

Exhibit C

Claim Chart for U.S. Patent No. 10,219,199

The Accused Products include all Samsung-branded smartphones that support Samsung Pay/Samsung Wallet (“Samsung Pay”) and/or Google Pay/Google Wallet (“Google Pay”) and associated methods of using Samsung Pay and/or Google Pay. Based on the information presently available, Telcom is informed and believes that Samsung directly and indirectly infringes U.S. Patent No. 10,219,199 (the “’199 Patent”) as set forth herein. Samsung directly infringes claims 1-19 of the ’199 Patent when it makes, uses, sells, offers for sale, and/or imports the Accused Products. Samsung indirectly infringes 1-19 of the ’199 Patent by actively inducing direct infringement by its customers and end-users of the Accused Products.

When Samsung or its customers or end-users make, use, sell, offer for sale, or import the Accused Products capable of carrying out Samsung Pay and/or Google Pay functionality, the asserted apparatus claims are infringed. When Samsung or its customers or end-users use the Samsung Pay and/or Google Pay functionality in the Accused Products, the asserted method claims are infringed. Samsung and its customers and end-users commit acts of direct infringement when, for example, Samsung and its customers and end-users make, use (including testing), sell, offer for sale, or import the Accused Products. Samsung commits acts of indirect infringement when, for example, Samsung contributes to or induces its customers and end-users to infringe by, for example, making instructions available on Samsung’s and others’ websites, or otherwise providing documentation directly or indirectly to customers and end-users that instructs, describes, educates, encourages, and/or explains how to operate the Accused Products in an infringing manner, as shown, for example, by the exemplary documentation cited in this chart. By way of example, Samsung’s and its customers’ documentation instruct, describe, educate, encourage, and/or explain the use of the Accused Products in an infringing manner, including through the Samsung Pay and Google Pay functionality as claimed herein. The Accused Products include at least one component that constitutes a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of the patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use. Samsung is therefore liable for all acts of direct infringement and indirect infringement of the patent.

Claim	Exemplary Infringement Analysis Evidence ¹
[1.p.] A method of operating a	The Accused Products use “a method of operating a smartphone to wirelessly provide information to an entity using a first air interface, to wirelessly receive information from the entity using the first air interface; and to wirelessly receive a

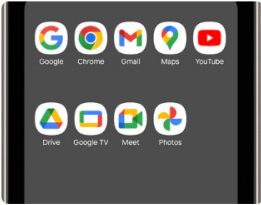
¹ These infringement contentions are prepared with publicly available information. Telcom’s investigation is ongoing, and discovery has not yet begun. Telcom hereby incorporates by reference the cover pleading to which this claim chart is attached. Telcom reserves the right to seek leave of the Court to amend or supplement these contentions after further investigation and discovery from Samsung and non-parties. Such supplemental information may include, but is not

Claim	Exemplary Infringement Analysis Evidence ¹
smartphone to wirelessly provide information to an entity using a first air interface, to wirelessly receive information from the entity using the first air interface; and to wirelessly receive a communications service from a wireless network using a second air interface that differs from the first air interface, wherein the communications service is received by the smartphone from	communications service from a wireless network using a second air interface that differs from the first air interface, wherein the communications service is received by the smartphone from the wireless network absent involving the entity and wherein the entity functions independently of the communications service.” For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay satisfies claim 1 because a user utilizing Samsung Pay and/or Google Pay would communicate with a point-of-sale terminal via a first air interface (Near Field Communication (NFC)), and independently wirelessly receive a communications service from a different second air interface (cellular network or WiFi). The communications service is received by the Samsung smartphone from the wireless network absent involving the point-of-sale terminal, which functions independently of the communications service. Fast, secure payments with Samsung Pay Samsung Pay allows you to tap to pay with your device anywhere NFC is available, making in-store payments quick and secure¹. You can also use Samsung Pay for in-app and online purchases at participating merchants, including Samsung.com. Learn more https://www.samsung.com/us/apps/samsung-wallet/ A better wallet, already in your hand Samsung Pay lets you to turn your smartphone or watch into a digital wallet. It lets you carry your payment cards on your device for use anywhere¹ contactless is accepted. https://www.samsung.com/uk/samsung-pay/

limited to, design specifications, deposition testimony, testing information, reference designs, implementation and utilization information, source code, and/or schematics. Telcom also reserves the right to accuse different products or find alternative literal and/or equivalent infringing elements in Samsung’s products based on further investigation and discovery or other circumstances. Any elements found not to be literally infringed are infringed under the doctrine of equivalents because the differences between the claimed inventions and the Accused Products, if any, are insubstantial. In addition, Samsung has not yet advised Telcom of any non-infringement arguments as to any claim or claim element. If and when Samsung does so, Telcom reserves the right to seek leave of the Court to address such arguments, including by providing any appropriate additional discussion pertaining to the application of the doctrine of equivalents with respect to Samsung’s argument concerning non-infringement.

Claim	Exemplary Infringement Analysis Evidence ¹
the wireless network absent involving the entity and wherein the entity functions independently of the communications service, the method comprising:	 https://www.samsung.com/us/support/answer/ANS00045102/

Claim	Exemplary Infringement Analysis Evidence ¹
	Settings > How to set up Google Pay All categories Change device All topics  1 Pay with ease using your Samsung Galaxy S10. Google Pay allows you to make payments for purchases you make in-store and online. Follow these steps to learn how to set up Google Pay. 2 Go to the Home screen. To open the menu, swipe up or down on the screen. 3 Choose Google Pay. Previous 1 / 23 Next https://www.t-mobile.com/support/tutorials/device/samsung/galaxy-s10/topic/settings/how-to-set-up-google-pay

Claim	Exemplary Infringement Analysis Evidence ¹
	 SAMSUNG Shop AI Mobile TV & Audio Appliances Computing Displays Accessories SmartThings Explore Support For Business How to use Google apps on your Galaxy phone or tablet Several different Google apps are available by default on your Galaxy phone and tablet, so you can start using them right away. For example, you can browse the web with Chrome, receive driving directions with Maps, and watch your favorite content with YouTube. Plus, you can download additional apps using the Google Play Store. Use Google apps The following Google apps may be preloaded on your device. If they aren't on your device, you can download them from the Google Play Store. To find your Google apps, swipe up on a Home screen to open the Apps screen, and then navigate to and tap the Google folder.  • Play Store: This app is the gateway to thousands of apps and games that you can install on your device. • Chrome: Browse the Internet with the Chrome browser and bring your open tabs, bookmarks, and address bar data from your computer to your mobile device. • Drive: Open, view, rename, and share files saved to your Google Drive cloud account. • Meet/Duo: Make video calls with friends and family. • Gmail: Send and receive emails with Google's web-based email service. • Google: Find content online using a search engine that learns your interests. You can turn on your personalized feed to receive customized content as well. • Google Pay: Make purchases with your Android phone at participating stores and in mobile apps. • Google TV: Watch movies and TV shows purchased from Google Play using the Google TV app. You can also view videos saved on your device. • Maps: Get directions and other location-based information. You must enable location services to use Google Maps. • Photos: Store and backup your photos and videos automatically to your Google account with Google Photos. • Messages: Google's text messaging app supports chat features that let you send high quality pictures, videos, and text over Wi-Fi. • YouTube: Watch and upload YouTube videos right from your device. Recommended Articles Google services on Wear OS Galaxy watches Download apps from the Play Store Note: The Galaxy Store cannot be accessed on Wear OS models. All... Set up and use your Wear OS Galaxy Watch Galaxy Watch device compatibility for Wear OS models Note: The Galaxy Watch4 and Galaxy Watch5... Use Google Assistant on your Wear OS Galaxy watch Set up and use Google Assistant on your watch Note: Google Assistant works separately on the watch fro... Google services on Wear OS Galaxy watches The OS on the Galaxy Watch4, Watch5, and Watch6 series gives you access to Google services! These... https://www.samsung.com/us/support/answer/ANS10002548/

Claim	Exemplary Infringement Analysis Evidence ¹
	Set up tap to pay on your phone 2. Set Google Pay as your default payment app < Next: 3. Set up a screen lock > Next, make sure Google Pay is set up as the payment default for your device. 1. On your Android device, open the Settings app. 2. In the search bar, type "NFC." 3. Tap NFC > Contactless payments > Payment default. 4. Select Google Pay. 5. Tap OK. Steps may differ depending on your device. https://support.google.com/wallet/answer/14187052?sjid=3604572701579461674-NA

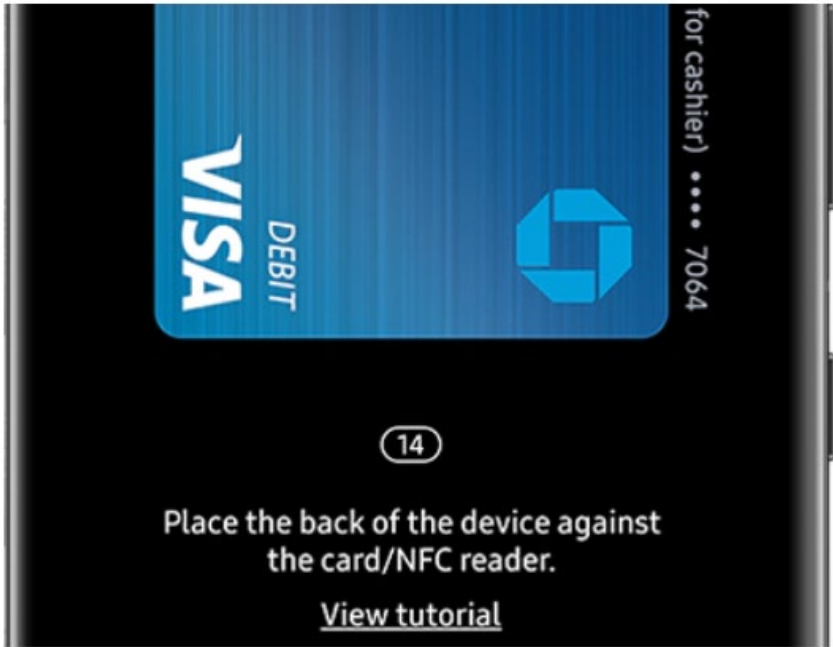
Claim	Exemplary Infringement Analysis Evidence ¹
	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en What is mobile data & how do I turn it on or off Mobile data is the internet connectivity provided by your mobile network provider. While your phone will automatically switch to Wi-Fi if a network is available, you can manually control your mobile data use by enabling and disabling it. You can also enable Data saver to prevent mobile data usage by apps that are running in the background. If you have disabled mobile data and would like to activate Wifi calling, you can find out more here. https://www.samsung.com/uk/support/mobile-devices/how-do-i-enable-or-disable-mobile-data/

Claim	Exemplary Infringement Analysis Evidence ¹
	How to enable or disable Mobile data on your Galaxy phone Last Update date : Nov 17, 2021 Mobile data is an internet connection provided by a mobile network provider. You can https://www.samsung.com/latin_en/support/mobile-devices/how-to-enable-or-disable-mobile-data-on-your-galaxy-phone/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[1.a.] detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity;	The Accused Products use a method that includes “detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes detecting that a proximity condition (through NFC) is satisfied between the Samsung smartphone and the point-of-sale terminal (the entity). Near Field Communication (NFC) technology allows users to make secure transactions, exchange digital content, and connect electronic devices with a touch. NFC transmissions are short range (from a touch to a few centimetres) and require the devices to be in close proximity. NFC is the technology in contactless cards, and the most common use of NFC technology in your smartphone is making easy payments with Samsung Pay. NFC can also be used to quickly connect with wireless devices and transfer data with Android Beam. https://www.samsung.com/uk/support/mobile-devices/what-is-nfc-and-how-do-i-use-it/

