1, wherein the control section displays each selected road not indicated by the attributes as being displayable according to the instructed map scale on the display section in a fashion different from the other selected roads.	*See* claim 1. In GM's navigation system according to claim 1, the control section displays each selected road not indicated by the attributes as being displayable according to the instructed map scale on the display section in a fashion different from the other selected roads. For example, the control section of GM's navigation system displays the roads that are part of the calculated route, even if based on their attribute they would normally be deemed too small to display according to the instructed map scale, in a fashion different from the other selected roads, *e.g.*, as a highlighted blue line rather than green and/or grey lines. *See, e.g.*, Next-Generation Embedded Navigation:

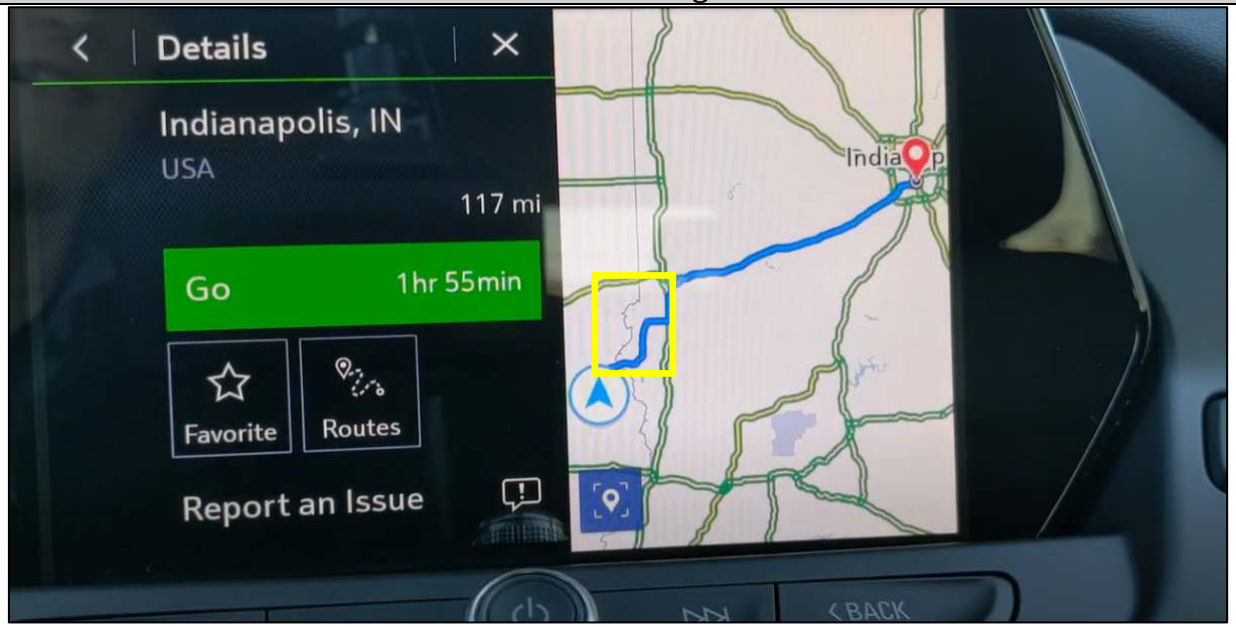
Claim	Claim Element	Evidence of Infringement
		 …

Claim	Claim Element	Evidence of Infringement
		 Photos of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002531-MEL_GM_TECH_00002532). *See also:*

Claim	Claim Element	Evidence of Infringement
		 …

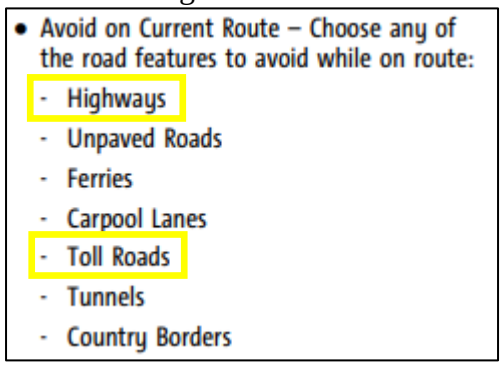
Claim	Claim Element	Evidence of Infringement
		 Photos of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002528-MEL_GM_TECH_00002529). *See also:*

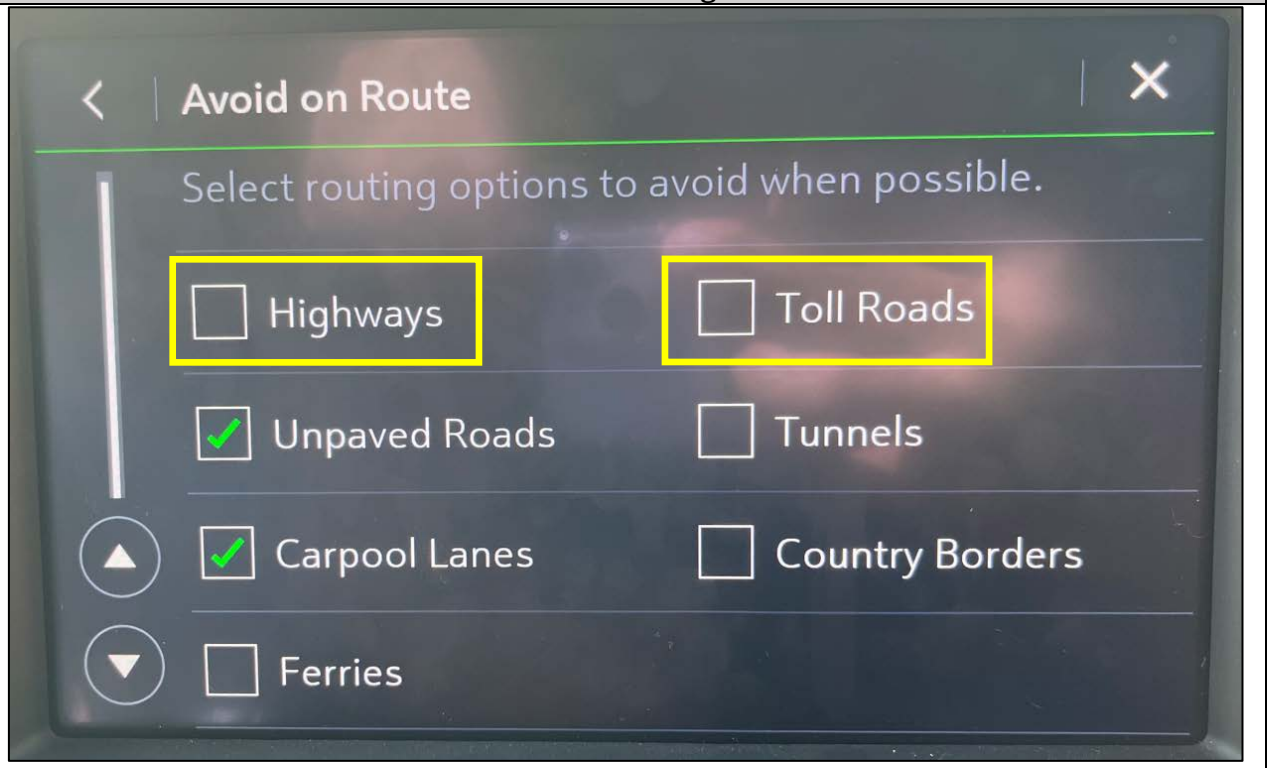
Claim	Claim Element	Evidence of Infringement
		 …

Claim	Claim Element	Evidence of Infringement
		 Tutorial of the 2020 Chevrolet Infotainment 3- Navigation, at 1:42-1:44, at https://www.youtube.com/watch?v=2ORHsVB3-tU (yellow annotations added) (MEL_GM_TECH_00001263- MEL_GM_TECH_00001264). *See, e.g.*, Maps+:

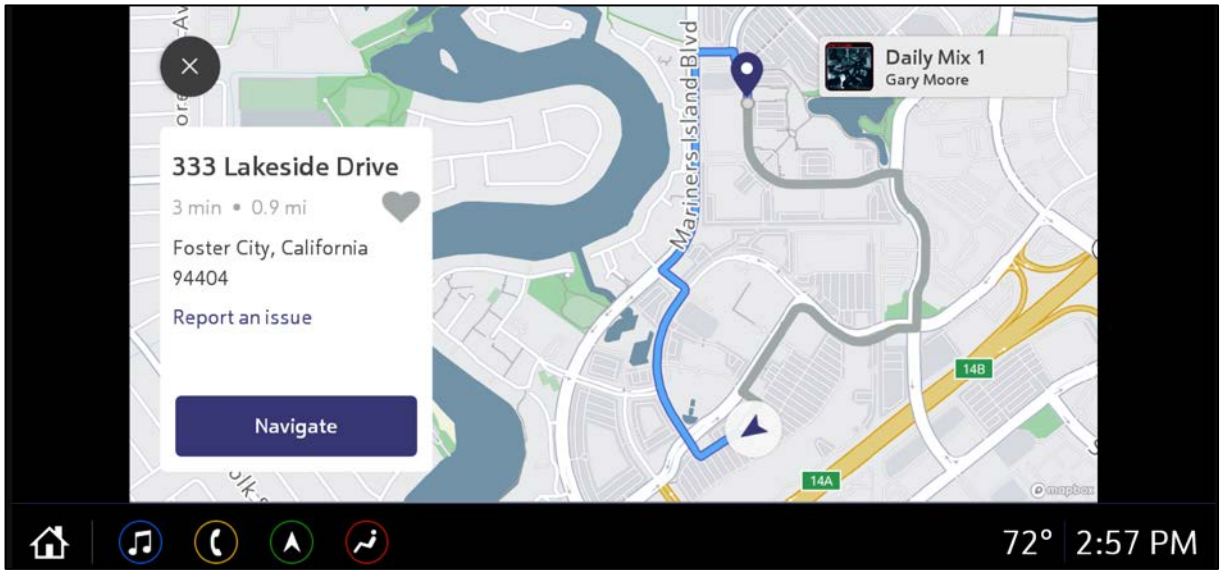
Claim	Claim Element	Evidence of Infringement

		Position the route line relative to map layers
		
		The map on which you are displaying your route line contains many individual layers (for example, roads, buildings, labels, and more). The route line UI component consists of three layers that are added to the map.
		
		By default, the route line is placed on top of all the other layers in the map. This is not always the most optimal position for a route line because it may appear on top of road labels and other labels on the map.
		
		You can specify the route line layers' veritcal position within all map layers using the `routeLineBelowLayerId` parameter of `MapboxRouteLineOptions`. The route line layers will be placed *below* the layer with the ID indicated in the `routeLineBelowLayerId` option.
		
		`val routeLineOptions = MapboxRouteLineOptions.Builder()`
		`.withRouteLineBelowLayerId("road-label")`
		`.build()`
		
		Which layer ID should I use?
		For navigation-related Mapbox map styles, you can use a `routeLineBelowLayerId` value of `"road-label"`, but this layer is not present in all map styles.
		
		If you are using a custom map style or another Mapbox-designed style, you can find the layer IDs that exist in the style by opening the style in Mapbox Studio or printing the style JSON to the console. For more information see Finding layer ids.
		
		Mapbox Documentation at https://docs.mapbox.com/android/navigation/guides/ui-components/route-line/#position-the-route-line-relative-to-map-layers (MEL_GM_TECH_00002450-MEL_GM_TECH_00002451).

Claim	Claim Element	Evidence of Infringement
3	The navigation system according to claim 1, wherein the route calculation is performed between the own-vehicle position and one of the selected display elements, and the route calculation is performed under a condition recommended by navigation or under a condition which is designated by the user and is input from the input section.	*See* claim 1. In GM's navigation system according to claim 1, the route calculation is performed between the own-vehicle position and one of the selected display elements, and the route calculation is performed under a condition recommended by navigation or under a condition which is designated by the user and is input from the input section. For example, GM's navigation system calculates a route (represented as a blue line in the image below) between the own vehicle position (represented as a current position arrow marker in the image below) and one of the selected display elements, *e.g.*, the final destination represented as a red/purple pin, under a condition, *e.g.*, a preference of avoiding toll roads or highways, designated by the user in the input section. *See*, *e.g.*, Next-Generation Embedded Navigation:  • Avoid on Current Route – Choose any of the road features to avoid while on route: - Highways - Unpaved Roads - Ferries - Carpool Lanes - Toll Roads - Tunnels - Country Borders 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 164 (yellow annotations added) (MEL_GM_TECH_00001802). *See also:*

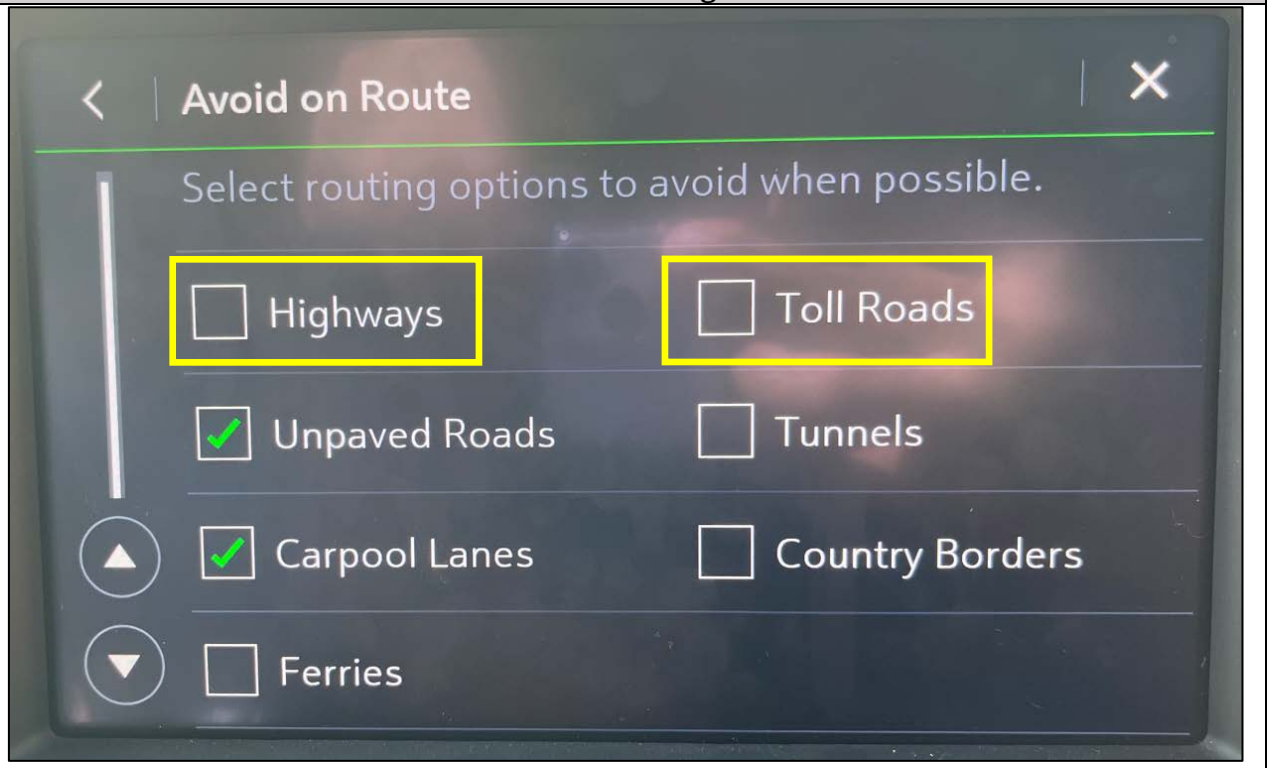
Claim	Claim Element	Evidence of Infringement
		 Photo of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002535). *See also:*

Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 3:17, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001261). *See, e.g.*, Maps+: `exclude` | string | Exclude certain road types and custom locations from routing. Default is to not exclude anything from the list below. You can specify multiple values as a comma-separated list. The following exclude values are available: **Possible values** | **Description** `motorway` | Exclude highways or motorways. Available in `mapbox/driving` and `mapbox/driving-traffic` profiles.

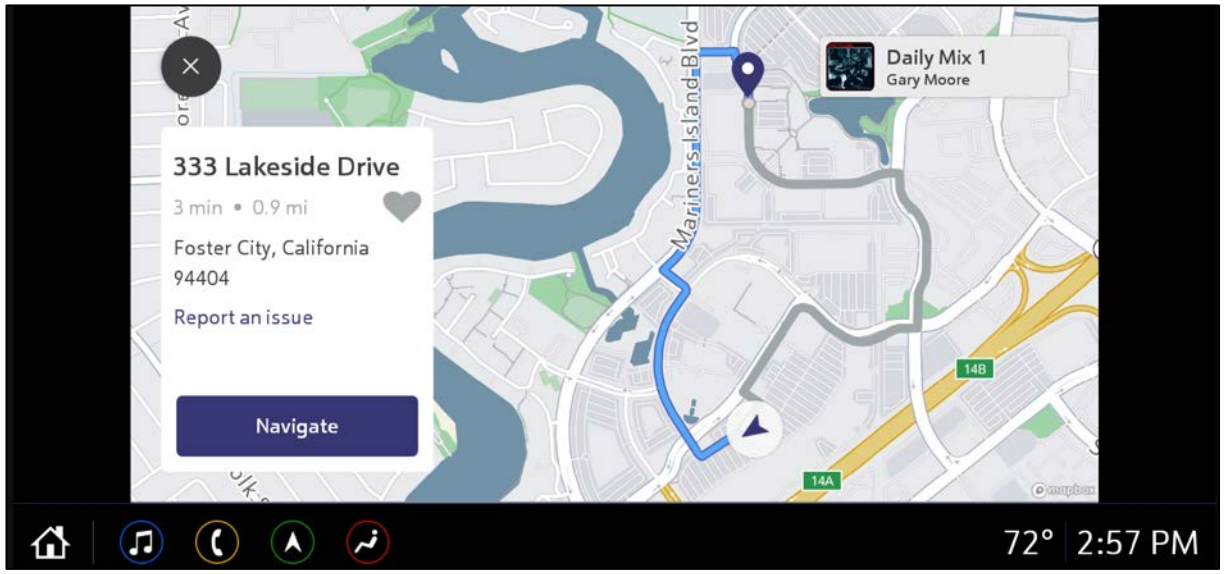
Claim	Claim Element	Evidence of Infringement
		Mapbox Documentation at https://docs.mapbox.com/api/navigation/directions/ (yellow annotations added) (MEL_GM_TECH_00002454-MEL_GM_TECH_00002455). *See also:*  Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421).
4	The navigation system according to claim 1, wherein the route calculation is performed between an endpoint of one of the roads, which is indicated by the attributes as being displayable according to the instructed map scale and	*See* claim 1. In GM's navigation system according to claim 1, the route calculation is performed between an endpoint of one of the roads, which is indicated by the attributes as being displayable according to the instructed map scale and the own-vehicle position, the route calculation being performed under a condition recommended by navigation or under a condition which is designated by the user and is input from the input section. For example, GM's navigation system calculates a route between the own vehicle position and an endpoint on one of the roads, such as at an intersection, indicated by the attributes as being

Claim	Claim Element	Evidence of Infringement
	the own-vehicle position, the route calculation being performed under a condition recommended by navigation or under a condition which is designated by the user and is input from the input section.	displayable according to the instructed map scale, where the route calculation is under a condition, *e.g.*, a preference of avoiding toll roads or highways, designated by the user in the input section. *See, e.g.*, Next-Generation Embedded Navigation: Navigating to a destination outside of the current country takes more than one command. The first command is to tell the system where the navigation will take place, such as an Address, Intersection, POI, or Contact. If Address or Intersection is selected, the second command is to say, "Change Country." Once the system responds, say the country before saying the rest of the address and/or intersection. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 175 (yellow annotations added) (MEL_GM_TECH_00001813). *See also:*

Claim	Claim Element	Evidence of Infringement
		• Avoid on Current Route – Choose any of the road features to avoid while on route: - Highways - Unpaved Roads - Ferries - Carpool Lanes - Toll Roads - Tunnels - Country Borders 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 164 (yellow annotations added) (MEL_GM_TECH_00001802). *See also:*

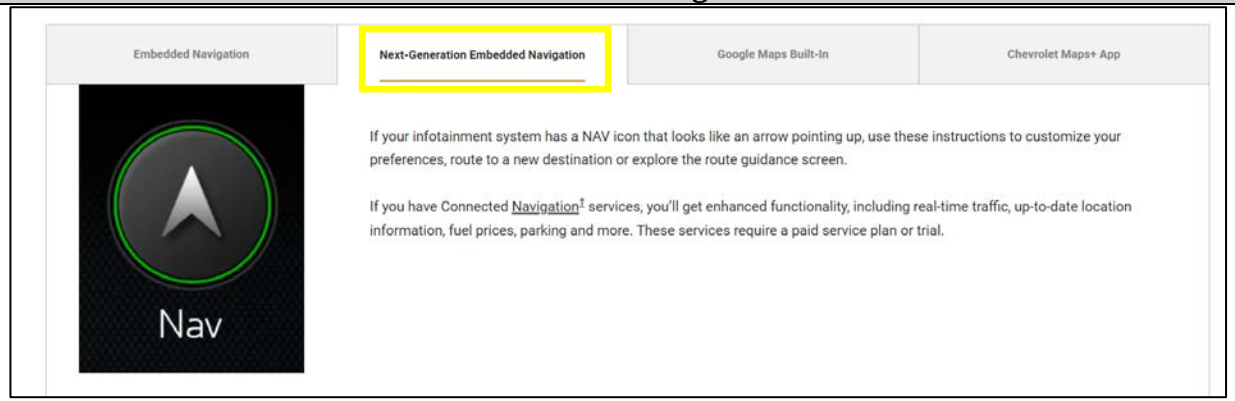
Claim	Claim Element	Evidence of Infringement
		 Photo of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002535). *See also:*

Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 3:17, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001261). *See, e.g.,* Maps+: `exclude` | string | Exclude certain road types and custom locations from routing. Default is to not exclude anything from the list below. You can specify multiple values as a comma-separated list. The following exclude values are available: **Possible values** | **Description** `motorway` | Exclude highways or motorways. Available in `mapbox/driving` and `mapbox/driving-traffic` profiles.