Claim	Exemplary Infringement Analysis Evidence ¹
	How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. https://www.samsung.com/uk/samsung-pay/faq/ Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en

Claim	Exemplary Infringement Analysis Evidence ¹
	Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. https://support.google.com/wallet/answer/12060043?hl=en Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[1.b.] in response to at least the proximity condition having been satisfied between the smartphone and the entity, establishing a wireless short-range	The Accused Products use a method that includes “in response to at least the proximity condition having been satisfied between the smartphone and the entity, establishing a wireless short-range communications link between the smartphone and the entity to provide by the smartphone, using the first air interface, information to the entity and to receive by the smartphone information from the entity.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes establishing a wireless short-range communications link such as an NFC link between the Samsung smartphone and a point-of-sale terminal (the entity). The Samsung smartphone, using NFC (the first air interface), will provide information to the point-of-sale terminal and will receive information from the point-of-sale terminal. Establishing the wireless short-range communications link is in

Claim	Exemplary Infringement Analysis Evidence ¹
communications link between the smartphone and the entity to provide by the smartphone, using the first air interface, information to the entity and to receive by the smartphone information from the entity;	response to at least the proximity condition (through NFC) having been satisfied between the Samsung smartphone and the point-of-sale terminal. Near Field Communication (NFC) technology allows users to make secure transactions, exchange digital content, and connect electronic devices with a touch. NFC transmissions are short range (from a touch to a few centimetres) and require the devices to be in close proximity. NFC is the technology in contactless cards, and the most common use of NFC technology in your smartphone is making easy payments with Samsung Pay. NFC can also be used to quickly connect with wireless devices and transfer data with Android Beam. https://www.samsung.com/uk/support/mobile-devices/what-is-nfc-and-how-do-i-use-it/ How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. https://www.samsung.com/uk/samsung-pay/faq/

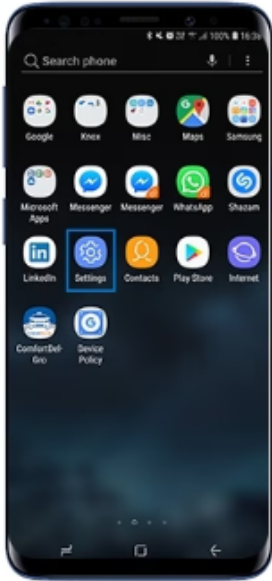
Claim	Exemplary Infringement Analysis Evidence ¹
	 The screenshot shows a black background with a blue Visa Debit card at the top. The card displays the Visa logo, the word 'DEBIT', and a blue geometric logo. To the right of the card, the text 'for cashier) 7064' is visible. Below the card, the number '14' is enclosed in a circle. The text 'Place the back of the device against the card/NFC reader.' is centered, followed by a link that says 'View tutorial'. https://www.samsung.com/us/support/answer/ANS00045102/

Claim	Exemplary Infringement Analysis Evidence ¹
	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en

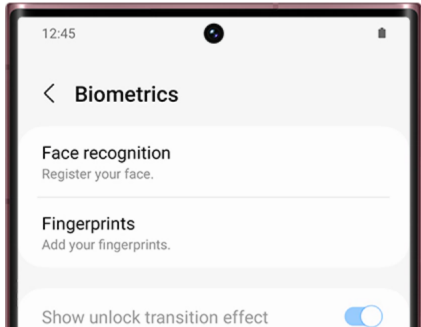
Claim	Exemplary Infringement Analysis Evidence ¹
	Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. https://support.google.com/wallet/answer/12060043?hl=en Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[1.c.] in response to at least the proximity condition having been satisfied between the smartphone and the entity and in response to a physiological parameter,	The Accused Products use a method that includes “in response to at least the proximity condition having been satisfied between the smartphone and the entity and in response to a physiological parameter, wirelessly providing by the smartphone, using the first air interface, information to the entity and wirelessly receiving by the smartphone, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving by the smartphone the communications service from the wireless network using the second air interface.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes the Samsung smartphone wirelessly providing, using NFC (the first air interface), information to the point-of-sale terminal and wirelessly receiving, using NFC, information from the point-of-sale terminal. The Samsung smartphone, upon satisfying the proximity condition

Claim	Exemplary Infringement Analysis Evidence ¹
wirelessly providing by the smartphone, using the first air interface, information to the entity and wirelessly receiving by the smartphone, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving by the smartphone the communications service from the wireless network using the second air interface; and	between the Samsung smartphone and the point-of-sale terminal, and in response to a physiological parameter (that is, recognizing and accepting a user's face, fingerprint, or iris), provides at least a transaction-specific dynamic digital token to the point-of sale terminal via NFC. The Samsung smartphone receives confirmation of the transaction from the point-of-sale terminal via NFC. These providing and receiving actions occur independently of, and absent involving the point-of-sale terminal in, the Samsung smartphone's receipt of the communications service from the wireless network using a cellular data network or WiFi (the second air interface). How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. What is Tokenization? Samsung Pay uses network tokenization technology that replaces your real card details with a dynamic digital token that is transmitted instead of your physical card's number. So your transactions remain secure, and your shopping stays safe. Will I receive a receipt after making a purchase with Samsung Pay? When paying with Samsung Pay you will receive a receipt for your purchases just as you would with a physical card. You will receive a notification confirmation about your transaction, but you will not receive a separate physical or digital receipt from Samsung Pay. https://www.samsung.com/uk/samsung-pay/faq/

Claim	Exemplary Infringement Analysis Evidence ¹
	When you make a payment When you make a payment, you will need to authenticate your identity by using your fingerprint or Samsung Pay PIN before the information can be sent to the payment terminal. The merchant will only receive a token, and your payment information will be kept secure. The token will be sent to the payment network, where it will be decrypted and verified against the information stored in a secure vault on internal networks. Once authenticated, the payment will be approved and sent back to the merchant. Only the payment network and your bank will have information about the transaction. https://www.samsung.com/us/support/answer/ANS00043932/ Is Samsung Pay blocked by entering the PIN or fingerprint incorrectly? Samsung Pay allows you to make 5 attempts to unlock the application by authenticating with their IRIS (available on selected phones), fingerprint or PIN. After 5 attempts, the device then requests a security password (also 5 attempts). Thereafter, using an incorrect security password locks the phone for 30 seconds. The process is repeated 20 times (each block is longer) and then all data is deleted. https://www.samsung.com/uk/samsung-pay/faq/

Claim	Exemplary Infringement Analysis Evidence ¹
	Face recognition lets you unlock your phone in one quick move. To use Face Recognition, follow these steps: 1 Tap Settings  https://www.samsung.com/sg/support/mobile-devices/how-to-use-face-recognition-to-unlock-samsung-mobile-device/

Claim	Exemplary Infringement Analysis Evidence ¹
	Set up and use fingerprint unlock  It's time to set up fingerprint security and register your prints. The steps will be almost exactly the same, no matter what device you have. The only difference will be where the fingerprint sensor is located. 1 Navigate to Settings, then tap Security and privacy, and then tap Biometrics. Tap Fingerprints. 2 Enter your lock screen credentials. If you do not have a screen lock set up, you may be prompted to create one at this point. When you're ready, read the information, and then tap Continue. 3 Tap Register, and then use the on-screen prompts to register your fingerprint. When registering your fingerprint, make sure to fully cover the fingerprint sensor with your finger to prevent strong light from entering the fingerprint sensor. When you're finished, tap Done. 4 Next, make sure that the switch next to Fingerprint unlock is turned on. Note: If the fingerprint sensor on your device is located on the Side key or below the Side key, you can disable the "Fingerprint always on" option to prevent accidental unlocks. 5 To unlock your device using your finger, tap the screen or press the Power button or Side button. Then, place the registered finger on the fingerprint scanner, wherever it's located. The device will automatically unlock if it recognizes your fingerprint. https://www.samsung.com/us/support/answer/ANS10001613/

Claim	Exemplary Infringement Analysis Evidence ¹
	Set up Facial recognition Note: To use Face recognition, you need to set a PIN, Pattern, or Password first. Your face is unique to you, which makes it one of the best security features in your arsenal. 1. From Settings, swipe to and tap Security and privacy, and then tap Biometrics. 2. Tap Face recognition, and then enter your PIN or password. If you do not already have a secure screen lock, you will need to set one up. 3. Tap Continue, and then hold the phone 8-20 inches away as you position your face inside the circle. Hold the position until the progress bar reaches 100%. You may be prompted to remove your glasses to finish the process. 4. When you're done, adjust your desired settings.  https://www.samsung.com/us/support/answer/ANS00062630/

Claim	Exemplary Infringement Analysis Evidence ¹
	How to enable Iris authentication for Samsung Pay? Last Update date : Oct 08, 2020 The iris recognition feature uses the unique characteristics of your irises to strengthen the security of your device. Once your irises are registered, you can set the device to enable Iris authentication for Samsung Pay. https://www.samsung.com/sg/support/mobile-devices/how-to-enable-iris-authentication-for-samsung-pay/

Claim	Exemplary Infringement Analysis Evidence ¹
	SECURITY With Google Wallet, you're in control of your data Protect your personal information wherever you go and your money wherever you pay. Google Wallet gives you advanced security and easy-to-use privacy controls so you and your information stay safe every day.  Android offers 2-step verification, Find My Phone, and remote data erase  Tap to pay uses encrypted payment codes to hide your real card number  Google lets you choose the info you share between products for a tailored experience https://wallet.google/#security

Claim	Exemplary Infringement Analysis Evidence ¹
	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en

Claim	Exemplary Infringement Analysis Evidence ¹
	Hello, Welcome to the Google Wallet community. Set up screen lock for tap to pay transactions Important: Coming soon, your credit and debit card won't be charged for retail payments unless you've recently used a verification method, like your fingerprint or PIN. Some users may already need to verify to make a payment. If you're asked to verify it's you, complete verification steps on your device to make a payment. To make contactless payments with Google Wallet, you must use a screen lock on your device for your security. You can unlock Google Wallet with several methods: • PIN • Pattern • Password • Fingerprint • Iris scan • 3D face unlock Tip: Google Wallet doesn't work with 2D face unlock or screen locks like Smart Unlock or Knock to Unlock. Set or change a screen lock 1. Open your phone Settings app. 2. Tap Security. ◦ If you don't find "Security," you can get help at your phone manufacturer support site. 3. Tap Screen lock. ◦ If you already set a lock, you must enter your PIN, pattern, or password before you can choose a different one. 4. Tap the option you'd like to use. Follow the on-screen instructions. https://support.google.com/wallet/thread/267917558/how-to-add-biometric-security-in-order-to-pay?hl=en

Claim	Exemplary Infringement Analysis Evidence ¹
	Pay in a store Step 1: Wake up & unlock your phone Important: For users with a Pixel 7 or Pixel 7 Pro, Face Unlock is currently not supported for tap to pay transactions. Turn on your screen, then unlock your phone. You don't need to open the Google Wallet app. Tip: In most countries or regions, smaller transactions don't require you to unlock your phone. Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. Step 3: If prompted, follow the on-screen instructions Some stores ask for a PIN or signature. If you're asked, follow the steps on the screen. • Debit cards: Enter the PIN that you set up with your bank. This PIN is different from the one you use to unlock your device. • Credit cards: For larger transactions, sign the receipt or the on-screen signature box. https://support.google.com/wallet/answer/12060043?hl=en#

Claim	Exemplary Infringement Analysis Evidence ¹
	What device tokens are When you pay for something with a physical card — credit, debit or prepaid — the merchant usually charges you through the printed number on the front of your card, known as the Funding Primary Account Number (FPAN). Every time this happens, you provide that number to the merchant, and that number is then sent along to a handful of other parties like the merchant’s bank, the card network (an organization that facilitates transactions between banks and merchants), the payment service provider and more. In contrast, Google Wallet creates a device-specific virtual account number, or device token, for each payment method you add, so your real card number isn’t stored on your device or shared with merchants. Thanks to this tokenization, the only parties who have your actual FPAN when you make a purchase are the bank that issued the card and the card network. What’s more, your device token functions independently from your physical card. It’s linked to your bank account or line of credit, not the card itself. So you can think of a device token as a super-safe messenger between your bank account or line of credit and whoever you’re buying something from. https://blog.google/products/google-pay/device-tokens-google-wallet/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[1.d.] wirelessly receiving by the smartphone, using the second air interface, the communications service from the wireless network absent involving	The Accused Products use a method that includes “wirelessly receiving by the smartphone, using the second air interface, the communications service from the wireless network absent involving the entity, absent providing by the smartphone information to the entity, and absent receiving by the smartphone information from the entity.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes the Samsung smartphone wirelessly receiving, using a cellular data network or WiFi (the second air interface), the communications service from the wireless network. The receiving of the communications service occurs absent involving the point-of-sale terminal (the

Claim	Exemplary Infringement Analysis Evidence ¹
the entity, absent providing by the smartphone information to the entity, and absent receiving by the smartphone information from the entity,	entity), absent the Samsung smartphone providing information to the point-of-sale terminal, and absent the Samsung smartphone receiving information from the point-of-sale terminal. For example, the Samsung smartphone can continue to receive the communications service while connected with the point-of-sale terminal via NFC. How to enable or disable Mobile data on your Galaxy phone Last Update date : Nov 17, 2021 Mobile data is an internet connection provided by a mobile network provider. You can https://www.samsung.com/latin_en/support/mobile-devices/how-to-enable-or-disable-mobile-data-on-your-galaxy-phone/ What is mobile data & how do I turn it on or off Mobile data is the internet connectivity provided by your mobile network provider. While your phone will automatically switch to Wi-Fi if a network is available, you can manually control your mobile data use by enabling and disabling it. You can also enable Data saver to prevent mobile data usage by apps that are running in the background. If you have disabled mobile data and would like to activate Wifi calling, you can find out more here. https://www.samsung.com/uk/support/mobile-devices/how-do-i-enable-or-disable-mobile-data/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[1.e.] wherein the wireless short-	The Accused Products use a method “wherein the wireless short-range communications link used by the first air interface is based upon unlicensed frequencies.”

Claim	Exemplary Infringement Analysis Evidence ¹
range communications link used by the first air interface is based upon unlicensed frequencies,	For example, the wireless short-range communications link used by NFC (the first air interface) is based upon the unlicensed 13.56 MHz frequency. How Does Near-Field Communication Work? Near-field communication is a wireless connectivity technology that is based on RFID. It uses induction coupling to enable communication between two compatible devices that are close. It enables users to automatically transfer data bi-directionally between two NFC-enabled devices by just touching both of them or by bringing them close to each other. NFC operates at the globally unlicensed 13.56 MHz frequency. It has three different data transfer rates – i.e., 212 kbit/s, 106 kbit/s, and 424 kbit/s. https://www.spiceworks.com/tech/networking/articles/what-is-near-field-communication/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[1.f.] wherein the second air interface uses a wireless communications link that is based upon licensed frequencies, and	The Accused Products use a method that includes “wherein the second air interface uses a wireless communications link that is based upon licensed frequencies.” For example, the cellular data network or WiFi (the second air interface) uses a wireless communication link that is based upon frequencies licensed from the Federal Communications Commission.

Claim	Exemplary Infringement Analysis Evidence ¹
	Why Do Cellular Carriers Have Multiple Frequencies? Cellular carriers need licenses from the FCC to use specific cellular bands. Usually, one license within a large band only gives carriers rights to a small section. This is known as a block or channel. As you'll notice later, many carriers utilize similar bands. However, they operate on different blocks to avoid interfering with each other. Smaller bands, on the other hand, are not made up of multiple blocks and are usually exclusive to one carrier. https://www.wilsonamplifiers.com/blog/frequencies-by-provider/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[1.g.] wherein the first air interface is not involved in providing the communications service to the smartphone.	The Accused Products use a method that includes “wherein the first air interface is not involved in providing the communications service to the smartphone.” For example, NFC (the first air interface) is not involved in providing the communications service to the Samsung smartphone.

Claim	Exemplary Infringement Analysis Evidence ¹
	How to enable or disable Mobile data on your Galaxy phone Last Update date : Nov 17, 2021 Mobile data is an internet connection provided by a mobile network provider. You can https://www.samsung.com/latin_en/support/mobile-devices/how-to-enable-or-disable-mobile-data-on-your-galaxy-phone/ Background on NFC Technology Based on the 13.56 MHz wireless communication protocol, the NFC technology allows wireless communication between two NFC-compliant devices up to 10 centimeters apart. Very convenient, this connection does not rely on Wi-Fi, 4G, LTE or similar technologies, and it doesn't cost anything to use: no need for the user to be skilled, does not need batteries, does not emit RF waves in the absence of a reader (it is a passive technology), NFC is within range everyone's range thanks to the massive deployment of NFC in smartphones. https://www.st.com/content/st_com/en/support/learning/essentials-and-insights/connectivity/nfc.html Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[2.a] The method of claim 1, wherein said wirelessly providing by the smartphone, using the first air interface, information to	The Accused Products use a method “wherein said wirelessly providing by the smartphone, using the first air interface, information to the entity and wirelessly receiving by the smartphone, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving by the smartphone the communications service from the wireless network using the second air interface is performed over a first time interval.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes the Samsung smartphone wirelessly providing, using the first air interface (NFC), information to the point-of-sale terminal (the entity), and

Claim	Exemplary Infringement Analysis Evidence ¹
the entity and wirelessly receiving by the smartphone, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving by the smartphone the communications service from the wireless network using the second air interface is performed over a first time interval;	wirelessly receiving information, using the first air interface (NFC) information from the point-of-sale terminal, and doing so independently of, and absent involving the entity (the point-of-sale terminal) in, the smartphone receiving the communications service from the wireless network using the second air interface (a cellular data network or WiFi), which is performed over a first time interval. Fast, secure payments with Samsung Pay Samsung Pay allows you to tap to pay with your device anywhere NFC is available, making in-store payments quick and secure¹. You can also use Samsung Pay for in-app and online purchases at participating merchants, including Samsung.com. Learn more https://www.samsung.com/us/apps/samsung-wallet/ Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   Google Pay symbol Contactless symbol https://support.google.com/wallet/answer/12060043?hl=en

Claim	Exemplary Infringement Analysis Evidence ¹
	Background on NFC Technology Based on the 13.56 MHz wireless communication protocol, the NFC technology allows wireless communication between two NFC-compliant devices up to 10 centimeters apart. Very convenient, this connection does not rely on Wi-Fi, 4G, LTE or similar technologies, and it doesn't cost anything to use: no need for the user to be skilled, does not need batteries, does not emit RF waves in the absence of a reader (it is a passive technology), NFC is within range everyone's range thanks to the massive deployment of NFC in smartphones. https://www.st.com/content/st_com/en/support/learning/essentials-and-insights/connectivity/nfc.html Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[2.b.] wherein said wirelessly receiving by the smartphone, using the second air interface, the communications service from the wireless network absent involving the entity, absent providing by the smartphone information to the entity, and absent receiving by the	The Accused Products use a method “wherein said wirelessly receiving by the smartphone, using the second air interface, the communications service from the wireless network absent involving the entity, absent providing by the smartphone information to the entity, and absent receiving by the smartphone information from the entity is performed over a second time interval.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes wirelessly receiving by the Samsung smartphone, using the second air interface (a cellular data network or WiFi), the communications service from the wireless network absent involving the entity (the point-of-sale terminal), absent providing information to the entity, and absent receiving information from the entity, which is performed over a second time interval.

Claim	Exemplary Infringement Analysis Evidence ¹
smartphone information from the entity is performed over a second time interval; and	How to enable or disable Mobile data on your Galaxy phone Last Update date : Nov 17, 2021 Mobile data is an internet connection provided by a mobile network provider. You can
	https://www.samsung.com/latin_en/support/mobile-devices/how-to-enable-or-disable-mobile-data-on-your-galaxy-phone/ What is mobile data & how do I turn it on or off Mobile data is the internet connectivity provided by your mobile network provider. While your phone will automatically switch to Wi-Fi if a network is available, you can manually control your mobile data use by enabling and disabling it. You can also enable Data saver to prevent mobile data usage by apps that are running in the background. If you have disabled mobile data and would like to activate Wifi calling, you can find out more here.
	https://www.samsung.com/uk/support/mobile-devices/how-do-i-enable-or-disable-mobile-data/ Background on NFC Technology Based on the 13.56 MHz wireless communication protocol, the NFC technology allows wireless communication between two NFC-compliant devices up to 10 centimeters apart. Very convenient, this connection does not rely on Wi-Fi, 4G, LTE or similar technologies, and it doesn't cost anything to use: no need for the user to be skilled, does not need batteries, does not emit RF waves in the absence of a reader (it is a passive technology), NFC is within range everyone's range thanks to the massive deployment of NFC in smartphones. https://www.st.com/content/st_com/en/support/learning/essentials-and-insights/connectivity/nfc.html

Claim	Exemplary Infringement Analysis Evidence ¹
[2.c.] wherein the first and second time intervals are non-overlapping with one another.	Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants. The Accused Products use a method “wherein the first and second time intervals are non-overlapping with one another.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes having the first and second time intervals not overlapping with one another. Do I need to have an active internet connection for Samsung Wallet to work? Samsung Wallet requires an active internet connection when adding or removing a payment card and to download transaction history. You can connect via a Wi-Fi network or your mobile data connection. When you are using Samsung Pay/Wallet to make a purchase, no internet connection is needed. However, some networks will limit you to 10 transactions during a period without internet access, after which Samsung Wallet will require an active internet connection. We recommend connecting to the internet at least once per day to ensure Samsung Wallet stays up-to-date. https://www.samsung.com/us/support/answer/ANS10002586/?msockid=11f87435ebd96d0b25a660c9ea286c88

View transaction history

1. Open Google Pay .
2. Under "Manage your Money," click **See transaction history**.
3. Here, you can click on any transaction to see the detailed transaction page.

Troubleshoot to check your previous transaction history

Your transaction history only contains those made through Google Pay and not all UPI or banking transactions. If you can't view your Google Pay transaction history, do the next steps.

Step 1: Update Google Pay

To check for updates, go to the Play Store or App Store.