Claim	Claim Element	Evidence of Infringement
		Mapbox Documentation at https://docs.mapbox.com/api/navigation/directions/ (yellow annotations added) (MEL_GM_TECH_00002454-MEL_GM_TECH_00002455). *See also:*  Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421).
5[a]	A display method of a road network in a navigation system having a map data storage section for storing map data, which is composed of roads necessary for a route search and display elements including city centers and facilities,	GM performs a display method of a road network in a navigation system having a map data storage section for storing map data, which is composed of roads necessary for a route search and display elements including city centers and facilities, together with attributes and classes of the map data, the attributes being indicative of whether or not each of the roads should be displayed for each of a plurality of map scales, the navigation system also having a position information acquiring section for obtaining position information on a vehicle, a control section including a drawing memory, an input section for inputting an instruction from a user, and a display section for displaying the map data, the display method of the road network in the navigation system.

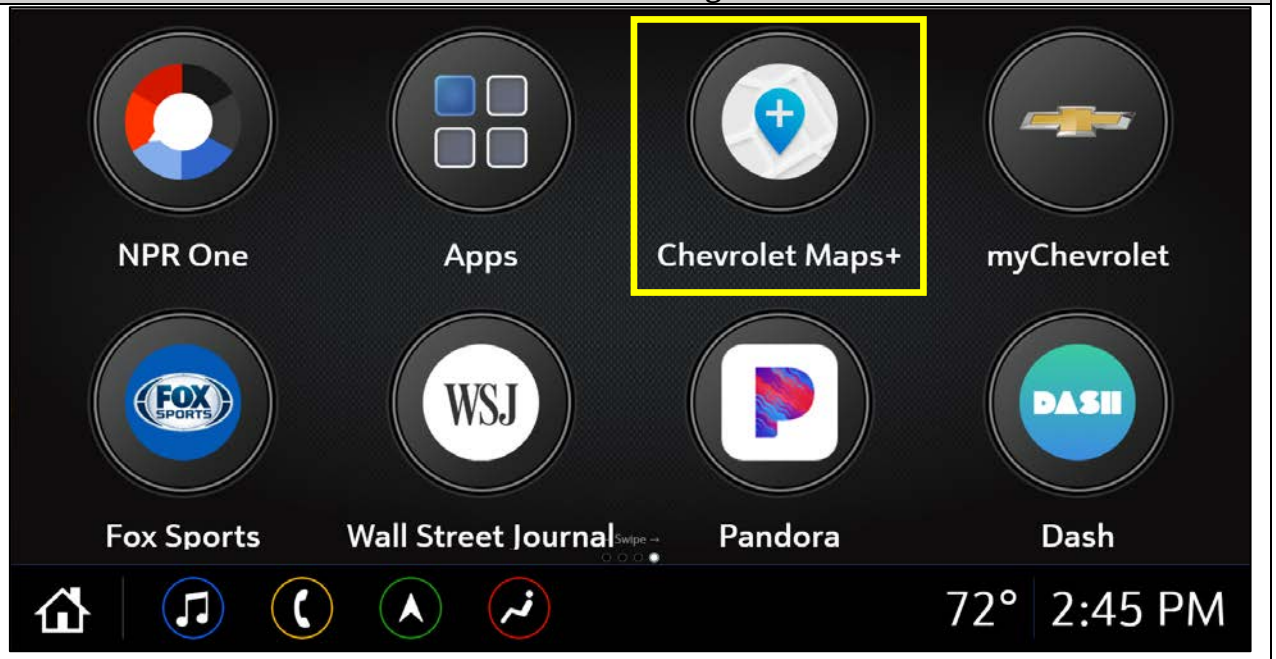
Claim	Claim Element	Evidence of Infringement
	together with attributes and classes of the map data, the attributes being indicative of whether or not each of the roads should be displayed for each of a plurality of map scales, the navigation system also having a position information acquiring section for obtaining position information on a vehicle, a control section including a drawing memory, an input section for inputting an instruction from a user, and a display section for displaying the map data, the display method of the road network in the navigation system comprising:	For example, GM displays a road network in its navigation system, *e.g.*, Next-Generation Embedded Navigation of GM's Infotainment 3 Plus system (also referred to as the Next Generation Infotainment system) found in the, *inter alia*, 2022 Chevrolet Silverado 2500 HD. *See, e.g.*, Next-Generation Embedded Navigation: CHEVROLET … 2022 SILVERADO HD … SPECIFICATIONS (CONTINUED) ● STANDARD ○ AVAILABLE – NOT AVAILABLE WT CUSTOM LT LTZ HIGH COUNTRY ENTERTAINMENT …

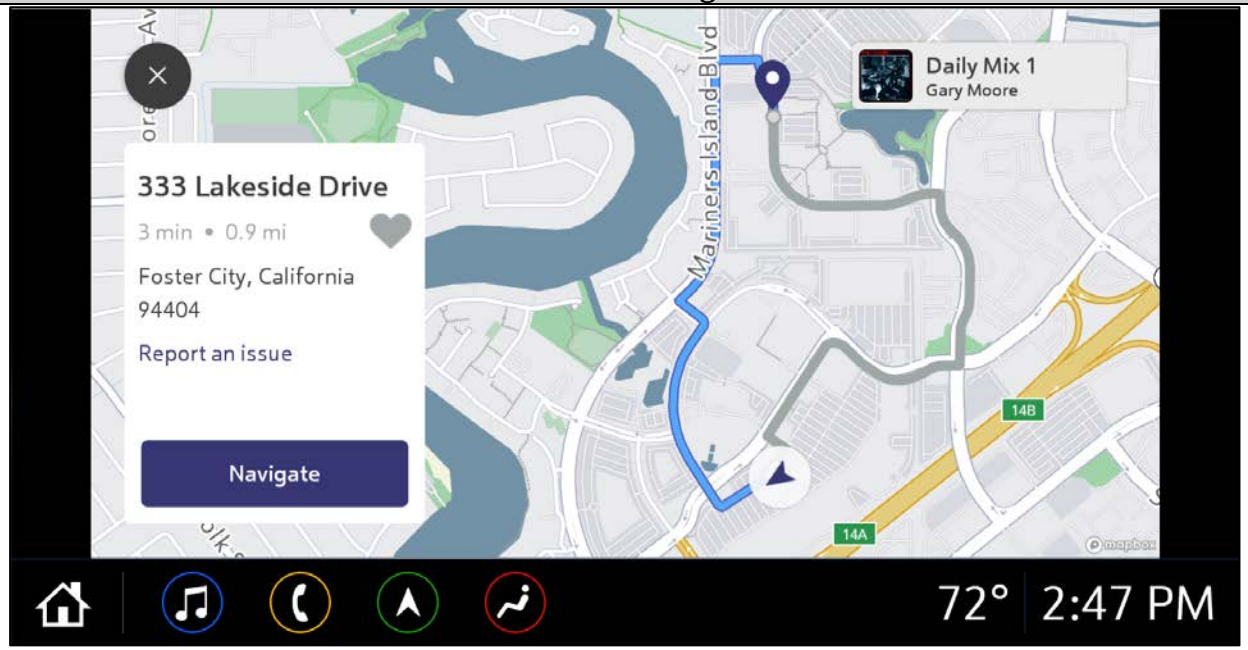
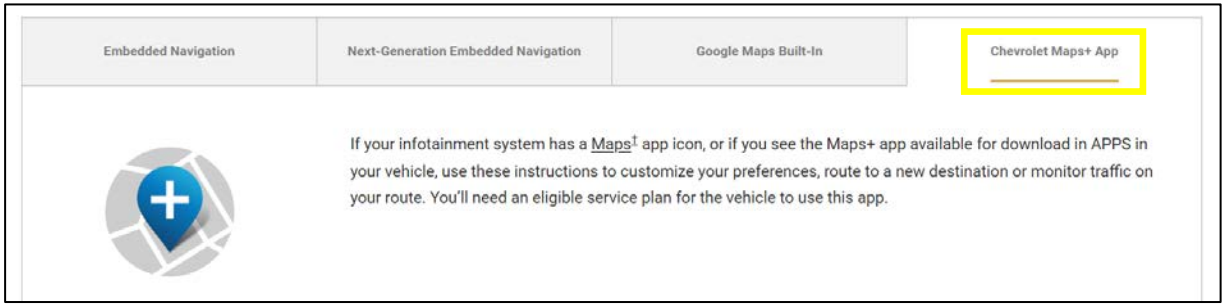
Claim	Claim Element	Evidence of Infringement
		Chevrolet Infotainment 3 Plus system[1] with 8-inch diagonal HD color touch-screen, AM/FM stereo, Bluetooth audio streaming[2] for two active devices, voice command pass-through to compatible phone, wireless Apple CarPlay[3] and wireless Android Auto[4] compatibility, available Alexa Built-In,[5] voice recognition and available In-Vehicle Apps[6] (LT requires available Convenience Package II or Advanced Trailering Package) 2022 Chevy Silverado HD Brochure at https://www.chevrolet.com/content/dam/chevrolet/na/us/english/index/shopping-tools/download-catalog/08-pdf/2022-chevrolet-silverado-hd-ebrochure.pdf (yellow annotations added) (MEL_GM_TECH_00000020 and MEL_GM_TECH_00000051). *See also:* Chevrolet Infotainment 3 Plus System Demo at https://chevroletdemo.com/invehicleapps (yellow annotations added) (MEL_GM_TECH_00002417). *See also:*

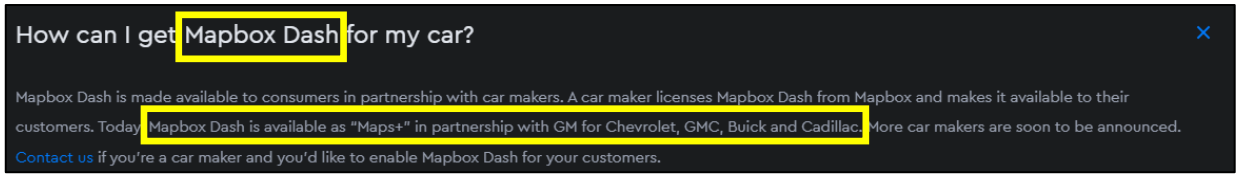
Claim	Claim Element	Evidence of Infringement
		 How to Use Navigation in Your Vehicle, Chevrolet, at https://www.chevrolet.com/support/vehicle/smartphone-connections/navigation/preferences (yellow annotations added) (MEL_GM_TECH_00002430). *See also* GMC Navigation at https://www.gmc.com/support/vehicle/smartphone-connections/navigation/preferences; Buick Navigation at https://www.buick.com/support/vehicle/smartphone-connections/navigation/preferences; and Cadillac Navigation at https://www.cadillac.com/support/vehicle/smartphone-connections/navigation/preferences. *See also:*

Claim	Claim Element	Evidence of Infringement
		Navigation Map View … **Navigation** **Using the Navigation System** **If equipped, launch the Nav application by touching the Nav icon on the Home Page or on the shortcut tray near the bottom of the infotainment display.** 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at pp. 163-164 (available at https://my.chevrolet.com/content/dam/gmownercenter/gmna/dynamic/manuals/2022/chevrolet/silverado/2022-chevrolet-silverado-2500-hd-3500-hd-owners-manual.pdf) (MEL_GM_TECH_00001800-MEL_GM_TECH_00001801).

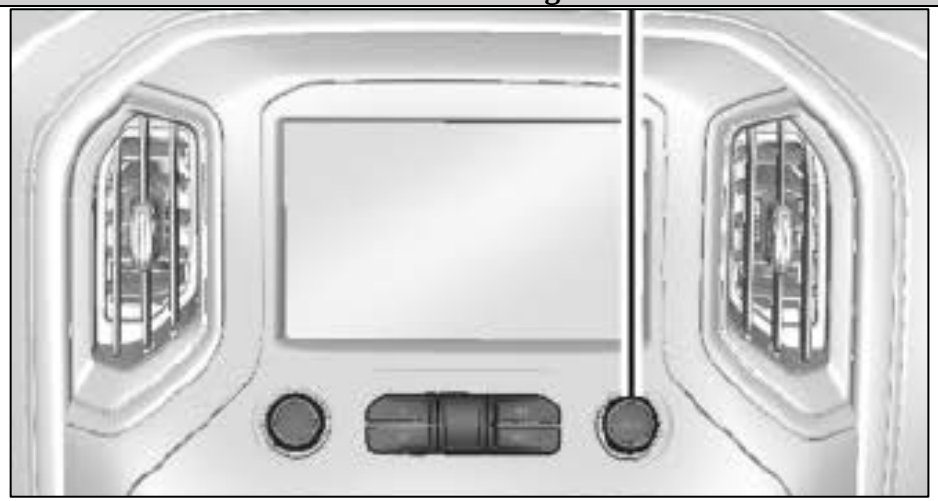
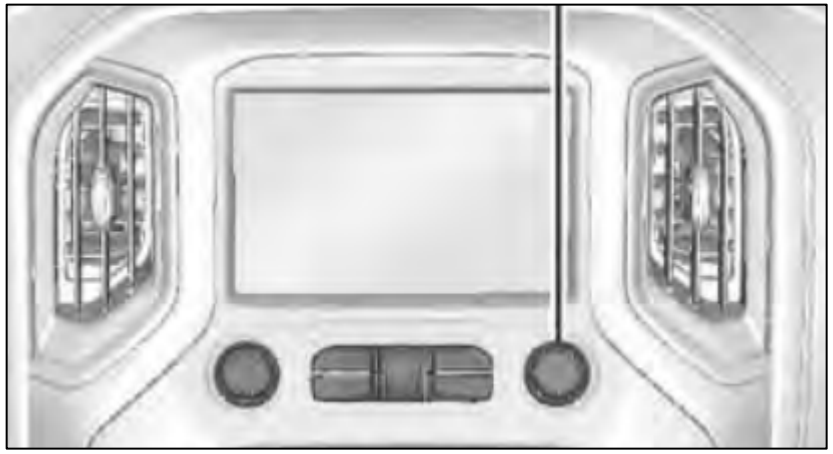
Claim	Claim Element	Evidence of Infringement
		For example, GM displays a road network in its navigation system, *e.g.*, Maps+ of GM's Infotainment 3 Plus system. *See, e.g.*, Maps+: **DETROIT** – General Motors today announced the launch of Maps+, an in-vehicle, app-based navigation solution, upgrading capabilities for select model year 2018 and newer Chevrolet, Buick, GMC and Cadillac vehicles by the end of 2021. Maps+, which is powered by Mapbox, is expected to begin its rollout to approximately 900,000 vehicles on April 30, as part of select Connected Services plans. General Motors Debuts Maps+, An In-Vehicle App-Based Navigation System, GM Newsroom, at https://news.gm.com/newsroom.detail.html/Pages/news/us/en/2021/apr/0412-maps.html (MEL_GM_TECH_00002516). *See also:*

Claim	Claim Element	Evidence of Infringement
		 …

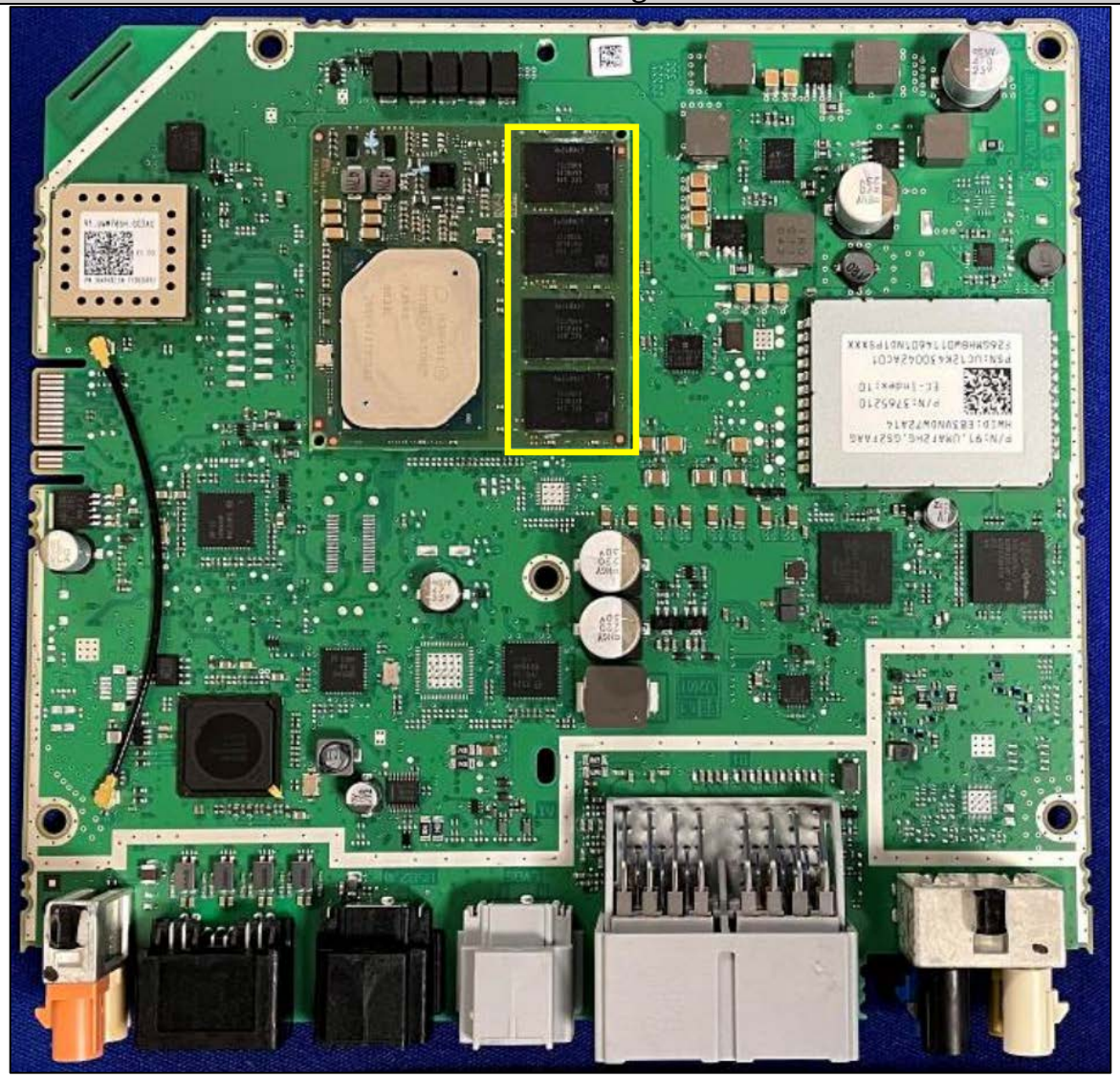
Claim	Claim Element	Evidence of Infringement
		 Chevrolet Infotainment 3 Plus System Demo at https://chevroletdemo.com/invehicleapps (yellow annotations added) (MEL_GM_TECH_00002418 and MEL_GM_TECH_00002421). *See also:*  How to Use Navigation in Your Vehicle, Chevrolet, at https://www.chevrolet.com/support/vehicle/smartphone-connections/navigation/preferences (yellow annotations added) (MEL_GM_TECH_00002433). *See also* GMC Navigation at

Claim	Claim Element	Evidence of Infringement
		https://www.gmc.com/support/vehicle/smartphone-connections/navigation/preferences; Buick Navigation at https://www.buick.com/support/vehicle/smartphone-connections/navigation/preferences; and Cadillac Navigation at https://www.cadillac.com/support/vehicle/smartphone-connections/navigation/preferences. *See also:*  How can I get Mapbox Dash for my car? Mapbox Dash is made available to consumers in partnership with car makers. A car maker licenses Mapbox Dash from Mapbox and makes it available to their customers. Today Mapbox Dash is available as "Maps+" in partnership with GM for Chevrolet, GMC, Buick and Cadillac. More car makers are soon to be announced. Contact us if you're a car maker and you'd like to enable Mapbox Dash for your customers. Mapbox Dash at https://www.mapbox.com/dash (yellow annotations added) (MEL_GM_TECH_00002514). For example, Next-Generation Embedded Navigation and/or Maps+ is equipped on and/or available for the exemplary 2022 Chevy Silverado 2500 HD (MEL_GM_TECH_00000020-MEL_GM_TECH_00000060) as well as other GM vehicles with the Infotainment 3 Plus system, including at least the 2022/2023 Chevy Trailblazer (MEL_GM_TECH_00000372-MEL_GM_TECH_00000390 and MEL_GM_TECH_00000755-MEL_GM_TECH_00000773), 2022/2023 Chevy Equinox (MEL_GM_TECH_00000001-MEL_GM_TECH_00000019 and MEL_GM_TECH_00000675-MEL_GM_TECH_00000694), 2022/2023 Chevy Blazer (MEL_GM_TECH_00000310-MEL_GM_TECH_00000331 and MEL_GM_TECH_00000559-MEL_GM_TECH_00000578), 2022/2023 Chevy Traverse (MEL_GM_TECH_00000391-MEL_GM_TECH_00000415 and MEL_GM_TECH_00000774-MEL_GM_TECH_00000798), 2022 Chevy Colorado (MEL_GM_TECH_00000348-MEL_GM_TECH_00000371), 2022/2023 Chevy Bolt EV (MEL_GM_TECH_00000416-MEL_GM_TECH_00000430 and MEL_GM_TECH_00000595-MEL_GM_TECH_00000609), 2022/2023 Chevy Bolt EUV (MEL_GM_TECH_00000332-MEL_GM_TECH_00000347 and MEL_GM_TECH_00000579-MEL_GM_TECH_00000594), 2022/2023 Chevy Malibu (MEL_GM_TECH_00000540-MEL_GM_TECH_00000558 and MEL_GM_TECH_00000695-MEL_GM_TECH_00000713), 2022/2023 Chevy Camaro (MEL_GM_TECH_00000278-MEL_GM_TECH_00000309 and MEL_GM_TECH_00000610-MEL_GM_TECH_00000642), 2022/2023 Chevy Corvette (MEL_GM_TECH_00000431-MEL_GM_TECH_00000460 and MEL_GM_TECH_00000643-

Claim	Claim Element	Evidence of Infringement
		MEL_GM_TECH_00000674), 2022 GMC Canyon (MEL_GM_TECH_00000945-MEL_GM_TECH_00000985), 2022 GMC Sierra 1500 Limited (MEL_GM_TECH_00001153-MEL_GM_TECH_00001182), 2022/2023 GMC Sierra 2500 HD/3500 HD (MEL_GM_TECH_00000881-MEL_GM_TECH_00000944 and MEL_GM_TECH_00001183-MEL_GM_TECH_00001246), 2022/2023 GMC Terrain (MEL_GM_TECH_00001072-MEL_GM_TECH_00001152), 2022/2023 GMC Acadia (MEL_GM_TECH_00000986-MEL_GM_TECH_00001071), 2022/2023 Buick Encore GX (MEL_GM_TECH_00000487-MEL_GM_TECH_00000512 and MEL_GM_TECH_00000799-MEL_GM_TECH_00000825), 2022/2023 Buick Envision (MEL_GM_TECH_00000513-MEL_GM_TECH_00000539 and MEL_GM_TECH_00000853-MEL_GM_TECH_00000880), 2022/2023 Buick Enclave (MEL_GM_TECH_00000461-MEL_GM_TECH_00000486 and MEL_GM_TECH_00000826-MEL_GM_TECH_00000852), 2022/2023 Cadillac XT4 (MEL_GM_TECH_00000150-MEL_GM_TECH_00000163 and MEL_GM_TECH_00000237-MEL_GM_TECH_00000250), 2022/2023 Cadillac XT5 (MEL_GM_TECH_00000164-MEL_GM_TECH_00000175 and MEL_GM_TECH_00000251-MEL_GM_TECH_00000263), 2022/2023 Cadillac XT6 (MEL_GM_TECH_00000176-MEL_GM_TECH_00000188 and MEL_GM_TECH_00000264-MEL_GM_TECH_00000277), 2022/2023 Cadillac CT4 (MEL_GM_TECH_00000061-MEL_GM_TECH_00000075 and MEL_GM_TECH_00000189-MEL_GM_TECH_00000202), and 2022/2023 Cadillac CT5 (MEL_GM_TECH_00000094-MEL_GM_TECH_00000110 and MEL_GM_TECH_00000221-MEL_GM_TECH_00000236). *See*, *generally*, Chevrolet Brochures at https://www.chevrolet.com/download-catalog; GMC Brochures at https://www.gmc.com/download-2022-brochure and https://www.gmc.com/download-2023-brochure; Buick Brochures at https://www.buick.com/download-brochure; and Cadillac Brochures at https://www.cadillac.com/vehicle-brochures. For example, GM's navigation system has a map data storage section as memory located on the infotainment system. On information and belief, GM's infotainment system is, *e.g.*, manufactured by Harman, and every version of GM's navigation system has a substantially similar map data storage section as memory and operates in a substantially similar manner. *See*, *e.g.*,

Claim	Claim Element	Evidence of Infringement
		 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 4 (MEL_GM_TECH_00001642). *See also:*  User Manual, FCC Filings for FCC ID: 2AHPN-BE2843, at p. 5, at https://fccid.io/2AHPN-BE2843 (MEL_GM_TECH_00001255). *See also:*

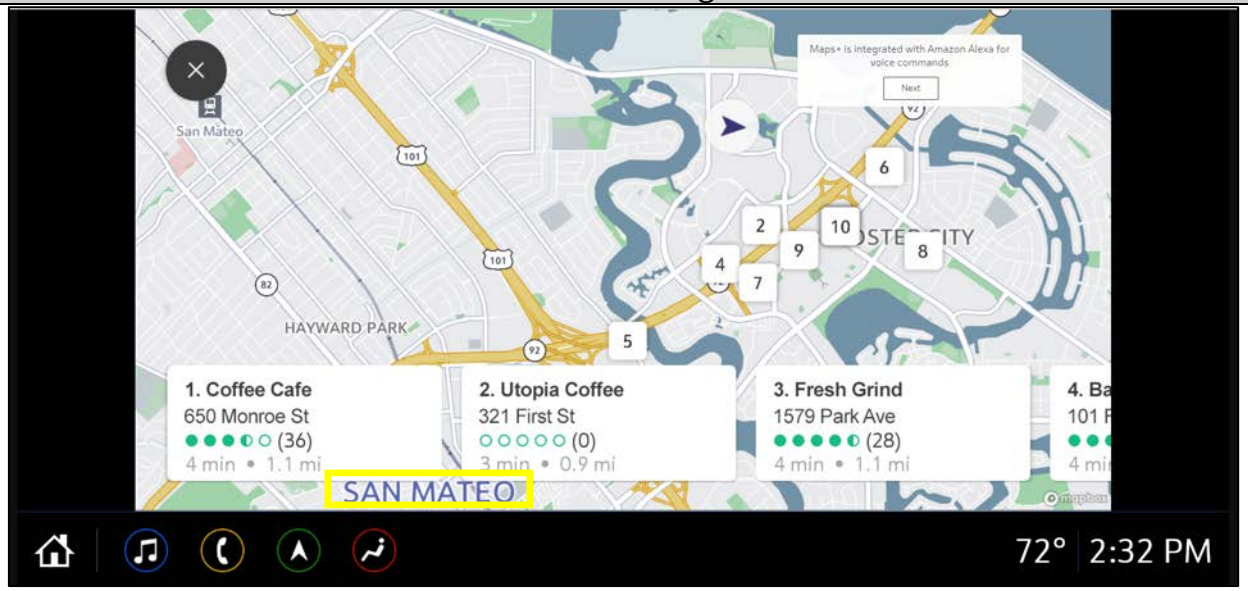
Claim	Claim Element	Evidence of Infringement
		 ID Label/Location Info, FCC Filings for FCC ID: 2AHPN-BE2843, at https://fccid.io/2AHPN-BE2843 (MEL_GM_TECH_00001253). *See also:*

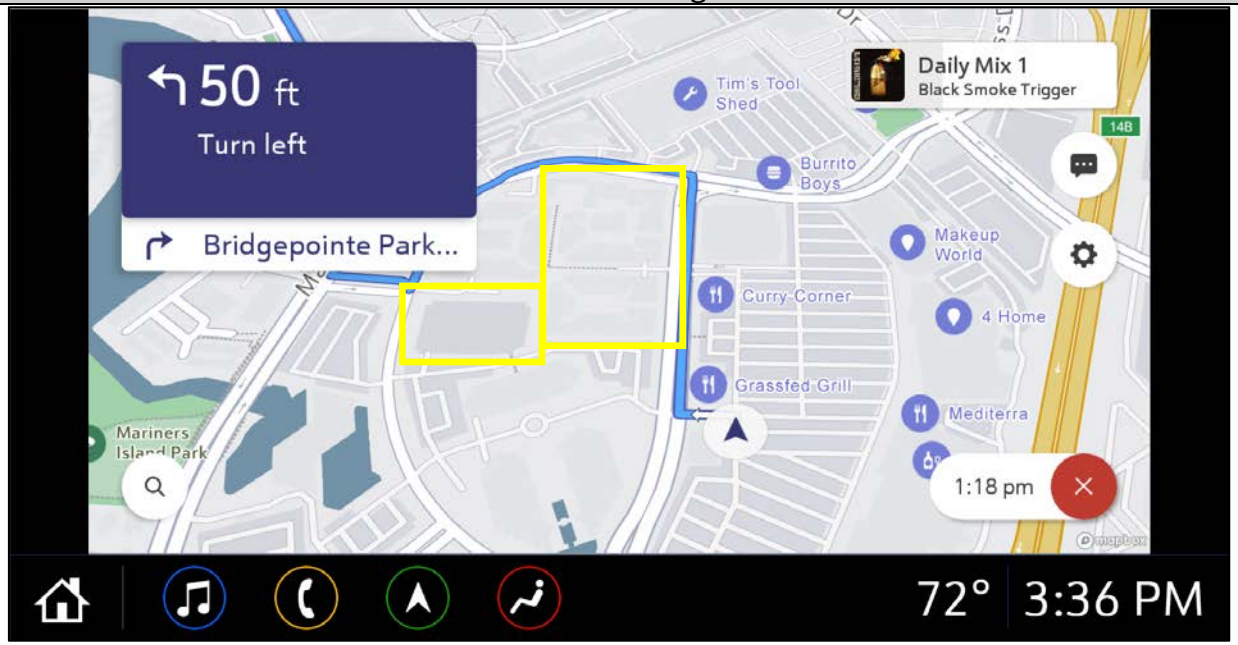
Claim	Claim Element	Evidence of Infringement
		 Internal Photos, FCC Filings for FCC ID: 2AHPN-BE2843, at https://fccid.io/2AHPN-BE2843 (yellow annotations added) (MEL_GM_TECH_00001247).

Claim	Claim Element	Evidence of Infringement
		For example, GM's navigation system has a map data storage section for storing map data composed of roads (represented as green, white and/or yellow lines in the images below) for a route search, and display elements, such as, *inter alia*, city centers (represented as text such as "Sterling Heights" or "SAN MATEO" in the images below), and facilities (represented by graphical icons, building outlines, or text in the images below). *See, e.g.*, Next-Generation Embedded Navigation: **Map Information** Road network attributes are contained in the map database for map information. Attributes include information such as street names, street addresses, and turn restrictions. A detailed area includes all major highways, service roads, and residential roads. The detailed areas include Places of Interest (POIs) such as restaurants, airports, banks, hospitals, police stations, gas stations, tourist attractions, and historical monuments. If the vehicle does not have an applicable service plan, the map database may not include data for newly constructed areas or map database corrections that are completed after production. The navigation system provides full route guidance in the detailed map areas. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 167 (yellow annotations added) (MEL_GM_TECH_00001805). *See also:*

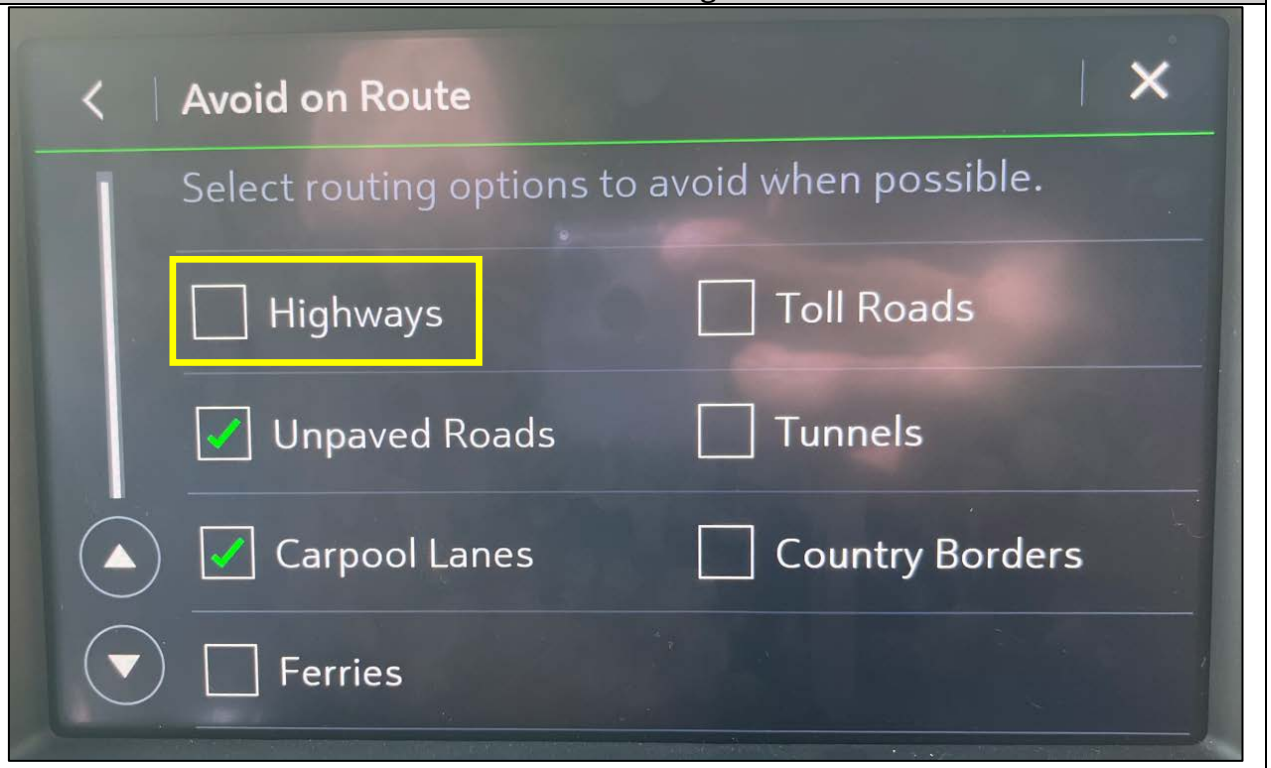
Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 2:53, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001260). *See also:*

Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 3:19, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001262). *See, e.g.*, Maps+:

Claim	Claim Element	Evidence of Infringement
		 …

Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (yellow annotations added) (MEL_GM_TECH_00002422-MEL_GM_TECH_00002423). For example, map data includes classes, such as a road class, city center class, and a facility class. As a non-limiting example, the road class has attributes such as a highway/primary attribute. *See, e.g.*, Next-Generation Embedded Navigation:

Claim	Claim Element	Evidence of Infringement
		• Avoid on Current Route – Choose any of the road features to avoid while on route: - Highways - Unpaved Roads - Ferries - Carpool Lanes - Toll Roads - Tunnels - Country Borders 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 164 (yellow annotations added) (MEL_GM_TECH_00001802). *See also:*

Claim	Claim Element	Evidence of Infringement
		 Photo of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002535). *See, e.g.*, Maps+:

Claim	Claim Element	Evidence of Infringement

`class` *text*

The main field used for styling the road layer is `class`.