Step 2: Check email address for Google Pay

If you registered more than one email address for your Google Pay account, go through the email selection steps again.

1. Open Google Pay .
2. Select your preferred language.
3. Enter your 10 digit phone number.
4. To accept all in-app permissions, tap **Allow**.
5. Enter the Google account registered to your mobile device and tap **Continue**. **Tip:** You can also add a new Google account.
6. To secure your Google Pay app , select **Use screen lock** or **Use Google PIN**.
Tip: Under screen lock, you can choose pattern lock, fingerprint sensor, or passcode.
7. Add a bank account.

If you used only one email address to register a Google Pay account, wait for 3 to 4 hours then try to check your transaction history again. If you can't check it, it can be due to poor cellular reception or network coverage.

<https://support.google.com/pay/india/answer/7430307?hl=en#:~:text=View%20transaction%20history%201%20Open%20Google%20Pay%20..any%20transaction%20to%20see%20the%20detailed%20transaction%20page>

Claim	Exemplary Infringement Analysis Evidence ¹
	Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[3.a.] The method of claim 1, wherein the wireless short-range link that is based upon unlicensed frequencies is further based upon a Time Division Duplex (TDD) protocol, and	The Accused Products use a method “wherein the wireless short-range link that is based upon unlicensed frequencies is further based upon a Time Division Duplex (TDD) protocol.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes communicating over the short-range link between the Samsung smartphone and the entity that is based upon unlicensed frequencies. How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. https://www.samsung.com/uk/samsung-pay/faq/

Claim	Exemplary Infringement Analysis Evidence ¹
	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en How Does Near-Field Communication Work? Near-field communication is a wireless connectivity technology that is based on RFID. It uses induction coupling to enable communication between two compatible devices that are close. It enables users to automatically transfer data bi-directionally between two NFC-enabled devices by just touching both of them or by bringing them close to each other. NFC operates at the globally unlicensed 13.56 MHz frequency. It has three different data transfer rates – i.e., 212 kbit/s, 106 kbit/s, and 424 kbit/s. https://www.spiceworks.com/tech/networking/articles/what-is-near-field-communication/

Claim	Exemplary Infringement Analysis Evidence ¹
	The short-range link between the Samsung smartphone and the entity is further based upon a Time Division Duplex protocol. NFC uses a time division duplex protocol. NFC is a short-range half duplex communication technology which provide secure communication between devices in near field region. Near field communication, is a technology that allows two devices in close range to securely exchange data wirelessly. NFC is a short-range (< 10 cm) wireless connectivity technology that operates at high frequency (HF) range with low bandwidth of radio waves, mainly at 13.56 MHz [13]. NFC comprises of three basic components - an antenna, a reader, and a tag. A reader (transmitter) sends a https://www.intechopen.com/chapters/75600 What Does Time Division Duplex Mean? Time division duplex (TDD) refers to duplex communication links where uplink is separated from downlink by the allocation of different time slots in the same frequency band. It is a transmission scheme that allows asymmetric flow for uplink and downlink data transmission. Users are allocated time slots for uplink and downlink transmission. Time division multiplexing separates uplink and downlink signals by matching full duplex communication over a half-duplex communication link. This method is highly advantageous in case there is an asymmetry of uplink and downlink data rates. TDD divides a data stream into frames and assigns different time slots to forward and reverse transmissions, thereby allowing both types of transmissions to share the same transmission medium. https://www.techopedia.com/definition/27019/time-division-duplex-tdd Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[3.b.] wherein the second air interface that	The Accused Products use a method “wherein the second air interface that uses a wireless communications link that is based upon licensed frequencies is further based upon an Orthogonal Frequency Division Multiplexed (OFDM) and/or Orthogonal Frequency Division Multiple Access (OFDMA) protocol.”

Claim	Exemplary Infringement Analysis Evidence ¹
uses a wireless communications link that is based upon licensed frequencies is further based upon an Orthogonal Frequency Division Multiplexed (OFDM) and/or Orthogonal Frequency Division Multiple Access (OFDMA) protocol.	On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes wirelessly communicating over a second air interface (cellular network or WiFi) that uses a wireless communications link that is based upon licensed frequencies is further based upon an Orthogonal Frequency Division Multiplexed (OFDM) and/or Orthogonal Frequency Division Multiple Access (OFDMA) protocol. Is OFDMA used in 5G or other cellular networks? Yes. OFDMA is used in the air interface stage of 5G New Radio (5G NR), which allows for mobile connectivity. OFDM, the older technology, is one of the primary enabling technologies of 3G and 4G cellular service. Where is OFDMA used? OFDMA technology can be applied anywhere data is sent along radio waves, including the: • Mobility mode of the IEEE 802.16 wireless standard known as WiMAX • Wireless LAN (WLAN) standard IEEE 802.11ax (Wi-Fi 6) • IEEE 802.20 mobile wireless metropolitan-area network (WMAN) standard • Downlink of the 3GPP Long-Term Evolution (LTE) fourth-generation mobile broadband standard (4G) https://www.cisco.com/c/en/us/products/wireless/what-is-ofdma.html#~q-a Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[4.] The method of claim 1, wherein said detecting by the smartphone that a	The Accused Products use a method “wherein said detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity is based, at least in part, on receiving a short-range signal from the entity over the first air interface.”

Claim	Exemplary Infringement Analysis Evidence ¹
proximity condition is satisfied between the smartphone and the entity is based, at least in part, on receiving a short-range signal from the entity over the first air interface.	On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes receiving a short-range signal (an NFC field) from the entity (the point-of-sale terminal) over the first air interface (NFC), which forms at least in part the basis of detecting by the Samsung smartphone that a proximity condition is satisfied between the smartphone and the entity. How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. https://www.samsung.com/uk/samsung-pay/faq/

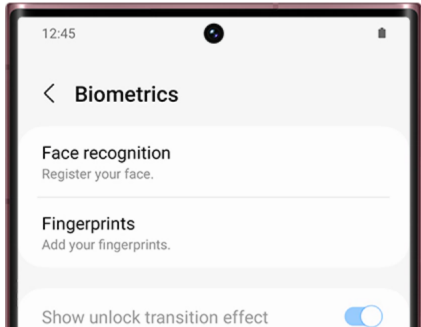
Claim	Exemplary Infringement Analysis Evidence ¹
	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en How Does Near-Field Communication Work? Near-field communication is a wireless connectivity technology that is based on RFID. It uses induction coupling to enable communication between two compatible devices that are close. It enables users to automatically transfer data bi-directionally between two NFC-enabled devices by just touching both of them or by bringing them close to each other. NFC operates at the globally unlicensed 13.56 MHz frequency. It has three different data transfer rates – i.e., 212 kbit/s, 106 kbit/s, and 424 kbit/s. https://www.spiceworks.com/tech/networking/articles/what-is-near-field-communication/

Claim	Exemplary Infringement Analysis Evidence ¹
	Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[5.] The method of claim 4, wherein said detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity is based, at least in part, on a measurement of signal strength of the short-range signal.	The Accused Products use a method “wherein said detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity is based, at least in part, on a measurement of signal strength of the short-range signal.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes detecting by the Samsung smartphone that a proximity condition is satisfied between the smartphone and the entity (the point-of-sale terminal), which is based, at least in part, on a measurement of signal strength of the short-range signal (the NFC field).

Claim	Exemplary Infringement Analysis Evidence ¹
	2. The Polling Loop If you switch on the NFC function in your mobile phone, the integrated NFC interface will initially listen to the only available channel, at 13.56 MHz. If there is already a reader transmitting a continuous-wave (CW) carrier signal—e.g., if the phone is close to an active payment terminal reader—the NFC interface is allowed to become active only in the so-called Card Mode, meaning it acts as a transponder. This “listen before talk” rule prevents two NFC devices from interfering with each other. The criterion for a quiet channel is an alternating magnetic field (or H-field) amplitude below 0.185 A/m (RMS) over a few milliseconds, as detected by the NFC interface in the mobile phone. If the channel is quiet, and the function is supported, the integrated NFC interface can switch on in Reader Mode. <pre> graph TD Start([intended start]) --> Decision{H < 0.185 A/m} Decision -- no --> CardMode[enter Card Mode] CardMode --> Waveform1[Waveform] Decision -- yes --> ReaderMode[enter Reader Mode] ReaderMode --> Pause((pause)) Pause -- Polling loop --> NFCActive[NFC active] NFCActive --> Waveform2[Waveform] NFCActive --> NFCA[NFC-A] NFCA --> Waveform3[Waveform] NFCA --> NFCB[NFC-B] NFCB --> Waveform4[Waveform] NFCB --> NFCF[NFC-F] NFCF --> Waveform5[Waveform] NFCF --> ISO[ISO/IEC 15693] ISO --> Waveform6[Waveform] </pre> Fig. 1. Polling Loop: Initialization of NFC communication as implemented in a mobile phone. https://www.denpaflux.com/blogs/the-nfc-system-insights-and-first-measurements Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.

Claim	Exemplary Infringement Analysis Evidence ¹
[6.] The method of claim 1, wherein a value of the physiological parameter is provided by using a sensor of the smartphone.	The Accused Products use a method “wherein a value of the physiological parameter is provided by using a sensor of the smartphone.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes using a sensor of the smartphone (facial, fingerprint, or iris scanner) to provide a value of the physiological parameter (facial recognition, a fingerprint, or iris scan). Face recognition lets you unlock your phone in one quick move. To use Face Recognition, follow these steps: 1 Tap Settings The image shows a Samsung smartphone home screen with various app icons. The 'Settings' app icon, which is a blue gear, is highlighted with a blue rectangular box. Above the phone, there is instructional text for using face recognition. https://www.samsung.com/sg/support/mobile-devices/how-to-use-face-recognition-to-unlock-samsung-mobile-device/

Claim	Exemplary Infringement Analysis Evidence ¹
	Set up and use fingerprint unlock  It's time to set up fingerprint security and register your prints. The steps will be almost exactly the same, no matter what device you have. The only difference will be where the fingerprint sensor is located. 1 Navigate to Settings, then tap Security and privacy, and then tap Biometrics. Tap Fingerprints. 2 Enter your lock screen credentials. If you do not have a screen lock set up, you may be prompted to create one at this point. When you're ready, read the information, and then tap Continue. 3 Tap Register, and then use the on-screen prompts to register your fingerprint. When registering your fingerprint, make sure to fully cover the fingerprint sensor with your finger to prevent strong light from entering the fingerprint sensor. When you're finished, tap Done. 4 Next, make sure that the switch next to Fingerprint unlock is turned on. Note: If the fingerprint sensor on your device is located on the Side key or below the Side key, you can disable the "Fingerprint always on" option to prevent accidental unlocks. 5 To unlock your device using your finger, tap the screen or press the Power button or Side button. Then, place the registered finger on the fingerprint scanner, wherever it's located. The device will automatically unlock if it recognizes your fingerprint. https://www.samsung.com/us/support/answer/ANS10001613/

Claim	Exemplary Infringement Analysis Evidence ¹
	Set up Facial recognition Note: To use Face recognition, you need to set a PIN, Pattern, or Password first. Your face is unique to you, which makes it one of the best security features in your arsenal. 1. From Settings, swipe to and tap Security and privacy, and then tap Biometrics. 2. Tap Face recognition, and then enter your PIN or password. If you do not already have a secure screen lock, you will need to set one up. 3. Tap Continue, and then hold the phone 8-20 inches away as you position your face inside the circle. Hold the position until the progress bar reaches 100%. You may be prompted to remove your glasses to finish the process. 4. When you're done, adjust your desired settings.  https://www.samsung.com/us/support/answer/ANS00062630/

Claim	Exemplary Infringement Analysis Evidence ¹
	How to enable Iris authentication for Samsung Pay? Last Update date : Oct 08, 2020 The iris recognition feature uses the unique characteristics of your irises to strengthen the security of your device. Once your irises are registered, you can set the device to enable Iris authentication for Samsung Pay. https://www.samsung.com/sg/support/mobile-devices/how-to-enable-iris-authentication-for-samsung-pay/

Claim	Exemplary Infringement Analysis Evidence ¹
	Hello, Welcome to the Google Wallet community. Set up screen lock for tap to pay transactions Important: Coming soon, your credit and debit card won't be charged for retail payments unless you've recently used a verification method, like your fingerprint or PIN. Some users may already need to verify to make a payment. If you're asked to verify it's you, complete verification steps on your device to make a payment. To make contactless payments with Google Wallet, you must use a screen lock on your device for your security. You can unlock Google Wallet with several methods: • PIN • Pattern • Password • Fingerprint • Iris scan • 3D face unlock Tip: Google Wallet doesn't work with 2D face unlock or screen locks like Smart Unlock or Knock to Unlock. Set or change a screen lock 1. Open your phone Settings app. 2. Tap Security. ◦ If you don't find "Security," you can get help at your phone manufacturer support site. 3. Tap Screen lock. ◦ If you already set a lock, you must enter your PIN, pattern, or password before you can choose a different one. 4. Tap the option you'd like to use. Follow the on-screen instructions. https://support.google.com/wallet/thread/267917558/how-to-add-biometric-security-in-order-to-pay?hl=en Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[7.] The method of claim 1, wherein said wirelessly providing by the	The Accused Products use a method "wherein said wirelessly providing by the smartphone, using the first air interface, information to the entity comprises: being proximate to a specific location within a store, then detecting a short-range signal being transmitted from said specific location within the store, and then performing a transaction to pay for one or more items."

Claim	Exemplary Infringement Analysis Evidence ¹
smartphone, using the first air interface, information to the entity comprises: being proximate to a specific location within a store, then detecting a short-range signal being transmitted from said specific location within the store, and then performing a transaction to pay for one or more items.	On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes wirelessly providing by the Samsung smartphone, using the first air interface (NFC), information to the entity (the point-of-sale terminal). This provision of information includes being proximate to a specific location within a store (the location of the point-of-sale terminal), then detecting a short-range signal (the NFC field) being transmitted from the specific location within the store, and then performing a transaction to pay for one or more items. How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. What is Tokenization? Samsung Pay uses network tokenization technology that replaces your real card details with a dynamic digital token that is transmitted instead of your physical card's number. So your transactions remain secure, and your shopping stays safe. Will I receive a receipt after making a purchase with Samsung Pay? When paying with Samsung Pay you will receive a receipt for your purchases just as you would with a physical card. You will receive a notification confirmation about your transaction, but you will not receive a separate physical or digital receipt from Samsung Pay. https://www.samsung.com/uk/samsung-pay/faq/

Claim	Exemplary Infringement Analysis Evidence ¹
	When you make a payment When you make a payment, you will need to authenticate your identity by using your fingerprint or Samsung Pay PIN before the information can be sent to the payment terminal. The merchant will only receive a token, and your payment information will be kept secure. The token will be sent to the payment network, where it will be decrypted and verified against the information stored in a secure vault on internal networks. Once authenticated, the payment will be approved and sent back to the merchant. Only the payment network and your bank will have information about the transaction. https://www.samsung.com/us/support/answer/ANS00043932/ Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en

Claim	Exemplary Infringement Analysis Evidence ¹
	Pay in a store Step 1: Wake up & unlock your phone Important: For users with a Pixel 7 or Pixel 7 Pro, Face Unlock is currently not supported for tap to pay transactions. Turn on your screen, then unlock your phone. You don't need to open the Google Wallet app. Tip: In most countries or regions, smaller transactions don't require you to unlock your phone. Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. Step 3: If prompted, follow the on-screen instructions Some stores ask for a PIN or signature. If you're asked, follow the steps on the screen. • Debit cards: Enter the PIN that you set up with your bank. This PIN is different from the one you use to unlock your device. • Credit cards: For larger transactions, sign the receipt or the on-screen signature box. https://support.google.com/wallet/answer/12060043?hl=en#

Claim	Exemplary Infringement Analysis Evidence ¹
	What device tokens are When you pay for something with a physical card — credit, debit or prepaid — the merchant usually charges you through the printed number on the front of your card, known as the Funding Primary Account Number (FPAN). Every time this happens, you provide that number to the merchant, and that number is then sent along to a handful of other parties like the merchant’s bank, the card network (an organization that facilitates transactions between banks and merchants), the payment service provider and more. In contrast, Google Wallet creates a device-specific virtual account number, or device token, for each payment method you add, so your real card number isn’t stored on your device or shared with merchants. Thanks to this tokenization, the only parties who have your actual FPAN when you make a purchase are the bank that issued the card and the card network. What’s more, your device token functions independently from your physical card. It’s linked to your bank account or line of credit, not the card itself. So you can think of a device token as a super-safe messenger between your bank account or line of credit and whoever you’re buying something from. https://blog.google/products/google-pay/device-tokens-google-wallet/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[8.] The method of claim 1, wherein the entity comprises a check-out counter in a store, and wherein said wirelessly	The Accused Products use a method “wherein the entity comprises a check-out counter in a store, and wherein said wirelessly providing by the smartphone, using the first air interface, information to the entity comprises: performing a financial transaction to pay for one or more items.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes wirelessly providing by the Samsung smartphone, using the first air interface (NFC), information to the entity (a check-out counter and its respective

Claim	Exemplary Infringement Analysis Evidence ¹
providing by the smartphone, using the first air interface, information to the entity comprises: performing a financial transaction to pay for one or more items.	point-of-sale terminal). This provision of information includes performing a financial transaction to pay for one or more items. How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. What is Tokenization? Samsung Pay uses network tokenization technology that replaces your real card details with a dynamic digital token that is transmitted instead of your physical card's number. So your transactions remain secure, and your shopping stays safe. Will I receive a receipt after making a purchase with Samsung Pay? When paying with Samsung Pay you will receive a receipt for your purchases just as you would with a physical card. You will receive a notification confirmation about your transaction, but you will not receive a separate physical or digital receipt from Samsung Pay. https://www.samsung.com/uk/samsung-pay/faq/ When you make a payment When you make a payment, you will need to authenticate your identity by using your fingerprint or Samsung Pay PIN before the information can be sent to the payment terminal. The merchant will only receive a token, and your payment information will be kept secure. The token will be sent to the payment network, where it will be decrypted and verified against the information stored in a secure vault on internal networks. Once authenticated, the payment will be approved and sent back to the merchant. Only the payment network and your bank will have information about the transaction. https://www.samsung.com/us/support/answer/ANS00043932/

Claim	Exemplary Infringement Analysis Evidence ¹
	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en

Claim	Exemplary Infringement Analysis Evidence ¹
	Pay in a store Step 1: Wake up & unlock your phone Important: For users with a Pixel 7 or Pixel 7 Pro, Face Unlock is currently not supported for tap to pay transactions. Turn on your screen, then unlock your phone. You don't need to open the Google Wallet app. Tip: In most countries or regions, smaller transactions don't require you to unlock your phone. Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. Step 3: If prompted, follow the on-screen instructions Some stores ask for a PIN or signature. If you're asked, follow the steps on the screen. • Debit cards: Enter the PIN that you set up with your bank. This PIN is different from the one you use to unlock your device. • Credit cards: For larger transactions, sign the receipt or the on-screen signature box. https://support.google.com/wallet/answer/12060043?hl=en#

Claim	Exemplary Infringement Analysis Evidence ¹
	What device tokens are When you pay for something with a physical card — credit, debit or prepaid — the merchant usually charges you through the printed number on the front of your card, known as the Funding Primary Account Number (FPAN). Every time this happens, you provide that number to the merchant, and that number is then sent along to a handful of other parties like the merchant’s bank, the card network (an organization that facilitates transactions between banks and merchants), the payment service provider and more. In contrast, Google Wallet creates a device-specific virtual account number, or device token, for each payment method you add, so your real card number isn’t stored on your device or shared with merchants. Thanks to this tokenization, the only parties who have your actual FPAN when you make a purchase are the bank that issued the card and the card network. What’s more, your device token functions independently from your physical card. It’s linked to your bank account or line of credit, not the card itself. So you can think of a device token as a super-safe messenger between your bank account or line of credit and whoever you’re buying something from. https://blog.google/products/google-pay/device-tokens-google-wallet/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[9.] The method of claim 1, wherein establishing the wireless short-range communications link between the smartphone and	The Accused Products use a method “wherein establishing the wireless short-range communications link between the smartphone and the entity is performed in response to the physiological parameter.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, using a Samsung smartphone to conduct financial transactions via Samsung Pay and/or Google Pay includes establishing the wireless short-range communications link (NFC) between the Samsung smartphone and the entity (the point-of-sale terminal) in response to the physiological parameter (facial recognition, fingerprint, or iris).

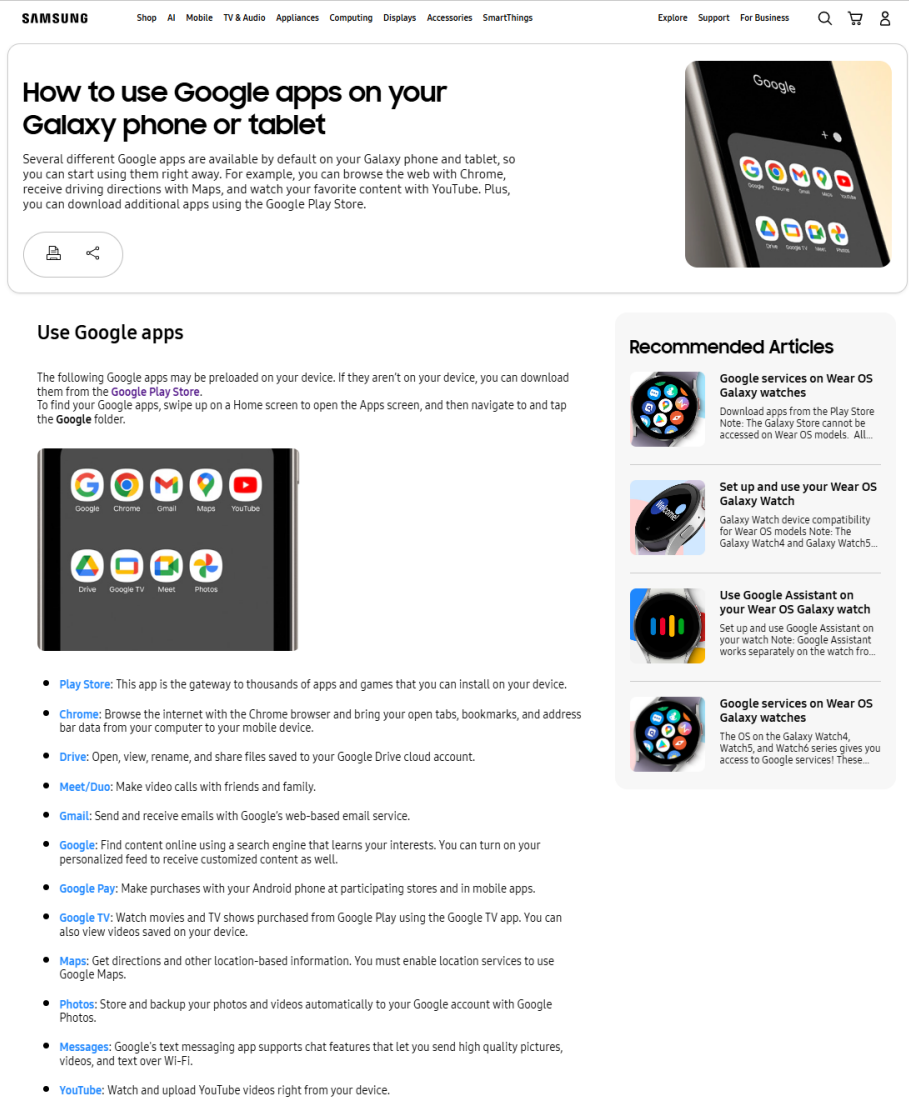
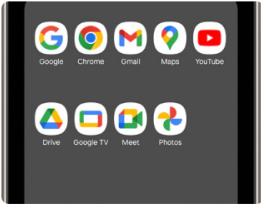
Claim	Exemplary Infringement Analysis Evidence ¹
the entity is performed in response to the physiological parameter.	How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. https://www.samsung.com/uk/samsung-pay/faq/ Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en