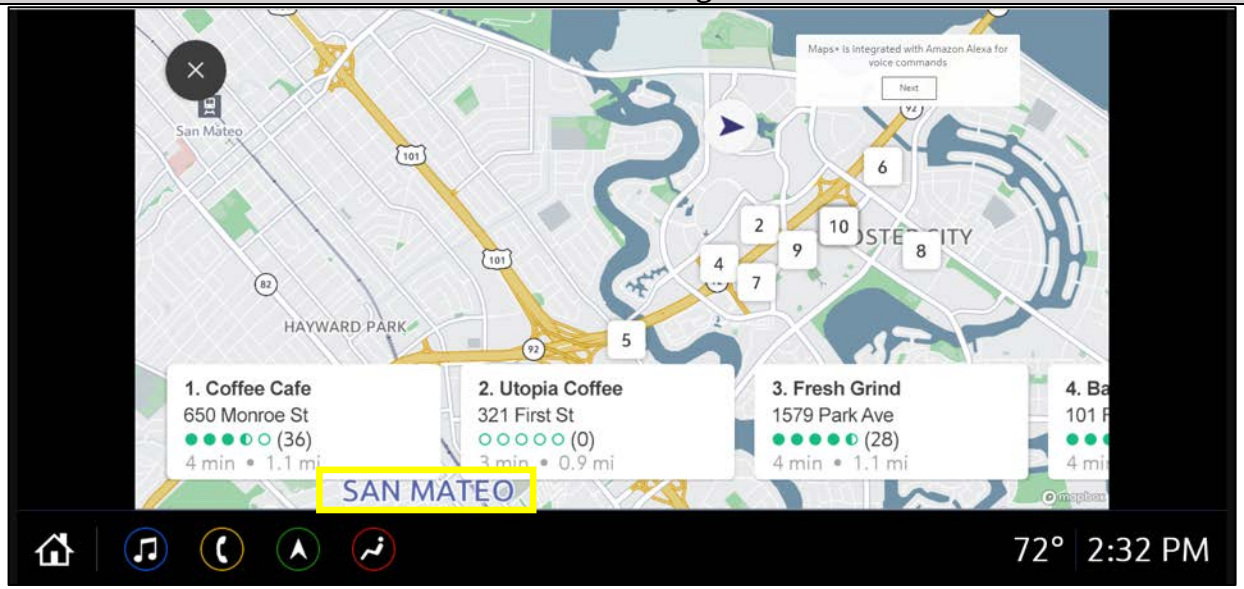
Value	Description
`motorway`	High-speed, grade-separated highways.
`motorway_link`	Link roads/lanes/ramps connecting to motorways.
`trunk`	Important roads that are not motorways.
`trunk_link`	Link roads/lanes/ramps connecting to trunk roads.
`primary`	A major highway linking large towns.
`primary_link`	Link roads/lanes connecting to primary roads.
`secondary`	A highway linking large towns.
`secondary_link`	Link roads/lanes connecting to secondary roads.
`tertiary`	A road linking small settlements, or the local centers of a large town or city.
`tertiary_link`	Link roads/lanes connecting to tertiary roads.
`street`	Standard unclassified, residential, road, and living_street road types.
`street_limited`	Streets that may have limited or no access for motor vehicles.
`pedestrian`	Includes pedestrian streets, plazas, and public transportation platforms.
`construction`	Includes motor roads under construction (but not service roads, paths, etc.).
`track`	Roads mostly for agricultural and forestry use.
`service`	Access roads, alleys, agricultural tracks, and other services roads. Also includes parking lot aisles, and public and private driveways.

Mapbox Documentation at https://docs.mapbox.com/data/tilesets/reference/mapbox-streets-v8/ (yellow annotations added) (MEL_GM_TECH_00002494).

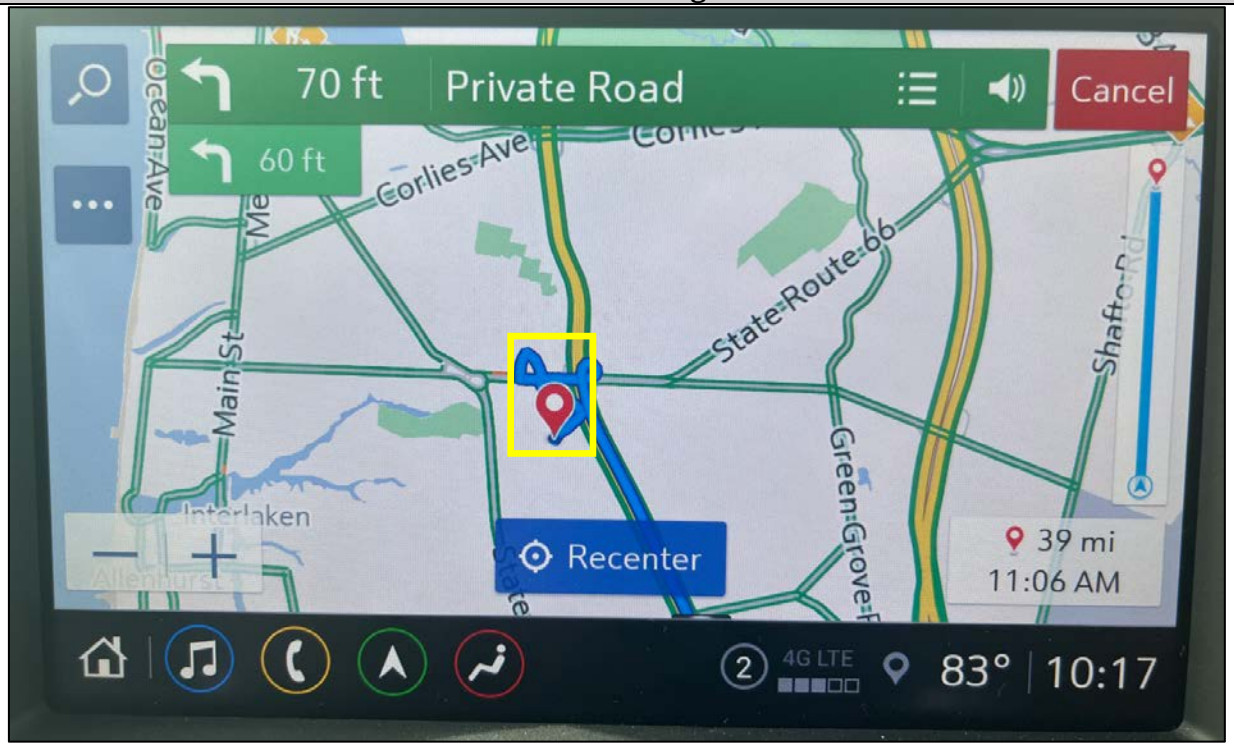
For example, display element city centers (represented as text such as “Sterling Heights” or “SAN MATEO” in the images below) represent a city and indicate a representative position of the city.

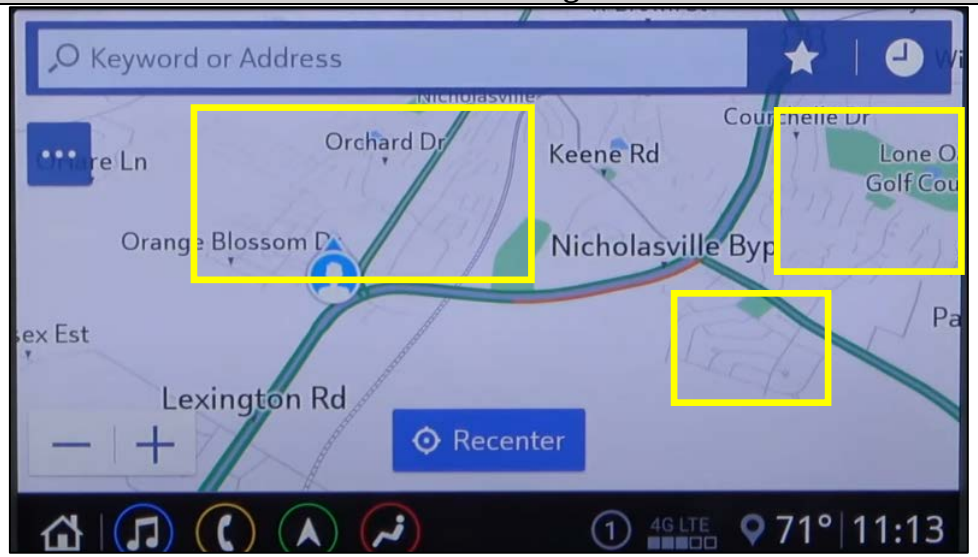
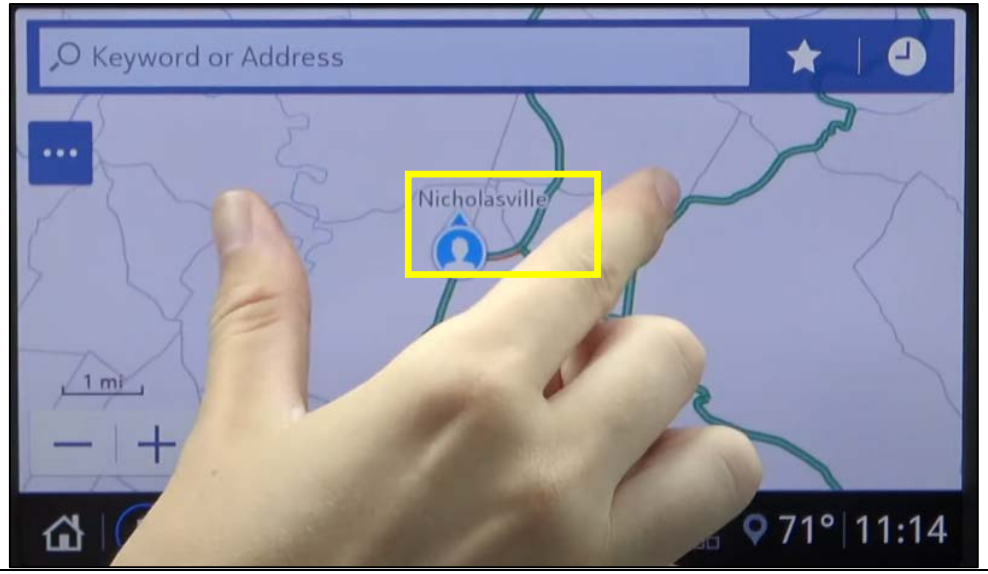
See, e.g., Next-Generation Embedded Navigation:

Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 2:53, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001260). *See, e.g.,* Maps+:

Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/5 (yellow annotations added) (MEL_GM_TECH_00002423). For example, roads have attributes, *e.g.*, a size attribute such as small (such as residential roads) or large roads (such as highways), that indicate whether or not each of the roads should be displayed depending on the map scale. For example, only large roads will be displayed when the map scale is large. *See*, *e.g.*, Next-Generation Embedded Navigation:

Claim	Claim Element	Evidence of Infringement
		 …

Claim	Claim Element	Evidence of Infringement
		 Photos of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002531-MEL_GM_TECH_00002532). *See also:*

Claim	Claim Element	Evidence of Infringement
		 … 

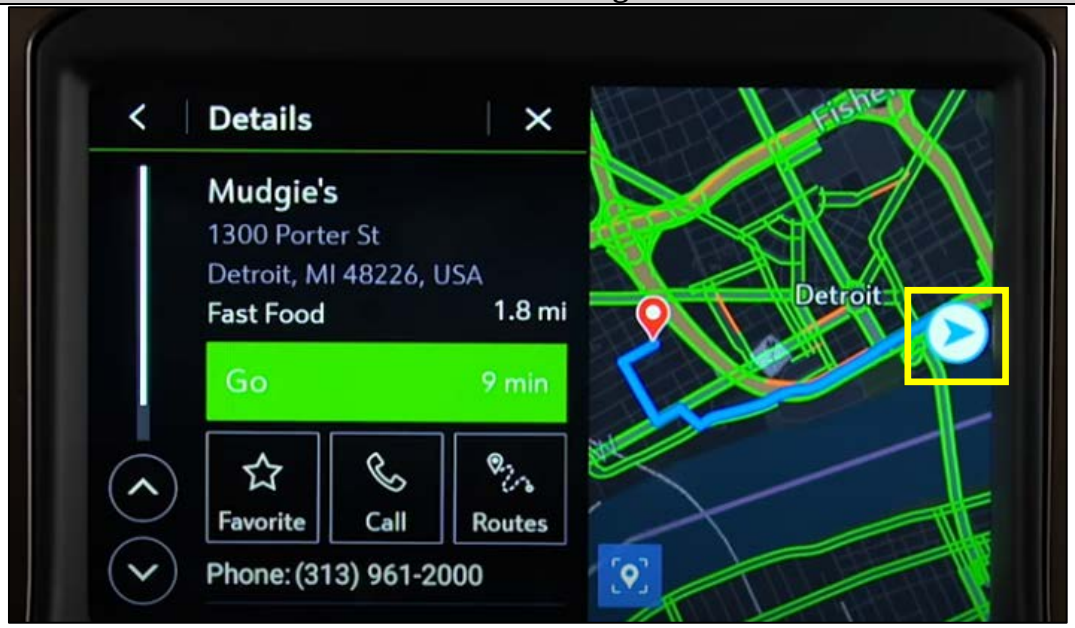
Claim	Claim Element	Evidence of Infringement
		Chevy Infotainment 3 (2021) Detailed Tutorial and Review: Tech Help, at 3:17-3:28, at https://www.youtube.com/watch?v=GG-XCGp4dmo&ab_channel=CarConfections (yellow annotations added) (MEL_GM_TECH_00001256- MEL_GM_TECH_00001257). *See, e.g.*, Maps+: `sizerank` *number* The `sizerank` field is a value from 0-16 included in label layers where points or lines have been derived from polygons, such as `poi_label`, `natural_label`, `airport_label`. It lets you style and filter based on the size of a feature relative to the current zoom level. The tileset assigns the largest objects `sizerank=0` and assigns points `sizerank=16`. A single feature has a changing sizerank as you zoom in and the relative size of the feature increases. For example, a park might have a `sizerank` of 9 at z11, 6 at z12, and 2 at z13. The value is never *null* and is always be within the range 0-16. …

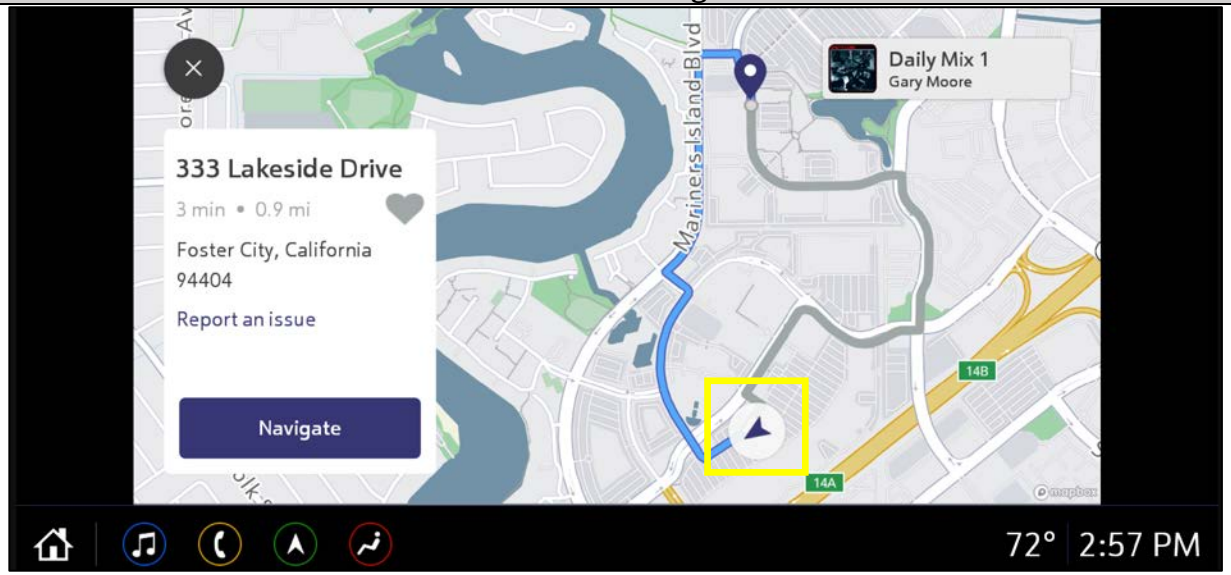
Layer Reference

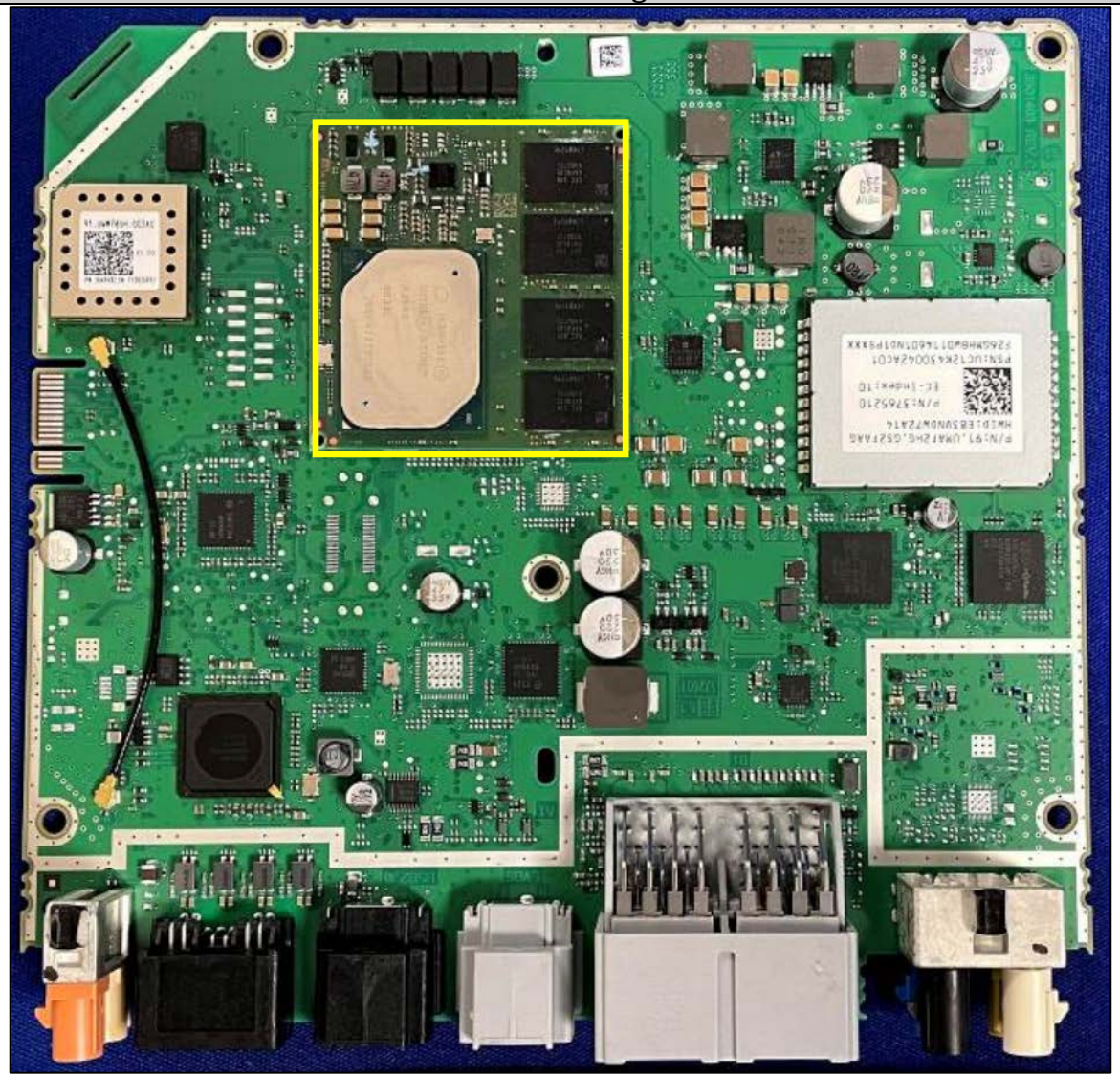
The Mapbox Streets v8 tileset contains the following layers. For reference, the current minimum-available zoom level for each layer is mentioned, but note that this is subject to change as we roll out updates and improvements. It also does not apply to all features within a layer - only the most prominent features are available at lower-numbered zoom levels, and more features are available as you zoom in. Labels for physically-large features also have a maximum zoom level based on their size.