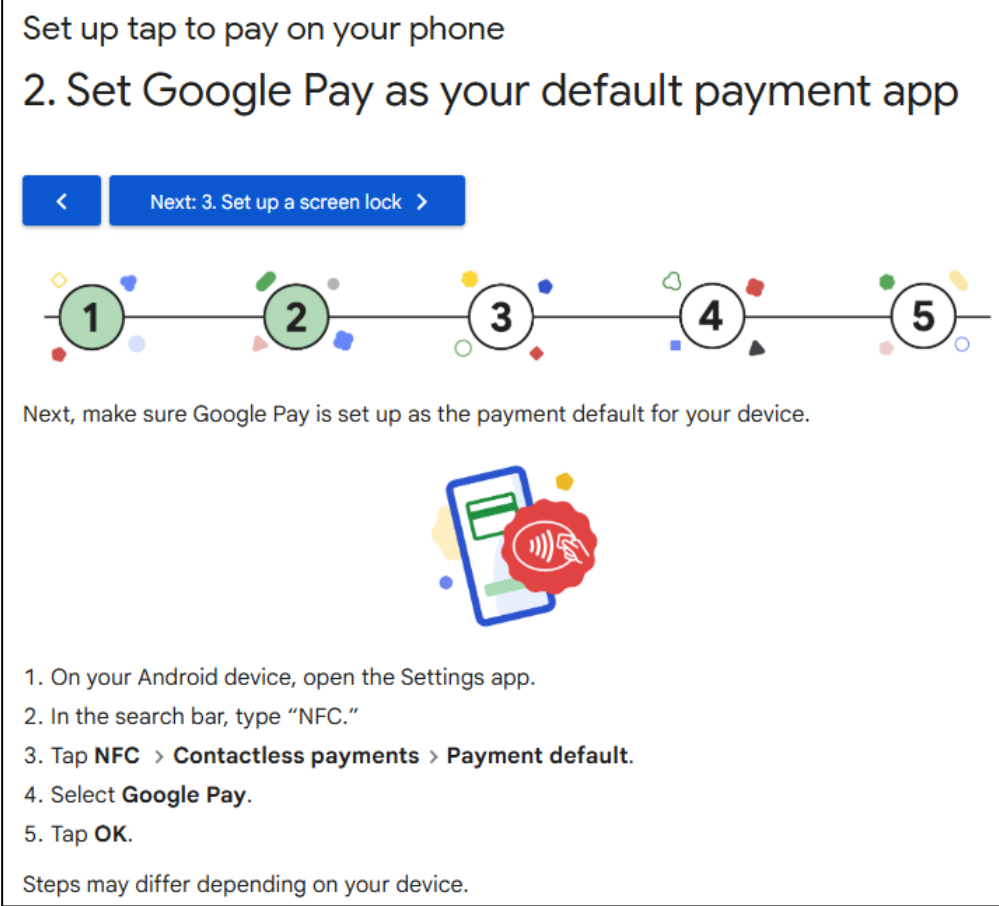
Claim	Exemplary Infringement Analysis Evidence ¹
	Pay in a store Step 1: Wake up & unlock your phone Important: For users with a Pixel 7 or Pixel 7 Pro, Face Unlock is currently not supported for tap to pay transactions. Turn on your screen, then unlock your phone. You don't need to open the Google Wallet app. Tip: In most countries or regions, smaller transactions don't require you to unlock your phone. Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. Step 3: If prompted, follow the on-screen instructions Some stores ask for a PIN or signature. If you're asked, follow the steps on the screen. • Debit cards: Enter the PIN that you set up with your bank. This PIN is different from the one you use to unlock your device. • Credit cards: For larger transactions, sign the receipt or the on-screen signature box. https://support.google.com/wallet/answer/12060043?hl=en#

Claim	Exemplary Infringement Analysis Evidence ¹
	Hello, Welcome to the Google Wallet community. Set up screen lock for tap to pay transactions Important: Coming soon, your credit and debit card won't be charged for retail payments unless you've recently used a verification method, like your fingerprint or PIN. Some users may already need to verify to make a payment. If you're asked to verify it's you, complete verification steps on your device to make a payment. To make contactless payments with Google Wallet, you must use a screen lock on your device for your security. You can unlock Google Wallet with several methods: • PIN • Pattern • Password • Fingerprint • Iris scan • 3D face unlock Tip: Google Wallet doesn't work with 2D face unlock or screen locks like Smart Unlock or Knock to Unlock. Set or change a screen lock 1. Open your phone Settings app. 2. Tap Security. ◦ If you don't find "Security," you can get help at your phone manufacturer support site. 3. Tap Screen lock. ◦ If you already set a lock, you must enter your PIN, pattern, or password before you can choose a different one. 4. Tap the option you'd like to use. Follow the on-screen instructions. https://support.google.com/wallet/thread/267917558/how-to-add-biometric-security-in-order-to-pay?hl=en Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[10.p.] A system comprising:	Each of the Accused Products is "a system."

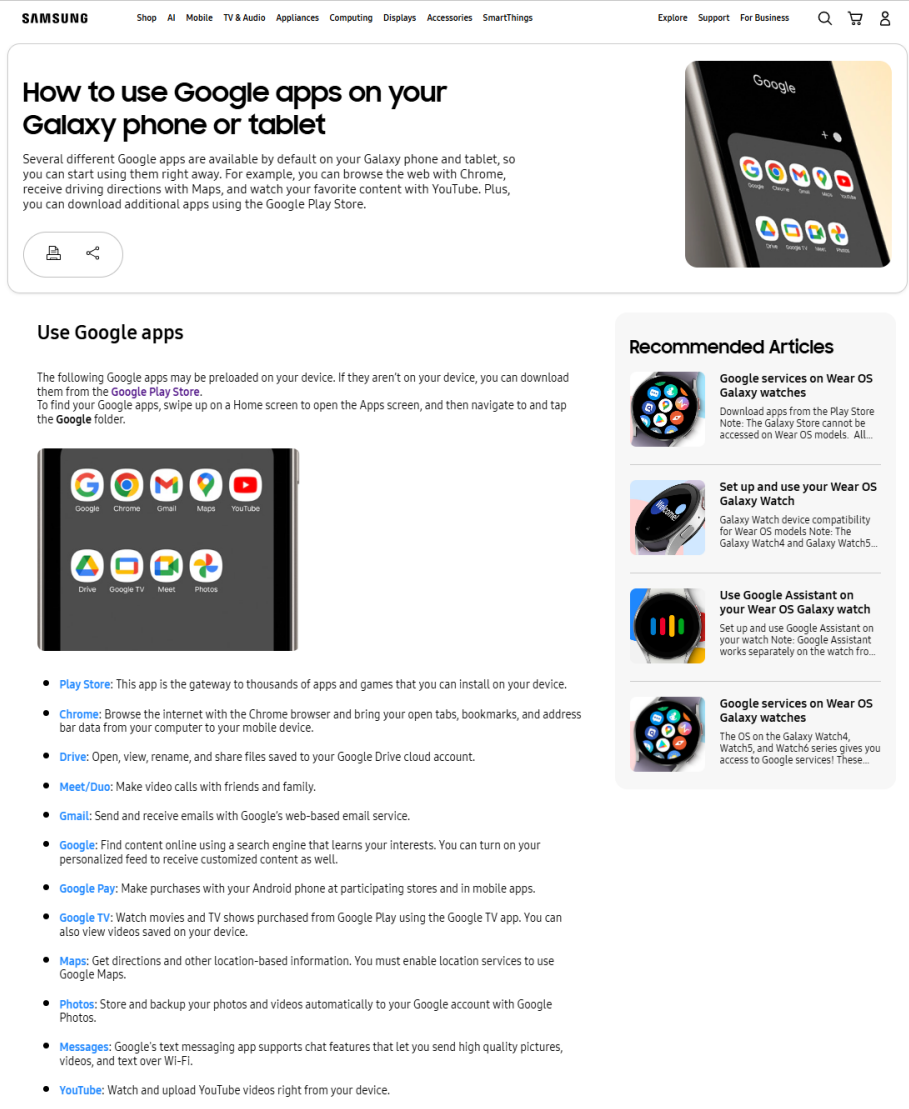
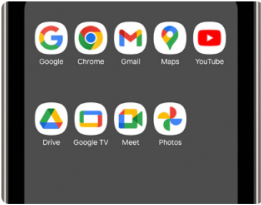
Claim	Exemplary Infringement Analysis Evidence ¹
	Galaxy Z Series Galaxy Z Fold6 Z Flip6 Galaxy Z Fold5 Z Flip5 Galaxy Z Fold4 Z Flip4 Galaxy Z Fold3 Z Flip3 5G Galaxy Z Fold2 5G* Galaxy Z Flip* Galaxy Fold* Galaxy Note Series Galaxy Note20 Note20 Ultra 5G* Galaxy Note10 Lite Galaxy Note10 Note10+* Galaxy Note9* Galaxy Note8* Galaxy Note Fan Edition* Galaxy Note5* Galaxy S Series Galaxy S24 S24+ S24 Ultra Galaxy S23 FE 5G Galaxy S23 S23+ S23 Ultra 5G Galaxy S22 S22+ S22 Ultra 5G Galaxy S21 FE 5G Galaxy S21 S21+ S21 Ultra 5G Galaxy S20 FE S20 FE 5G Galaxy S20 S20+ S20 Ultra* Galaxy S10 Lite Galaxy S10e S10 S10+* Galaxy S9 S9+* Galaxy S8 S8+* Galaxy S7 edge S7* Galaxy S6 edge+* See https://www.samsung.com/my/samsung-pay/supported-devices/ For example, a Samsung smartphone that conducts financial transactions via Samsung Pay and/or Google Pay also satisfies claim 10.