Layer	Min. zoom level
admin	0
aeroway	9
airport_label	8
building	13
housenum_label	16
landuse_overlay	5
landuse	5
motorway_junction	11
natural_label	0
place_label	0
poi_label	5
road	5
structure	13
transit_stop_label	11
water	0
waterway	7

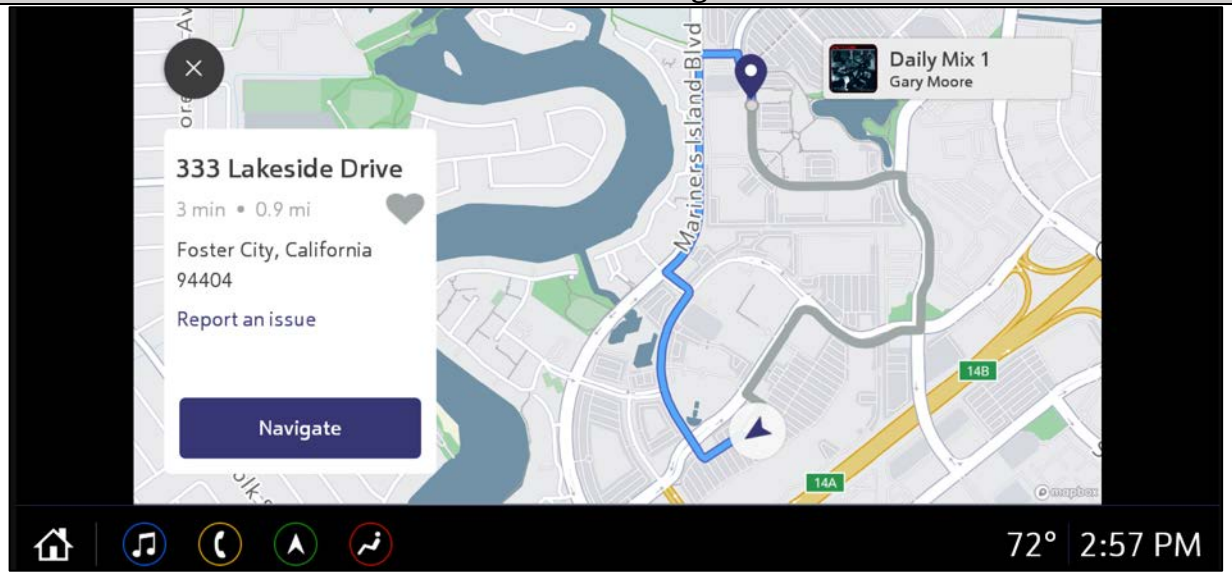
Claim	Claim Element	Evidence of Infringement
		Mapbox Documentation at https://docs.mapbox.com/data/tilesets/reference/mapbox-streets-v8/ (yellow annotations added) (MEL_GM_TECH_00002482). For example, GM's navigation system has a position information acquiring section, *e.g.*, a GPS system, for obtaining position information on a vehicle. *See, e.g.*, Next-Generation Embedded Navigation: The GPS shows the current position of the vehicle using signals sent by GPS satellites. When the vehicle is not receiving signals from the satellites, a symbol appears in the status bar. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 172 (MEL_GM_TECH_00001810). *See also:*

Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 3:17, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001261). *See, e.g.,* Maps+:

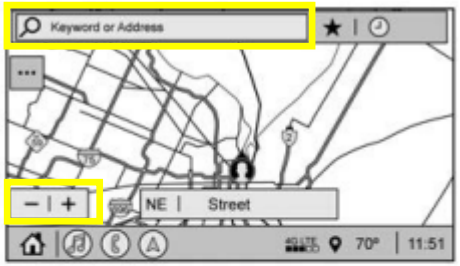
Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (yellow annotations added) (MEL_GM_TECH_00002421). For example, GM's navigation system has a control section, *e.g.*, a CPU processor or microcontroller and associated memory such as RAM, including drawing memory for drawing a map. On information and belief, every version of GM's navigation system has a substantially similar control section as a CPU processor or microcontroller and operates in a substantially similar manner. *See, e.g.*,

Claim	Claim Element	Evidence of Infringement
		 Internal Photos, FCC Filings for FCC ID: 2AHPN-BE2843, at https://fccid.io/2AHPN-BE2843 (yellow annotations added) (MEL_GM_TECH_00001247).

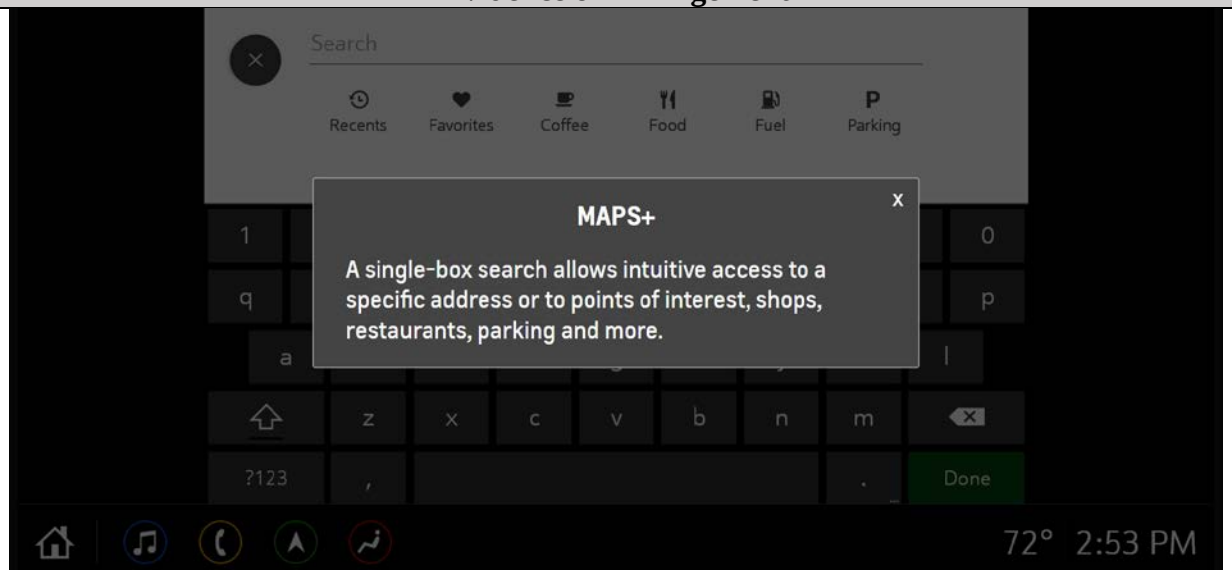
Claim	Claim Element	Evidence of Infringement
		See, e.g., Next-Generation Embedded Navigation: Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 3:17, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet. (MEL_GM_TECH_00001261). *See, e.g.*, Maps+:

Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421). For example, GM's navigation system has an input section for inputting an instruction from the user, *e.g.*, inputting a destination to route the user to and the desired scale of the map using touchscreen, button, and/or voice input controls. *See*, *e.g.*, Next-Generation Embedded Navigation: **Zoom Control** The zoom control display is shown on the map view. A few ways to zoom in or out are: • Touch + or – to zoom in or out on the map. • Double tap with one finger to zoom in or single tap with two fingers to zoom out on the map.

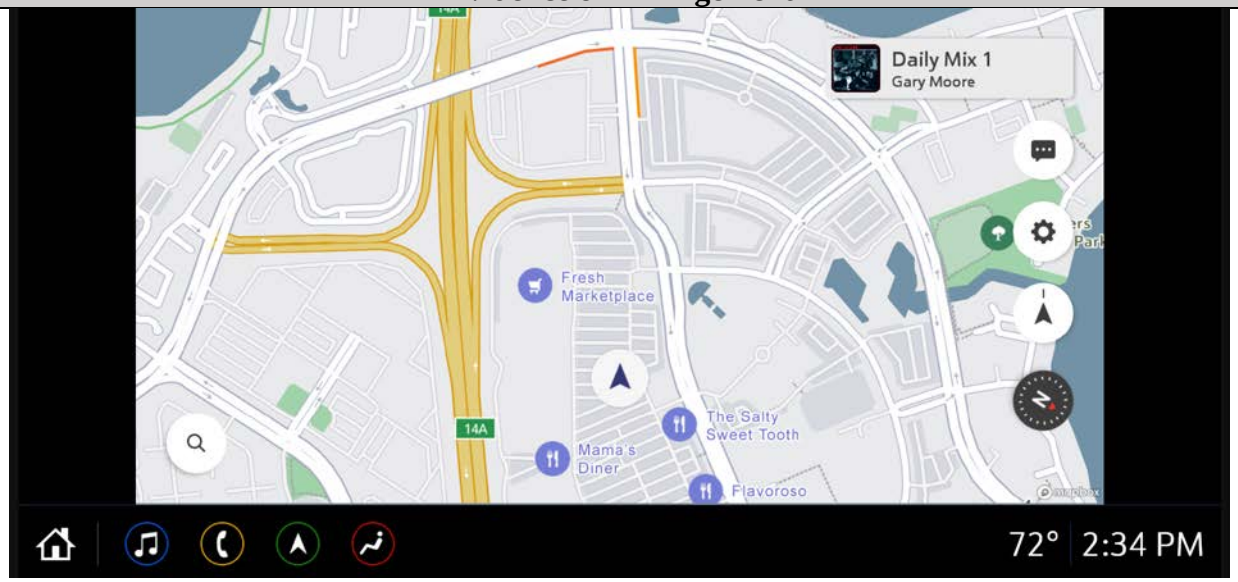
Claim	Claim Element	Evidence of Infringement
		… **Map Gestures and Map Scale** Use the following gestures on the infotainment display to adjust the map scale and display options. • Pinch to zoom in or out. • Pan the map. • Use two fingers to tilt down and change from 2D to 3D. Tilt up to change back to 2D. • Rotate the map. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 168 (MEL_GM_TECH_00001806). *See also:*

Claim	Claim Element	Evidence of Infringement
		Navigation Map View  After opening the Nav application for the first time, the application will always open in full map view displaying the vehicle's current location. When the vehicle is stopped, the search bar will appear along the top of the navigation map view. Manually close the search bar by touching ✕. When the vehicle is moving, the (Search) icon will replace the search bar to maximize the full map view. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 163 (yellow annotations added) (MEL_GM_TECH_00001801). *See also:*

Claim	Claim Element	Evidence of Infringement
		 Chevy Infotainment 3 (2021) Detailed Tutorial and Review: Tech Help, at 3:48, at https://www.youtube.com/watch?v=GG-XCGp4dmo&ab_channel=CarConfections (MEL_GM_TECH_00001259). *See, e.g.*, Maps+:

Claim	Claim Element	Evidence of Infringement
		 …

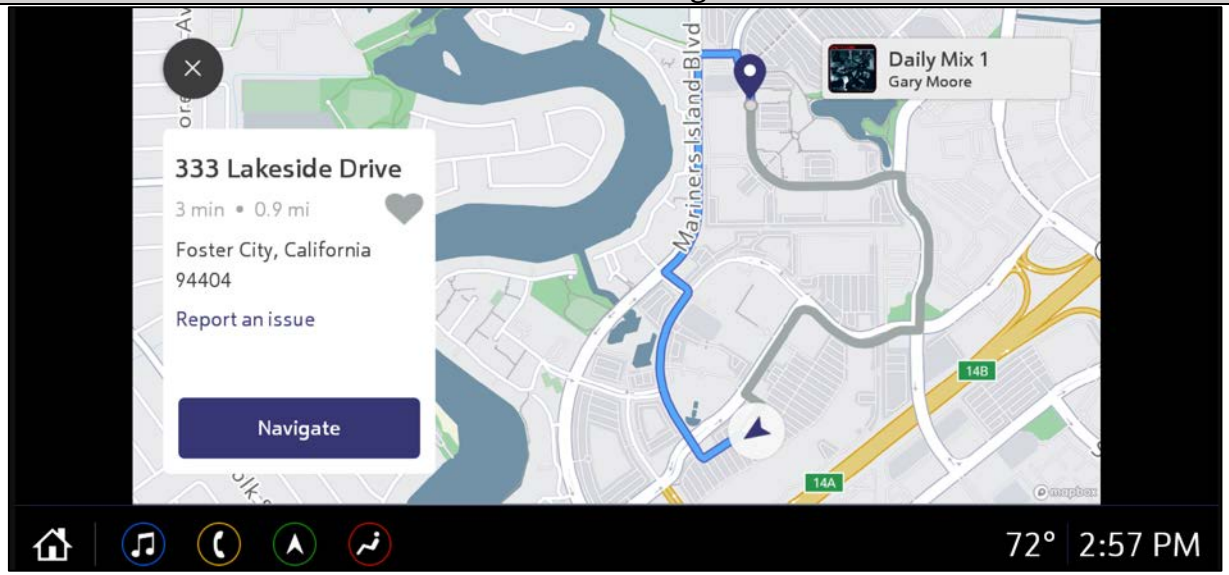
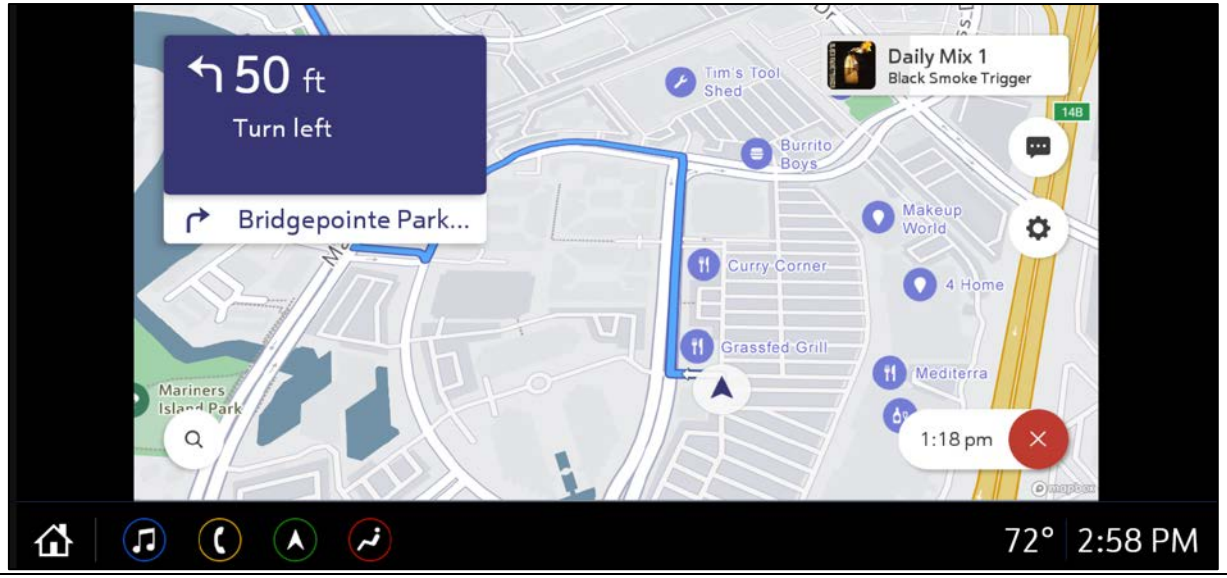
Claim	Claim Element	Evidence of Infringement
		Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/2 (MEL_GM_TECH_00002419-MEL_GM_TECH_00002420). For example, GM's navigation system has a display section for displaying the map data discussed above on a screen. *See, e.g.*, Next-Generation Embedded Navigation: **Navigation Map View** After opening the Nav application for the first time, the application will always open in full map view displaying the vehicle's current location. When the vehicle is stopped, the search bar will appear along the top of the navigation map view. Manually close the search bar by touching ✕. When the vehicle is moving, the (Search) icon will replace the search bar to maximize the full map view. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 163 (MEL_GM_TECH_00001801). *See, e.g.*, Maps+:

Claim	Claim Element	Evidence of Infringement
		 Maps+ demo at https://chevroletdemo.com/invehicleapps/mapsplus/1 (MEL_GM_TECH_00002424).
5[b]	calculating a route between an own-vehicle position and a destination represented by one of the display elements, the destination being instructed by the user via the input section;	GM calculates a route between an own-vehicle position and a destination represented by one of the display elements, the destination being instructed by the user via the input section. For example, GM calculates a route (represented as a blue lines in the images below), between an own-vehicle position, *e.g.*, using a GPS location of the vehicle represented by a current position arrow icon, and a destination represented by a display element, *e.g.*, the red/purple pin in the images below, wherein the destination was input by the user. *See*, *e.g.*, Next-Generation Embedded Navigation:

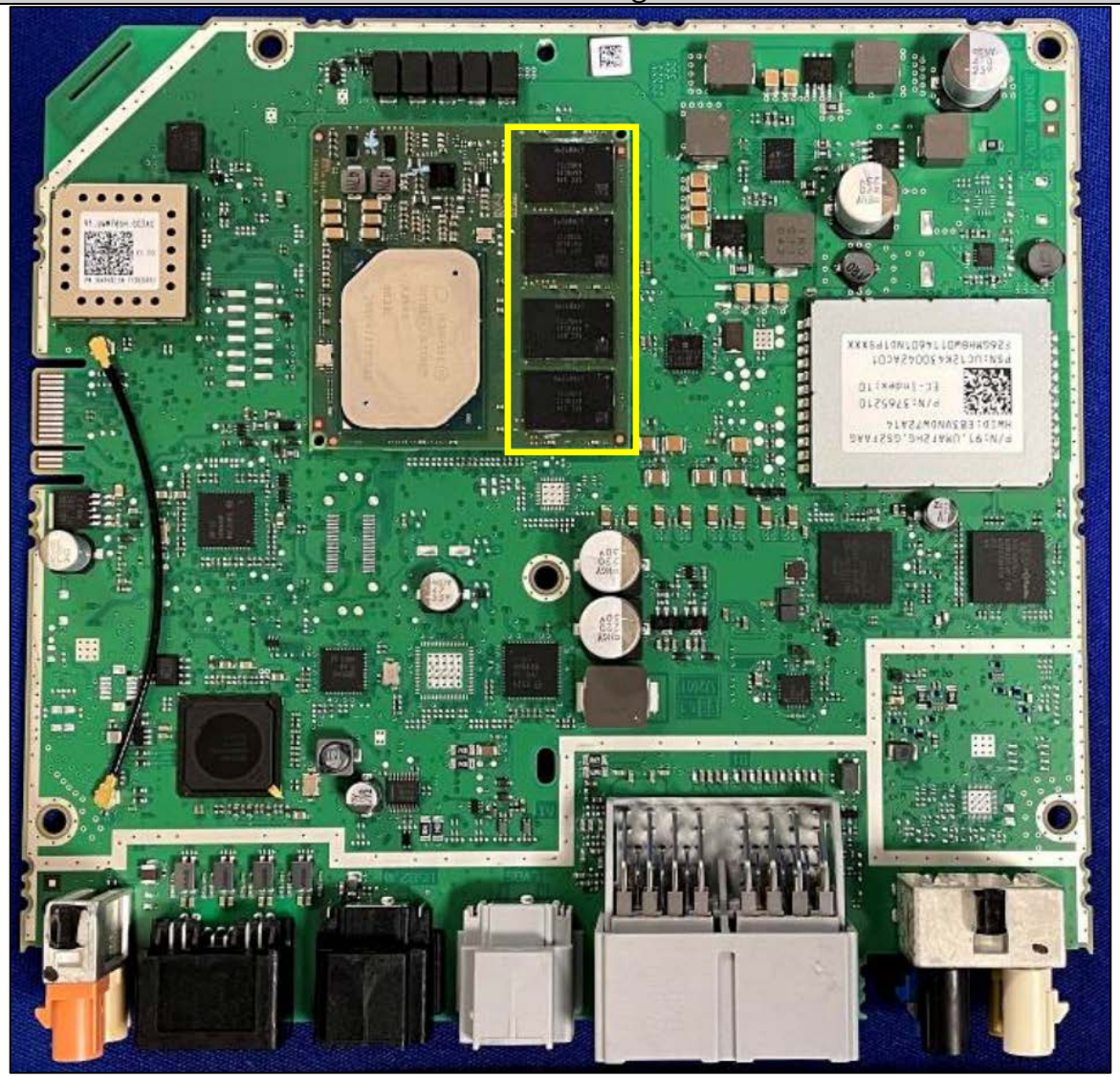
Claim	Claim Element	Evidence of Infringement
		Destination **Receiving Destination Directions from Different Sources** Destinations can be received or transferred from different sources to the Nav application for route guidance. If equipped, some of these sources may include: • Navigation from search results. • OnStar Advisor destination download. • An address from the Contacts list. • An application on the smartphone that can send destinations to the vehicle. • An application downloaded to the vehicle such as OnStar Services that can send destinations to the navigation system. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 166 (MEL_GM_TECH_00001804). *See also:* The GPS shows the current position of the vehicle using signals sent by GPS satellites. When the vehicle is not receiving signals from the satellites, a symbol appears in the status bar. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 172 (MEL_GM_TECH_00001810). *See also:*

Claim	Claim Element	Evidence of Infringement
		 …

Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 3:17-3:19, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001261-MEL_GM_TECH_00001262). *See, e.g.*, Maps+:

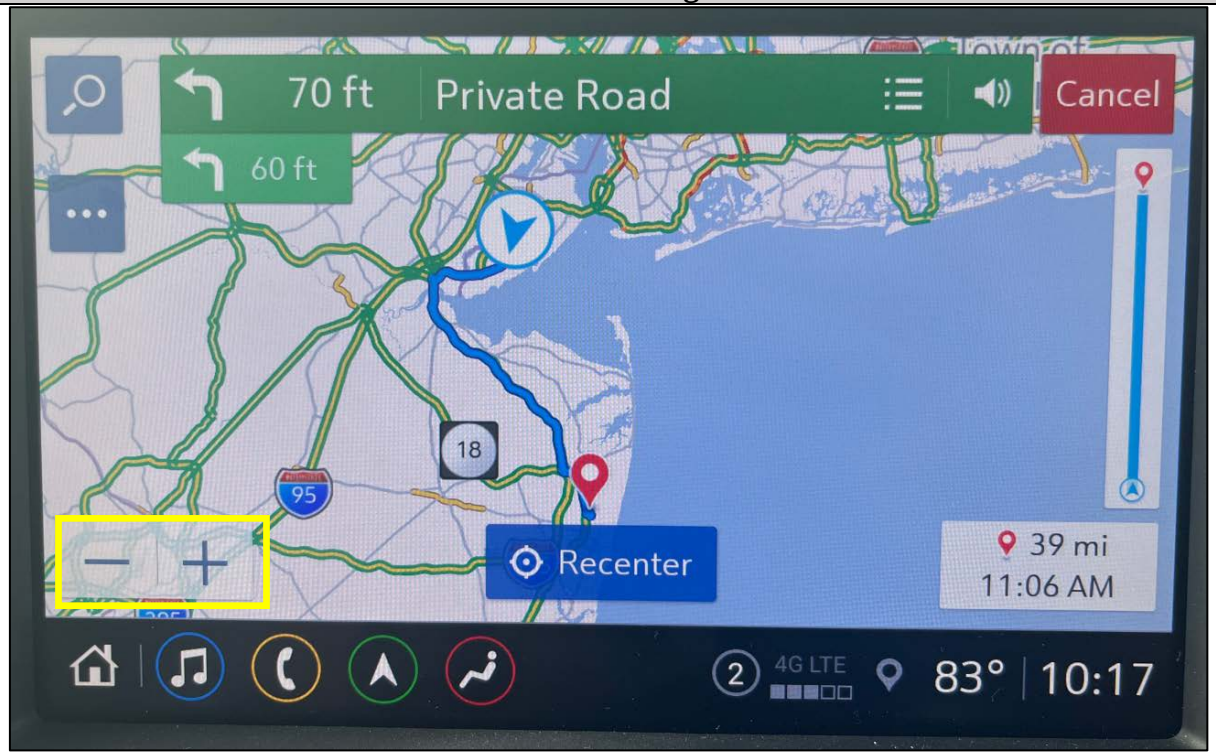
Claim	Claim Element	Evidence of Infringement
		 … 

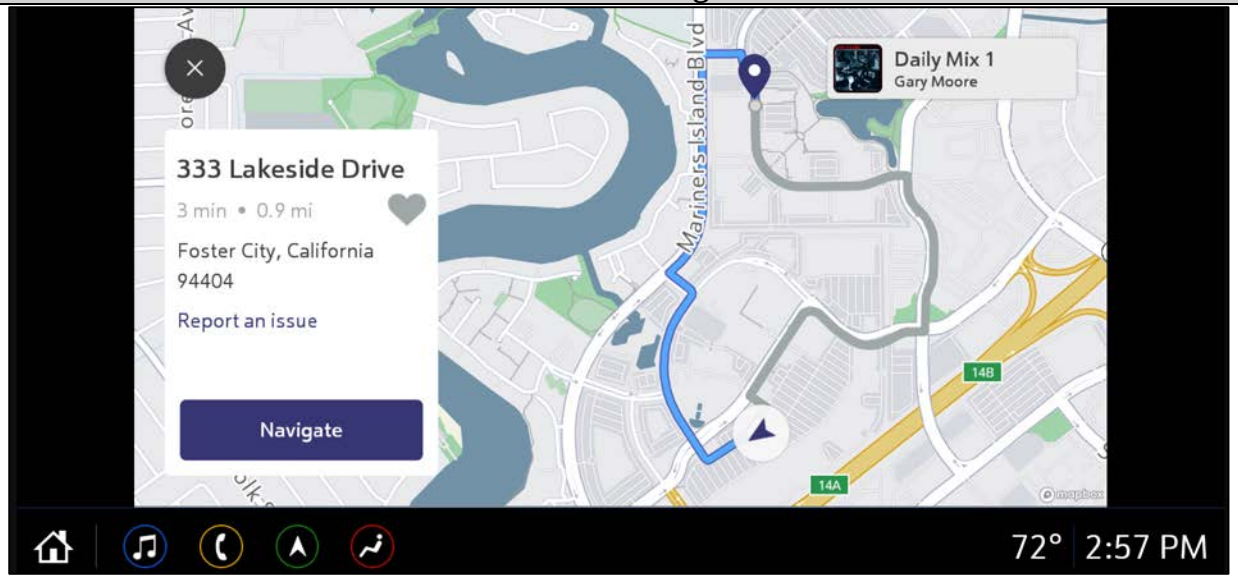
Claim	Claim Element	Evidence of Infringement
		Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/33 (MEL_GM_TECH_00002421-MEL_GM_TECH_00002422).
5[c]	drawing, according to one of a plurality of map scales designated by the user via the input section, a map on the drawing memory by:	GM draws, according to one of a plurality of map scales designated by the user via the input section, a map on the drawing memory. For example, GM draws a map on the drawing memory for display, wherein the map scale depends on the distance to the destination that was instructed by the input section discussed above and/or the desired map scale instructed by the input section discussed above by pressing the “+” or “-” buttons and/or pinch zooming. *See, e.g.*,

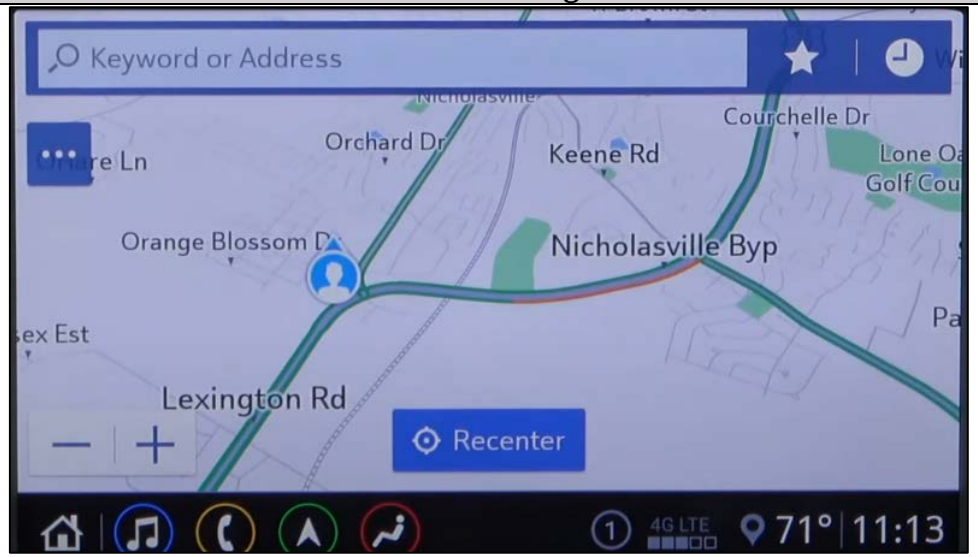
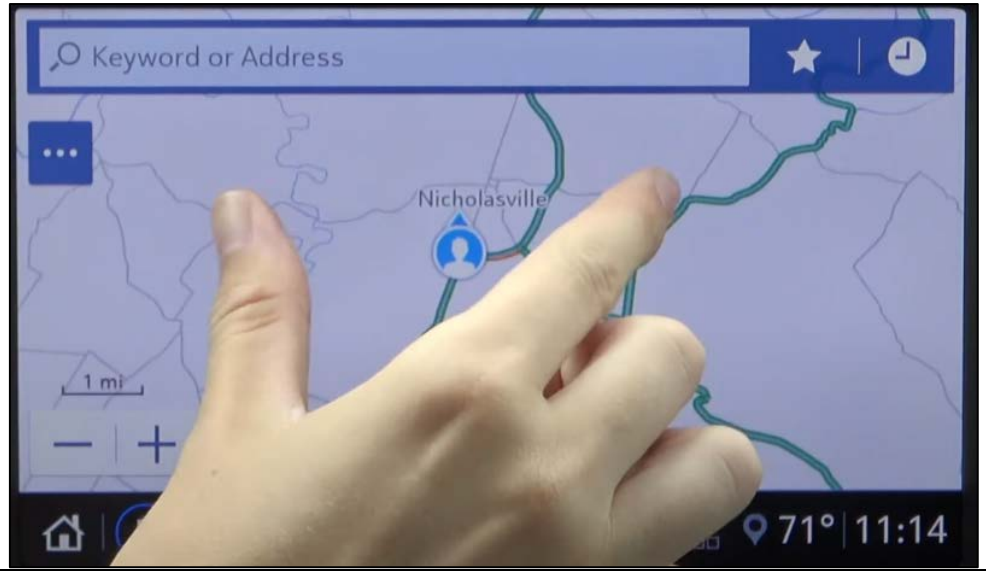
Claim	Claim Element	Evidence of Infringement
		 Internal Photos, FCC Filings for FCC ID: 2AHPN-BE2843, at https://fccid.io/2AHPN-BE2843 (yellow annotations added) (MEL_GM_TECH_00001247).

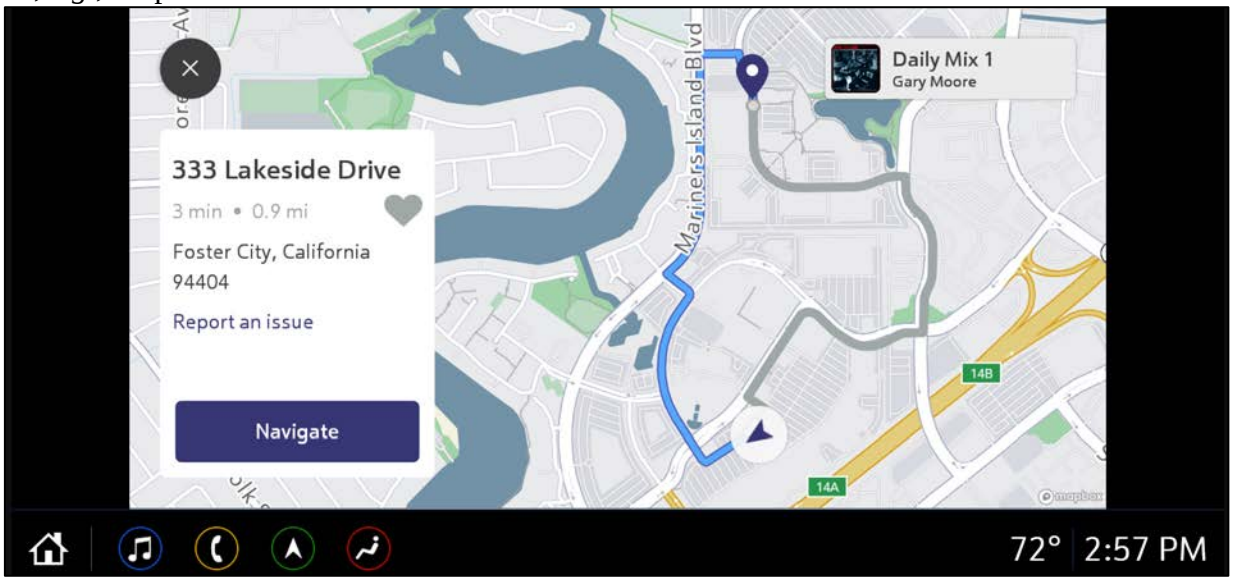
Claim	Claim Element	Evidence of Infringement
		See, e.g., Next-Generation Embedded Navigation: **Zoom Control** The zoom control display is shown on the map view. A few ways to zoom in or out are: • Touch + or – to zoom in or out on the map. • Double tap with one finger to zoom in or single tap with two fingers to zoom out on the map. … **Map Gestures and Map Scale** Use the following gestures on the infotainment display to adjust the map scale and display options. • Pinch to zoom in or out. • Pan the map. • Use two fingers to tilt down and change from 2D to 3D. Tilt up to change back to 2D. • Rotate the map. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 168 (yellow annotations added) (MEL_GM_TECH_00001806). *See also:*

Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 3:17, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (MEL_GM_TECH_00001261). *See also:*

Claim	Claim Element	Evidence of Infringement
		 Photo of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002530). *See, e.g.*, Maps+:

Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421).
5[d]	selecting the roads indicated by the attributes as being displayable according to a designed map scale, the selected roads including an own-vehicle position obtained by the position information acquiring section,	GM draws a map by selecting the roads indicated by the attributes as being displayable according to a designed map scale, the selected roads including an own-vehicle position obtained by the position information acquiring section. For example, GM's navigation system selects the roads according to its attributes, such as a size attribute, *e.g.*, small or large roads, to be displayed depending on the instructed map scale. For example, only highly ranked large roads (such as highways) will be displayed when the map scale is large. *See*, *e.g.*, Next-Generation Embedded Navigation:

Claim	Claim Element	Evidence of Infringement
		 … 

Claim	Claim Element	Evidence of Infringement
		Chevy Infotainment 3 (2021) Detailed Tutorial and Review: Tech Help, at 3:17-3:28, at https://www.youtube.com/watch?v=GG-XCGp4dmo&ab_channel=CarConfections (MEL_GM_TECH_00001256- MEL_GM_TECH_00001257). *See, e.g.*, Maps+:  Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421). *See also:*

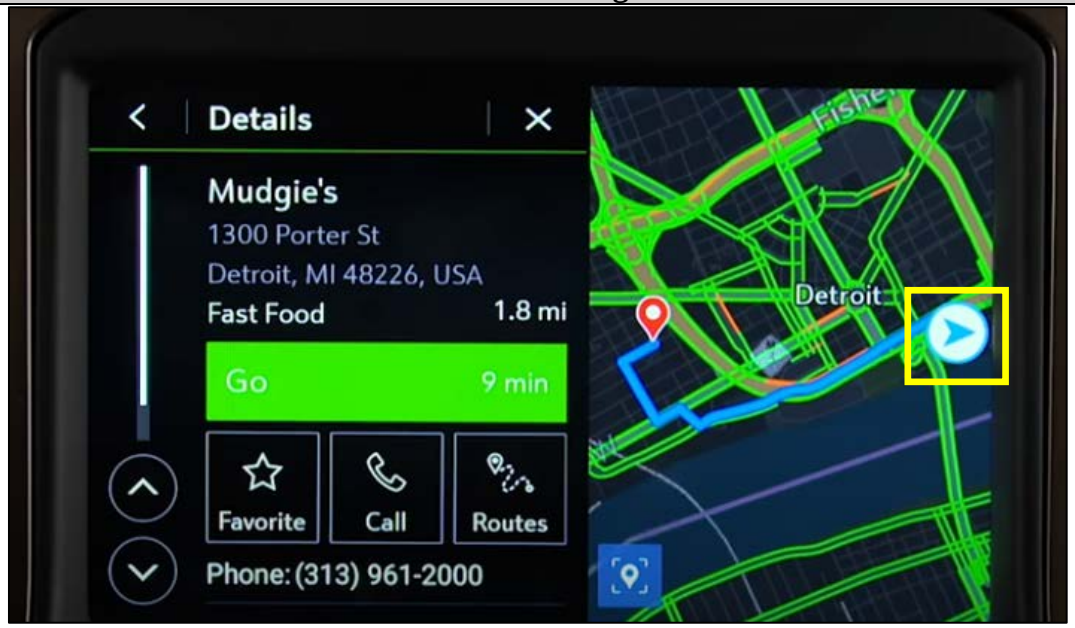
Claim	Claim Element	Evidence of Infringement
		Roads – ranking and simplifying linestrings This is a complex example that uses road data from Natural Earth Data. The recipe generates a ranked `quality` attribute for each feature based on the road `type` defined in the source data. Then, it filters features by these newly created `quality` attributes to include specific features per zoom level. `0` indicates ranking of the most importance, `6` indicates the least importance. As you zoom in, the `filter` checks to see if each feature's `quality` attribute are less than or equal to the zoom level. If that check is true, the feature appears at the designated zoom. For example, at zoom level 2, only `Ferry Route`, `Major Highway`, and `Secondary Highway` features will appear. The expression provided here gives a low simplification number, `1`, at the maximum zoom level, `5`, but higher simplification, `10`, at earlier zoom levels. Since the `maxzoom` in the recipe is `5`, it is the highest zoom where tiles will be generated. The simplification value used at the `maxzoom` should be low so the features are not simplified, maintaining fidelity to the original geometry. This provides the most possible accuracy when overzooming data at zoom levels after the `maxzoom`, which is done once the tileset is used in a style. Mapbox Documentation at https://docs.mapbox.com/mapbox-tiling-service/examples/natural-earth-data-roads/ (MEL_GM_TECH_00002505). *See also:* `sizerank` *number* The `sizerank` field is a value from 0-16 included in label layers where points or lines have been derived from polygons, such as `poi_label`, `natural_label`, `airport_label`. It lets you style and filter based on the size of a feature relative to the current zoom level. The tileset assigns the largest objects `sizerank=0` and assigns points `sizerank=16`. A single feature has a changing sizerank as you zoom in and the relative size of the feature increases. For example, a park might have a `sizerank` of 9 at z11, 6 at z12, and 2 at z13. The value is never *null* and is always be within the range 0-16.