Claim	Exemplary Infringement Analysis Evidence ¹
	A better wallet, already in your hand Samsung Pay lets you to turn your smartphone or watch into a digital wallet. It lets you carry your payment cards on your device for use anywhere¹ contactless is accepted. https://www.samsung.com/uk/samsung-pay/ Settings > How to set up Google Pay All categories Change device All topics  1 Pay with ease using your Samsung Galaxy S10. Google Pay allows you to make payments for purchases you make in-store and online. Follow these steps to learn how to set up Google Pay. 2 Go to the Home screen. To open the menu, swipe up or down on the screen. 3 Choose Google Pay. Previous 1 / 23 Next https://www.t-mobile.com/support/tutorials/device/samsung/galaxy-s10/topic/settings/how-to-set-up-google-pay

Claim	Exemplary Infringement Analysis Evidence ¹
	 SAMSUNG Shop AI Mobile TV & Audio Appliances Computing Displays Accessories SmartThings Explore Support For Business How to use Google apps on your Galaxy phone or tablet Several different Google apps are available by default on your Galaxy phone and tablet, so you can start using them right away. For example, you can browse the web with Chrome, receive driving directions with Maps, and watch your favorite content with YouTube. Plus, you can download additional apps using the Google Play Store. Use Google apps The following Google apps may be preloaded on your device. If they aren't on your device, you can download them from the Google Play Store. To find your Google apps, swipe up on a Home screen to open the Apps screen, and then navigate to and tap the Google folder.  Play Store: This app is the gateway to thousands of apps and games that you can install on your device. Chrome: Browse the Internet with the Chrome browser and bring your open tabs, bookmarks, and address bar data from your computer to your mobile device. Drive: Open, view, rename, and share files saved to your Google Drive cloud account. Meet/Duo: Make video calls with friends and family. Gmail: Send and receive emails with Google's web-based email service. Google: Find content online using a search engine that learns your interests. You can turn on your personalized feed to receive customized content as well. Google Pay: Make purchases with your Android phone at participating stores and in mobile apps. Google TV: Watch movies and TV shows purchased from Google Play using the Google TV app. You can also view videos saved on your device. Maps: Get directions and other location-based information. You must enable location services to use Google Maps. Photos: Store and backup your photos and videos automatically to your Google account with Google Photos. Messages: Google's text messaging app supports chat features that let you send high quality pictures, videos, and text over Wi-Fi. YouTube: Watch and upload YouTube videos right from your device. Recommended Articles Google services on Wear OS Galaxy watches Download apps from the Play Store Note: The Galaxy Store cannot be accessed on Wear OS models. All... Set up and use your Wear OS Galaxy Watch Galaxy Watch device compatibility for Wear OS models Note: The Galaxy Watch4 and Galaxy Watch5... Use Google Assistant on your Wear OS Galaxy watch Set up and use Google Assistant on your watch Note: Google Assistant works separately on the watch fro... Google services on Wear OS Galaxy watches The OS on the Galaxy Watch4, Watch5, and Watch6 series gives you access to Google services! These... https://www.samsung.com/us/support/answer/ANS10002548/

Claim	Exemplary Infringement Analysis Evidence ¹
	Set up tap to pay on your phone 2. Set Google Pay as your default payment app  Next, make sure Google Pay is set up as the payment default for your device.  1. On your Android device, open the Settings app. 2. In the search bar, type "NFC." 3. Tap NFC > Contactless payments > Payment default. 4. Select Google Pay. 5. Tap OK. Steps may differ depending on your device. https://support.google.com/wallet/answer/14187052?sjid=3604572701579461674-NA Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[10.a.] a smartphone that	The Accused Products are "smartphone[s] . . . configured to perform operations."

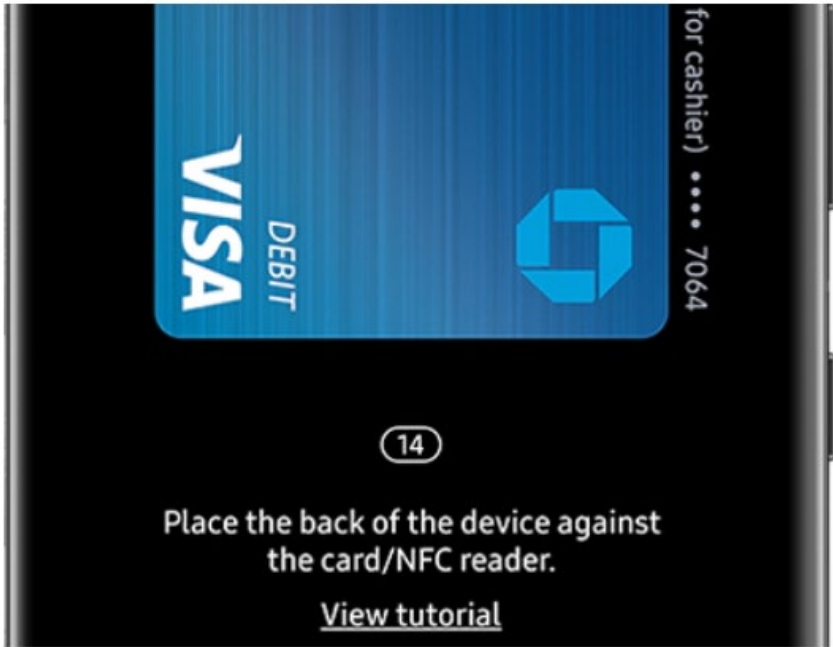
Claim	Exemplary Infringement Analysis Evidence ¹				
is configured to perform operations comprising:	For example, a Samsung smartphone is configured to perform operations such as Samsung Pay and/or Google Pay. Smartphone Samsung Exynos processors for smartphone is designed to deliver a superior experience with powerful performance, energy efficiency, and fast internet connection. Galaxy S22 Ultra Exynos 2200 https://semiconductor.samsung.com/processor/showcase/ Processor <table><tr><td>Chipset</td><td>Qualcomm® Snapdragon® 8 Gen 3 for Galaxy</td></tr><tr><td>Cores</td><td>Octa-core, 1 @ 3.39GHz, 3 @ 3.1GHz, 2 @ 2.9GHz, 2 @ 2.2GHz</td></tr></table> https://www.att.com/buy/phones/samsung-galaxy-s24plus.html Fast, secure payments with Samsung Pay Samsung Pay allows you to tap to pay with your device anywhere NFC is available, making in-store payments quick and secure¹. You can also use Samsung Pay for in-app and online purchases at participating merchants, including Samsung.com. Learn more https://www.samsung.com/us/apps/samsung-wallet/	Chipset	Qualcomm® Snapdragon® 8 Gen 3 for Galaxy	Cores	Octa-core, 1 @ 3.39GHz, 3 @ 3.1GHz, 2 @ 2.9GHz, 2 @ 2.2GHz
Chipset	Qualcomm® Snapdragon® 8 Gen 3 for Galaxy				
Cores	Octa-core, 1 @ 3.39GHz, 3 @ 3.1GHz, 2 @ 2.9GHz, 2 @ 2.2GHz				

Claim	Exemplary Infringement Analysis Evidence ¹
	 SAMSUNG Shop AI Mobile TV & Audio Appliances Computing Displays Accessories SmartThings Explore Support For Business How to use Google apps on your Galaxy phone or tablet Several different Google apps are available by default on your Galaxy phone and tablet, so you can start using them right away. For example, you can browse the web with Chrome, receive driving directions with Maps, and watch your favorite content with YouTube. Plus, you can download additional apps using the Google Play Store. Use Google apps The following Google apps may be preloaded on your device. If they aren't on your device, you can download them from the Google Play Store. To find your Google apps, swipe up on a Home screen to open the Apps screen, and then navigate to and tap the Google folder.  Play Store: This app is the gateway to thousands of apps and games that you can install on your device. Chrome: Browse the Internet with the Chrome browser and bring your open tabs, bookmarks, and address bar data from your computer to your mobile device. Drive: Open, view, rename, and share files saved to your Google Drive cloud account. Meet/Duo: Make video calls with friends and family. Gmail: Send and receive emails with Google's web-based email service. Google: Find content online using a search engine that learns your interests. You can turn on your personalized feed to receive customized content as well. Google Pay: Make purchases with your Android phone at participating stores and in mobile apps. Google TV: Watch movies and TV shows purchased from Google Play using the Google TV app. You can also view videos saved on your device. Maps: Get directions and other location-based information. You must enable location services to use Google Maps. Photos: Store and backup your photos and videos automatically to your Google account with Google Photos. Messages: Google's text messaging app supports chat features that let you send high quality pictures, videos, and text over Wi-Fi. YouTube: Watch and upload YouTube videos right from your device. Recommended Articles Google services on Wear OS Galaxy watches Download apps from the Play Store Note: The Galaxy Store cannot be accessed on Wear OS models. All... Set up and use your Wear OS Galaxy Watch Galaxy Watch device compatibility for Wear OS models Note: The Galaxy Watch4 and Galaxy Watch5... Use Google Assistant on your Wear OS Galaxy watch Set up and use Google Assistant on your watch Note: Google Assistant works separately on the watch fro... Google services on Wear OS Galaxy watches The OS on the Galaxy Watch4, Watch5, and Watch6 series gives you access to Google services! These... https://www.samsung.com/us/support/answer/ANS10002548/

Claim	Exemplary Infringement Analysis Evidence ¹
	Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[10.b.] detecting by the smartphone that a proximity condition is satisfied between the smartphone and an entity;	The Accused Products are configured to perform operations comprising “detecting by the smartphone that a proximity condition is satisfied between the smartphone and an entity.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, when conducting financial transactions via Samsung Pay and/or Google Pay, a Samsung smartphone detects that a proximity condition (through NFC) is satisfied between the Samsung smartphone and an entity such as a point-of-sale terminal. Near Field Communication (NFC) technology allows users to make secure transactions, exchange digital content, and connect electronic devices with a touch. NFC transmissions are short range (from a touch to a few centimetres) and require the devices to be in close proximity. NFC is the technology in contactless cards, and the most common use of NFC technology in your smartphone is making easy payments with Samsung Pay. NFC can also be used to quickly connect with wireless devices and transfer data with Android Beam. https://www.samsung.com/uk/support/mobile-devices/what-is-nfc-and-how-do-i-use-it/ How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. https://www.samsung.com/uk/samsung-pay/faq/

Claim	Exemplary Infringement Analysis Evidence ¹
	Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. https://support.google.com/wallet/answer/12060043?hl=en Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[10.c.] in response to at least the proximity condition having been satisfied between the smartphone and the entity, establishing a	The Accused Products are configured to perform operations comprising “in response to at least the proximity condition having been satisfied between the smartphone and the entity, establishing a wireless short-range communications link between the smartphone and the entity to provide by the smartphone, using a first air interface, information to the entity and to receive by the smartphone information from the entity.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, when conducting financial transactions via Samsung Pay and/or Google Pay, a Samsung smartphone establishes a wireless short-range communications link (such as an NFC link) between the Samsung smartphone and the point-of-sale terminal (the entity). The Samsung smartphone, using NFC (the first air interface), will provide information to the point-of-sale terminal and