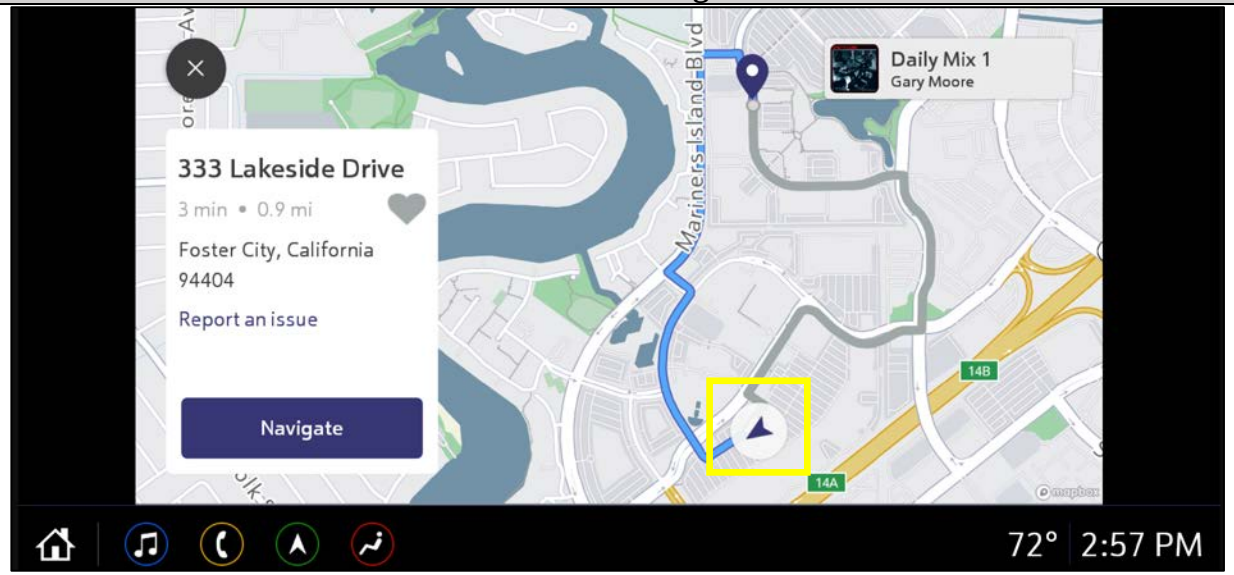
Layer Reference

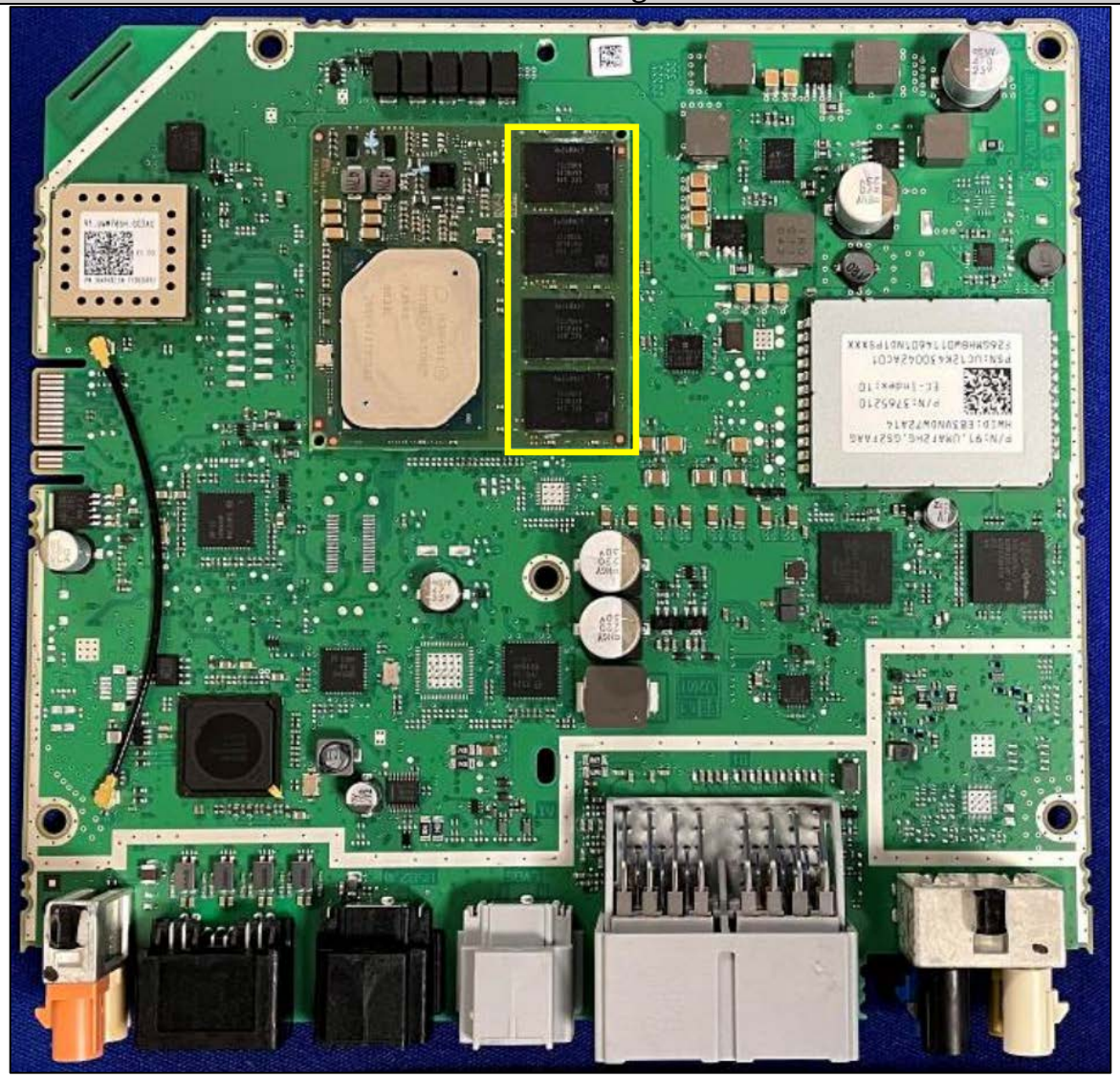
The Mapbox Streets v8 tileset contains the following layers. For reference, the current minimum-available zoom level for each layer is mentioned, but note that this is subject to change as we roll out updates and improvements. It also does not apply to all features within a layer - only the most prominent features are available at lower-numbered zoom levels, and more features are available as you zoom in. Labels for physically-large features also have a maximum zoom level based on their size.

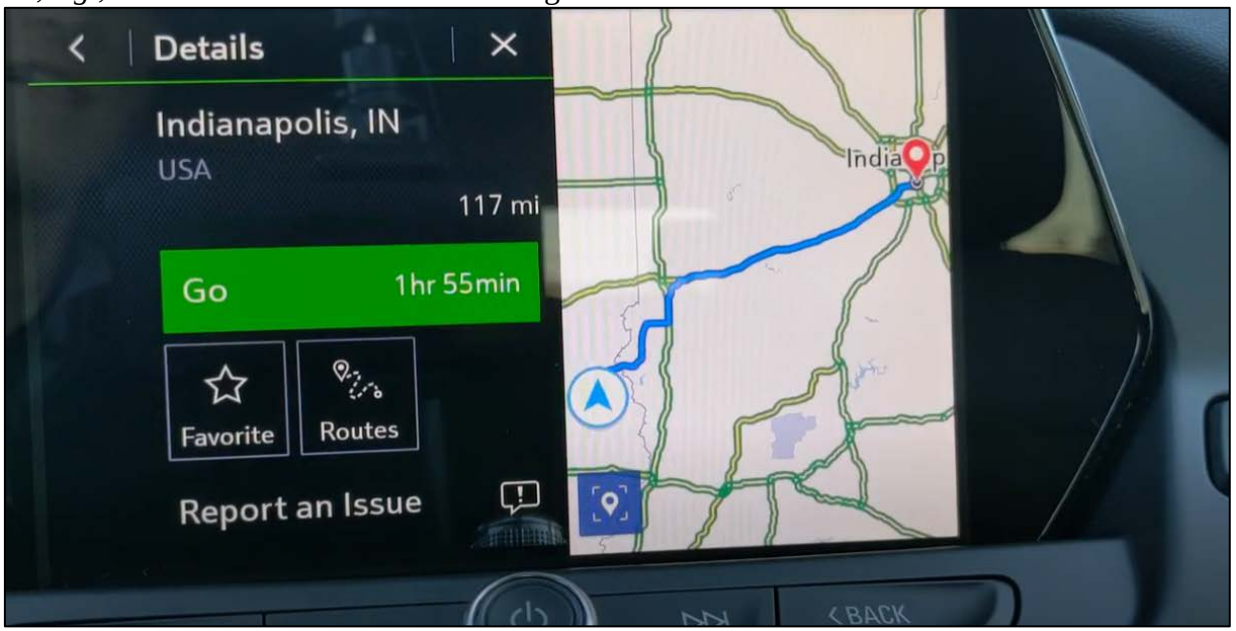
Layer	Min. zoom level
admin	0
aeroway	9
airport_label	8
building	13
housenum_label	16
landuse_overlay	5
landuse	5
motorway_junction	11
natural_label	0
place_label	0
poi_label	5
road	5
structure	13
transit_stop_label	11
water	0
waterway	7

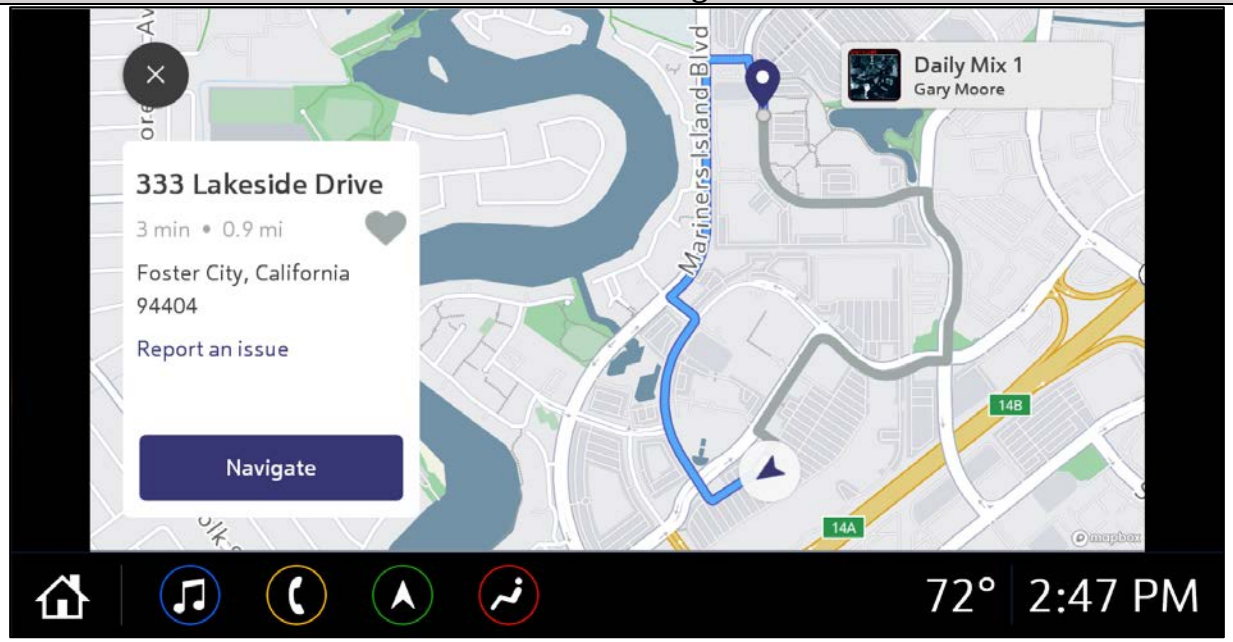
Claim	Claim Element	Evidence of Infringement
		Mapbox Documentation at https://docs.mapbox.com/data/tilesets/reference/mapbox-streets-v8/ (yellow annotations added) (MEL_GM_TECH_00002482). For example, the selected roads include an own-vehicle position (represented as a current position arrow icon) obtained by the position information acquiring section discussed above. *See, e.g.*, Next-Generation Embedded Navigation: The GPS shows the current position of the vehicle using signals sent by GPS satellites. When the vehicle is not receiving signals from the satellites, a symbol appears in the status bar. 2022 Chevrolet Silverado 2500/3500 HD Owner Manual, at p. 172 (MEL_GM_TECH_00001810). *See also:*

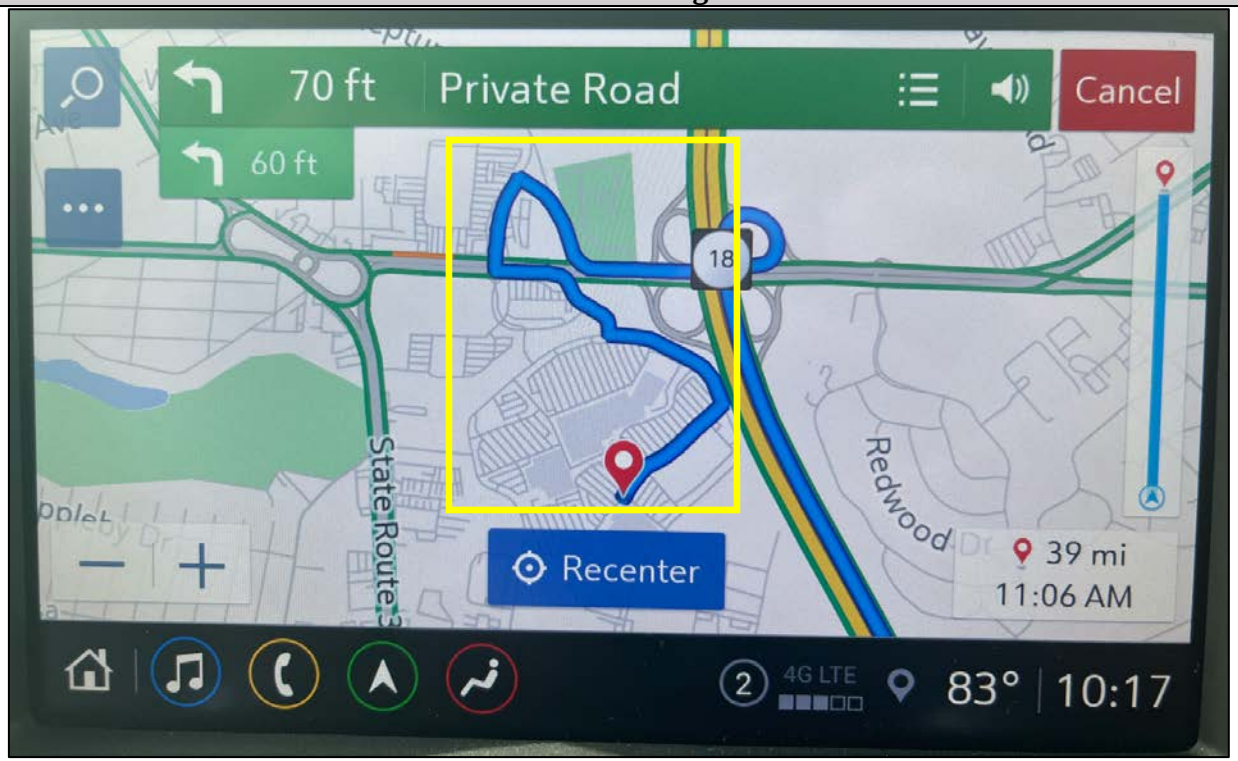
Claim	Claim Element	Evidence of Infringement
		 Chevy Silverado How-To: The Next Generation Chevrolet Infotainment System* | Chevrolet, at 3:17, at https://www.youtube.com/watch?v=XArIavilRYA&ab_channel=Chevrolet (yellow annotations added) (MEL_GM_TECH_00001261). *See, e.g.,* Maps+:

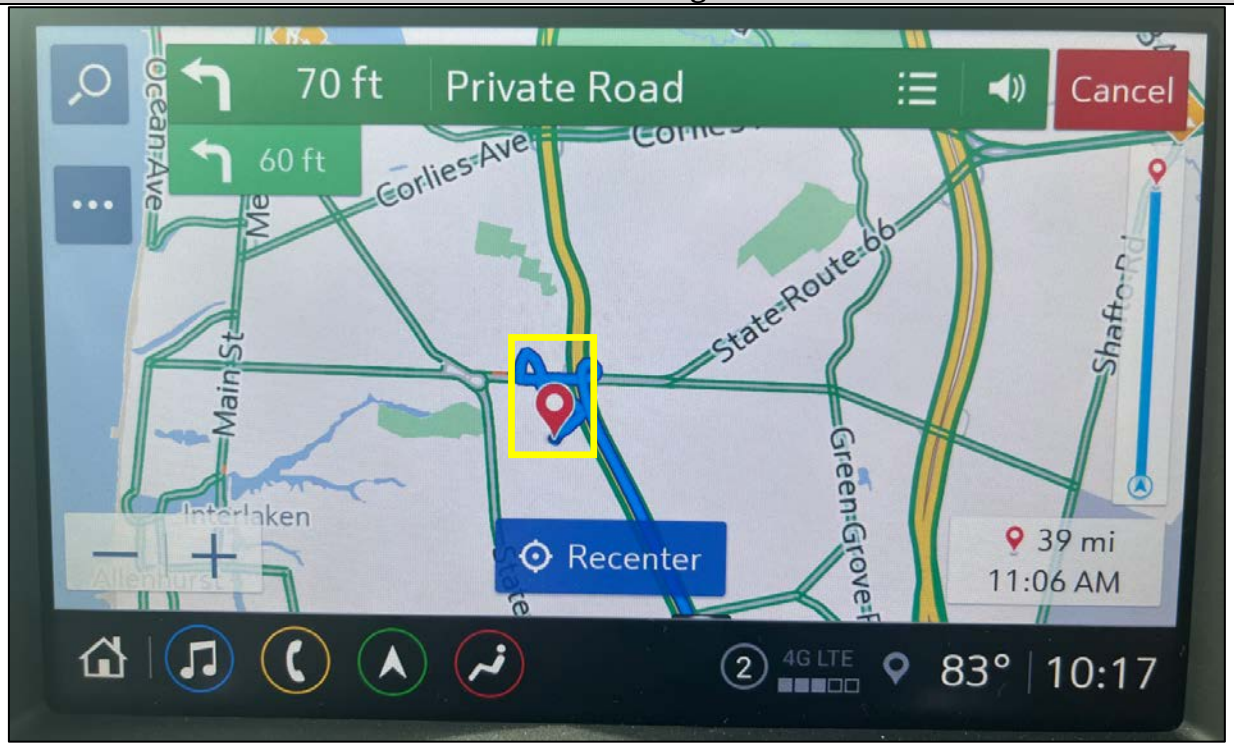
Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (yellow annotations added) (MEL_GM_TECH_00002421).
5[e]	drawing the selected roads and one or more of the display elements on the drawing memory;	GM draws a map by drawing the selected roads and one or more of the display elements on the drawing memory. For example, GM draws the selected roads and displays elements discussed above on the drawing memory for display. *See, e.g.,*

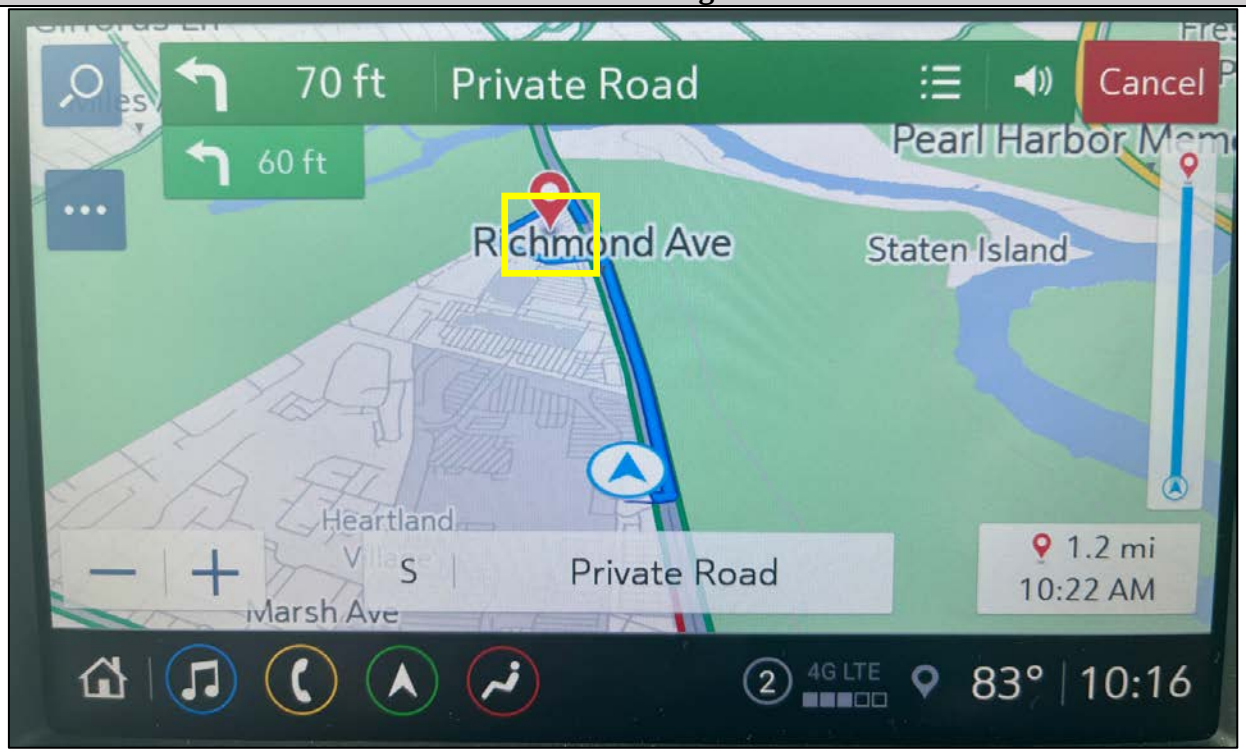
Claim	Claim Element	Evidence of Infringement
		 Internal Photos, FCC Filings for FCC ID: 2AHPN-BE2843, at https://fccid.io/2AHPN-BE2843 (yellow annotations added) (MEL_GM_TECH_00001247).

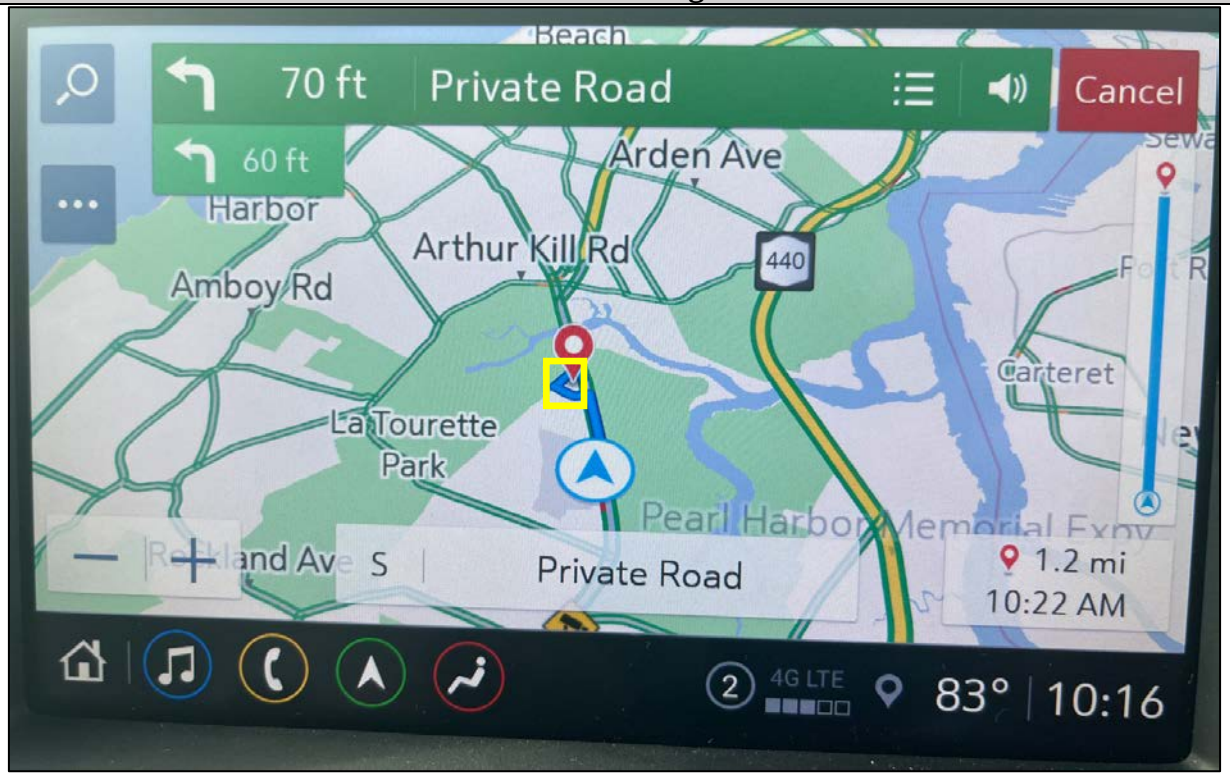
Claim	Claim Element	Evidence of Infringement
		See, e.g., Next-Generation Embedded Navigation:  Tutorial of the 2020 Chevrolet Infotainment 3- Navigation, at 1:44, at https://www.youtube.com/watch?v=2ORHsVB3-tU (MEL_GM_TECH_00001264). *See, e.g.*, Maps+:

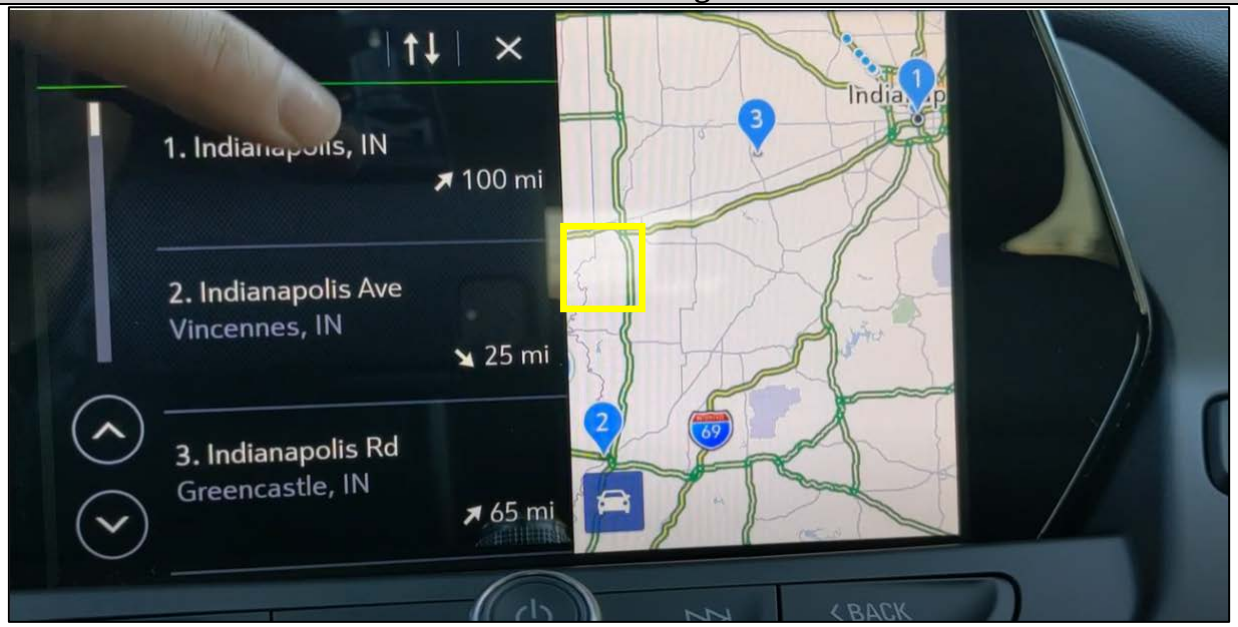
Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421).
5[f]	further selecting each of the roads that is part of the calculated route produced as a result of the route calculation, but not indicated by the attributes as being displayable according to the designated map scale, on the drawing memory; and	GM draws a map by further selecting each of the roads that is part of the calculated route produced as a result of the route calculation, but not indicated by the attributes as being displayable according to the designated map scale, on the drawing memory. For example, GM selects and displays the roads that are part of the calculated route even if based on their attribute they would normally be deemed too small to display according to the instructed map scale. For example, the highlighted roads in the image below are too small to be displayed at such a large map scale but are displayed because it is on the calculated route. *See, e.g.*, Next-Generation Embedded Navigation:

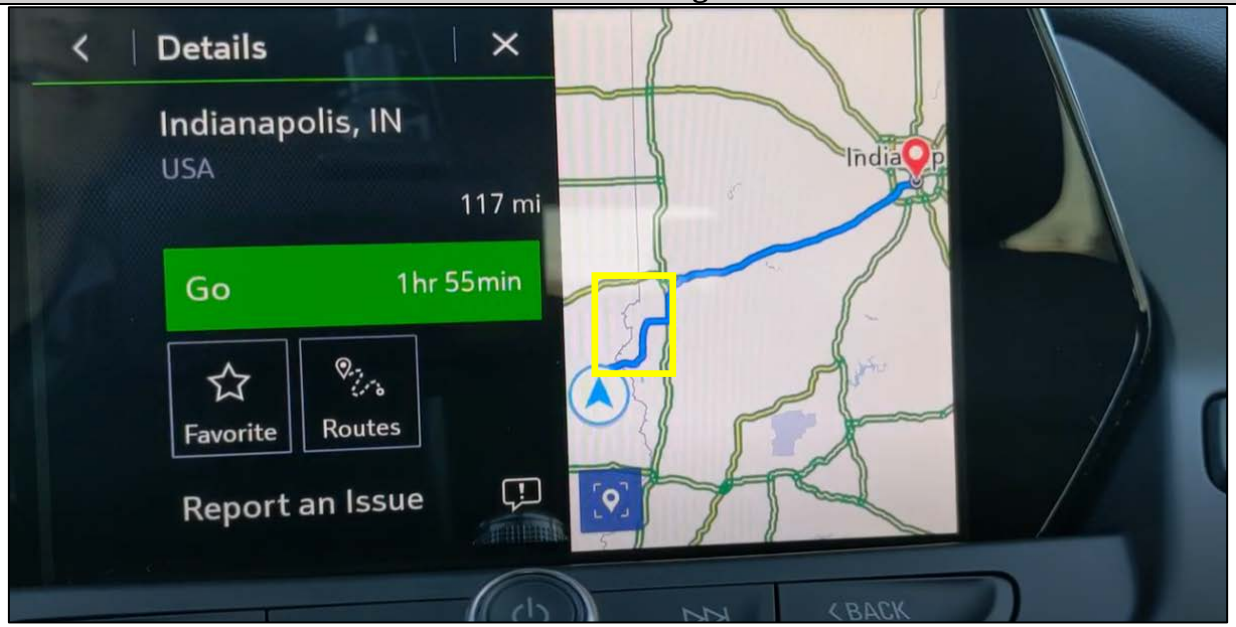
Claim	Claim Element	Evidence of Infringement
		 …

Claim	Claim Element	Evidence of Infringement
		 Photos of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002531-MEL_GM_TECH_00002532). *See also:*

Claim	Claim Element	Evidence of Infringement
		 …

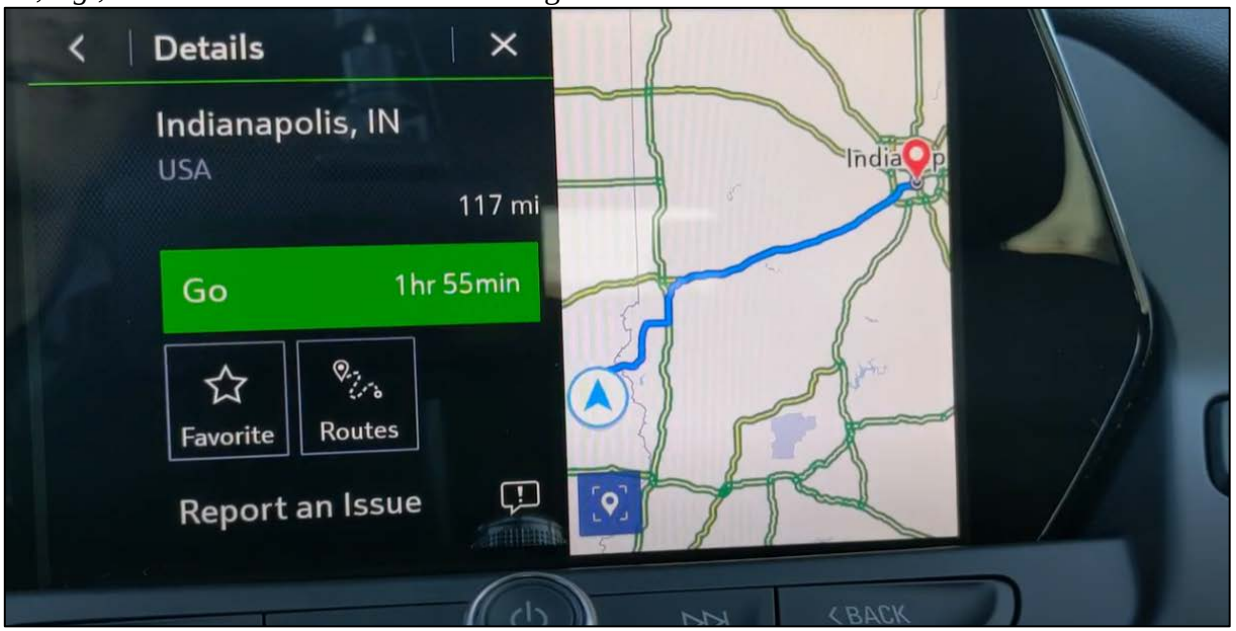
Claim	Claim Element	Evidence of Infringement
		 Photos of GM Infotainment 3 Plus System (yellow annotations added) (MEL_GM_TECH_00002528-MEL_GM_TECH_00002529). *See also:*

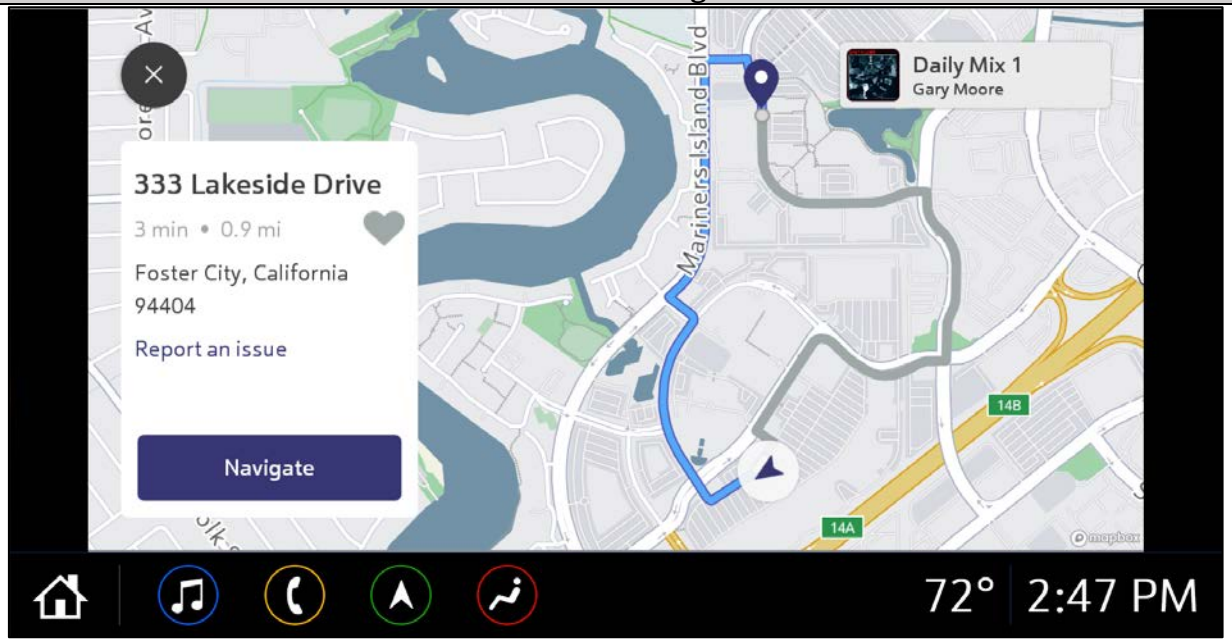
Claim	Claim Element	Evidence of Infringement
		 …

Claim	Claim Element	Evidence of Infringement
		 Tutorial of the 2020 Chevrolet Infotainment 3- Navigation, at 1:42-1:44, at https://www.youtube.com/watch?v=2ORHsVB3-tU (yellow annotations added) (MEL_GM_TECH_00001263- MEL_GM_TECH_00001264). *See, e.g.*, Maps+:

Claim	Claim Element	Evidence of Infringement

		Position the route line relative to map layers
		
		The map on which you are displaying your route line contains many individual layers (for example, roads, buildings, labels, and more). The route line UI component consists of three layers that are added to the map.
		
		By default, the route line is placed on top of all the other layers in the map. This is not always the most optimal position for a route line because it may appear on top of road labels and other labels on the map.
		
		You can specify the route line layers' veritcal position within all map layers using the `routeLineBelowLayerId` parameter of `MapboxRouteLineOptions`. The route line layers will be placed *below* the layer with the ID indicated in the `routeLineBelowLayerId` option.
		
		`val routeLineOptions = MapboxRouteLineOptions.Builder()`
		`.withRouteLineBelowLayerId("road-label")`
		`.build()`
		
		Which layer ID should I use?
		For navigation-related Mapbox map styles, you can use a `routeLineBelowLayerId` value of `"road-label"`, but this layer is not present in all map styles.
		
		If you are using a custom map style or another Mapbox-designed style, you can find the layer IDs that exist in the style by opening the style in Mapbox Studio or printing the style JSON to the console. For more information see Finding layer ids.
		
		Mapbox Documentation at https://docs.mapbox.com/android/navigation/guides/ui-components/route-line/#position-the-route-line-relative-to-map-layers (MEL_GM_TECH_00002450-MEL_GM_TECH_00002451).

Claim	Claim Element	Evidence of Infringement
5[g]	displaying the road network drawn on the drawing memory on the display section.	GM draws a map by displaying the road network drawn on the drawing memory on the display section. For example, GM displays the road network drawn on the drawing memory discussed above on the display section discussed above. *See, e.g.*, Next-Generation Embedded Navigation:  Tutorial of the 2020 Chevrolet Infotainment 3- Navigation, at 1:44, at https://www.youtube.com/watch?v=2ORHsVB3-tU (MEL_GM_TECH_00001264). *See, e.g.*, Maps+:

Claim	Claim Element	Evidence of Infringement
		 Maps+ Demo at https://chevroletdemo.com/invehicleapps/mapsplus/3 (MEL_GM_TECH_00002421).