Claim	Exemplary Infringement Analysis Evidence ¹
wireless short-range communications link between the smartphone and the entity to provide by the smartphone, using a first air interface, information to the entity and to receive by the smartphone information from the entity;	will receive information from the point-of-sale terminal. Establishing the wireless short-range communications link is in response to at least the proximity condition (through NFC) having been satisfied between the Samsung smartphone and the point-of-sale terminal. Near Field Communication (NFC) technology allows users to make secure transactions, exchange digital content, and connect electronic devices with a touch. NFC transmissions are short range (from a touch to a few centimetres) and require the devices to be in close proximity. NFC is the technology in contactless cards, and the most common use of NFC technology in your smartphone is making easy payments with Samsung Pay. NFC can also be used to quickly connect with wireless devices and transfer data with Android Beam. https://www.samsung.com/uk/support/mobile-devices/what-is-nfc-and-how-do-i-use-it/ How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. https://www.samsung.com/uk/samsung-pay/faq/

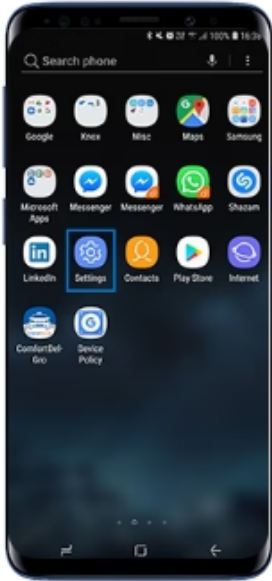
Claim	Exemplary Infringement Analysis Evidence ¹
	 The screenshot displays a Visa Debit card with the Visa logo, the word "DEBIT", and a blue geometric logo. To the right of the card, the text "for cashier) 7064" is visible. Below the card, the number "14" is enclosed in a circle. The text "Place the back of the device against the card/NFC reader." is centered, followed by a link "View tutorial". https://www.samsung.com/us/support/answer/ANS00045102/

Claim	Exemplary Infringement Analysis Evidence ¹
	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en

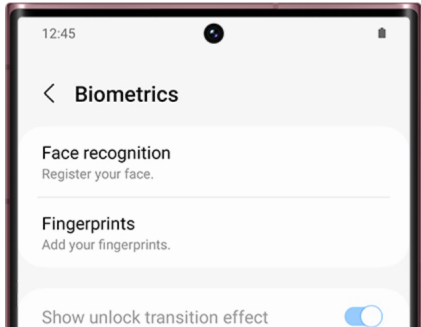
Claim	Exemplary Infringement Analysis Evidence ¹
	Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. https://support.google.com/wallet/answer/12060043?hl=en Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[10.d.] in response to at least the proximity condition having been satisfied between the smartphone and the entity and in response to a physiological	The Accused Products are configured to perform operations comprising “in response to at least the proximity condition having been satisfied between the smartphone and the entity and in response to a physiological parameter, wirelessly providing, using the first air interface, information to the entity and wirelessly receiving, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving a communications service from a wireless network using a second air interface that differs from the first air interface.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, conducting financial transactions via Samsung Pay and/or Google Pay, a Samsung smartphone wirelessly provides, using NFC (the first air interface), information to the point-of-sale terminal and wirelessly receives, using NFC, information from the point-of-sale terminal. The Samsung smartphone, upon satisfying the proximity condition between the Samsung smartphone and the

Claim	Exemplary Infringement Analysis Evidence ¹
parameter, wirelessly providing, using the first air interface, information to the entity and wirelessly receiving, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving a communications service from a wireless network using a second air interface that differs from the first air interface; and	point-of-sale terminal, and in response to a physiological parameter (that is, recognizing and accepting a user's face, fingerprint, or iris), provides at least a transaction-specific dynamic digital token code to the point-of sale terminal via NFC. The Samsung smartphone receives confirmation of the transaction from the point-of-sale terminal via NFC. These providing and receiving actions occur independently of, and absent involving the point-of-sale terminal in, the Samsung smartphone's receipt of the communications service from the wireless network using a cellular data network or WiFi (the second air interface). How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. What is Tokenization? Samsung Pay uses network tokenization technology that replaces your real card details with a dynamic digital token that is transmitted instead of your physical card's number. So your transactions remain secure, and your shopping stays safe. Will I receive a receipt after making a purchase with Samsung Pay? When paying with Samsung Pay you will receive a receipt for your purchases just as you would with a physical card. You will receive a notification confirmation about your transaction, but you will not receive a separate physical or digital receipt from Samsung Pay. https://www.samsung.com/uk/samsung-pay/faq/

Claim	Exemplary Infringement Analysis Evidence ¹
	When you make a payment When you make a payment, you will need to authenticate your identity by using your fingerprint or Samsung Pay PIN before the information can be sent to the payment terminal. The merchant will only receive a token, and your payment information will be kept secure. The token will be sent to the payment network, where it will be decrypted and verified against the information stored in a secure vault on internal networks. Once authenticated, the payment will be approved and sent back to the merchant. Only the payment network and your bank will have information about the transaction. https://www.samsung.com/us/support/answer/ANS00043932/ Is Samsung Pay blocked by entering the PIN or fingerprint incorrectly? Samsung Pay allows you to make 5 attempts to unlock the application by authenticating with their IRIS (available on selected phones), fingerprint or PIN. After 5 attempts, the device then requests a security password (also 5 attempts). Thereafter, using an incorrect security password locks the phone for 30 seconds. The process is repeated 20 times (each block is longer) and then all data is deleted. https://www.samsung.com/uk/samsung-pay/faq/

Claim	Exemplary Infringement Analysis Evidence ¹
	Face recognition lets you unlock your phone in one quick move. To use Face Recognition, follow these steps: 1 Tap Settings  https://www.samsung.com/sg/support/mobile-devices/how-to-use-face-recognition-to-unlock-samsung-mobile-device/

Claim	Exemplary Infringement Analysis Evidence ¹
	Set up and use fingerprint unlock  It's time to set up fingerprint security and register your prints. The steps will be almost exactly the same, no matter what device you have. The only difference will be where the fingerprint sensor is located. 1 Navigate to Settings, then tap Security and privacy, and then tap Biometrics. Tap Fingerprints. 2 Enter your lock screen credentials. If you do not have a screen lock set up, you may be prompted to create one at this point. When you're ready, read the information, and then tap Continue. 3 Tap Register, and then use the on-screen prompts to register your fingerprint. When registering your fingerprint, make sure to fully cover the fingerprint sensor with your finger to prevent strong light from entering the fingerprint sensor. When you're finished, tap Done. 4 Next, make sure that the switch next to Fingerprint unlock is turned on. Note: If the fingerprint sensor on your device is located on the Side key or below the Side key, you can disable the "Fingerprint always on" option to prevent accidental unlocks. 5 To unlock your device using your finger, tap the screen or press the Power button or Side button. Then, place the registered finger on the fingerprint scanner, wherever it's located. The device will automatically unlock if it recognizes your fingerprint. https://www.samsung.com/us/support/answer/ANS10001613/

Claim	Exemplary Infringement Analysis Evidence ¹
	Set up Facial recognition Note: To use Face recognition, you need to set a PIN, Pattern, or Password first. Your face is unique to you, which makes it one of the best security features in your arsenal. 1. From Settings, swipe to and tap Security and privacy, and then tap Biometrics. 2. Tap Face recognition, and then enter your PIN or password. If you do not already have a secure screen lock, you will need to set one up. 3. Tap Continue, and then hold the phone 8-20 inches away as you position your face inside the circle. Hold the position until the progress bar reaches 100%. You may be prompted to remove your glasses to finish the process. 4. When you're done, adjust your desired settings.  https://www.samsung.com/us/support/answer/ANS00062630/

Claim	Exemplary Infringement Analysis Evidence ¹
	How to enable Iris authentication for Samsung Pay? Last Update date : Oct 08, 2020 The iris recognition feature uses the unique characteristics of your irises to strengthen the security of your device. Once your irises are registered, you can set the device to enable Iris authentication for Samsung Pay. https://www.samsung.com/sg/support/mobile-devices/how-to-enable-iris-authentication-for-samsung-pay/

Claim	Exemplary Infringement Analysis Evidence ¹
	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en

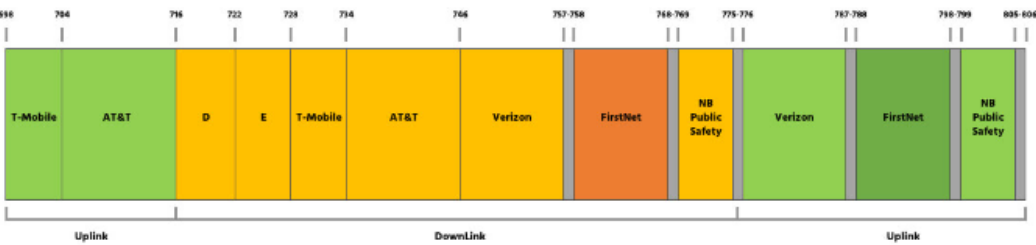
Claim	Exemplary Infringement Analysis Evidence ¹
	Hello, Welcome to the Google Wallet community. Set up screen lock for tap to pay transactions Important: Coming soon, your credit and debit card won't be charged for retail payments unless you've recently used a verification method, like your fingerprint or PIN. Some users may already need to verify to make a payment. If you're asked to verify it's you, complete verification steps on your device to make a payment. To make contactless payments with Google Wallet, you must use a screen lock on your device for your security. You can unlock Google Wallet with several methods: • PIN • Pattern • Password • Fingerprint • Iris scan • 3D face unlock Tip: Google Wallet doesn't work with 2D face unlock or screen locks like Smart Unlock or Knock to Unlock. Set or change a screen lock 1. Open your phone Settings app. 2. Tap Security. ◦ If you don't find "Security," you can get help at your phone manufacturer support site. 3. Tap Screen lock. ◦ If you already set a lock, you must enter your PIN, pattern, or password before you can choose a different one. 4. Tap the option you'd like to use. Follow the on-screen instructions. https://support.google.com/wallet/thread/267917558/how-to-add-biometric-security-in-order-to-pay?hl=en

Claim	Exemplary Infringement Analysis Evidence ¹
	Pay in a store Step 1: Wake up & unlock your phone Important: For users with a Pixel 7 or Pixel 7 Pro, Face Unlock is currently not supported for tap to pay transactions. Turn on your screen, then unlock your phone. You don't need to open the Google Wallet app. Tip: In most countries or regions, smaller transactions don't require you to unlock your phone. Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. Step 3: If prompted, follow the on-screen instructions Some stores ask for a PIN or signature. If you're asked, follow the steps on the screen. • Debit cards: Enter the PIN that you set up with your bank. This PIN is different from the one you use to unlock your device. • Credit cards: For larger transactions, sign the receipt or the on-screen signature box. https://support.google.com/wallet/answer/12060043?hl=en#

Claim	Exemplary Infringement Analysis Evidence ¹
	What device tokens are When you pay for something with a physical card — credit, debit or prepaid — the merchant usually charges you through the printed number on the front of your card, known as the Funding Primary Account Number (FPAN). Every time this happens, you provide that number to the merchant, and that number is then sent along to a handful of other parties like the merchant’s bank, the card network (an organization that facilitates transactions between banks and merchants), the payment service provider and more. In contrast, Google Wallet creates a device-specific virtual account number, or device token, for each payment method you add, so your real card number isn’t stored on your device or shared with merchants. Thanks to this tokenization, the only parties who have your actual FPAN when you make a purchase are the bank that issued the card and the card network. What’s more, your device token functions independently from your physical card. It’s linked to your bank account or line of credit, not the card itself. So you can think of a device token as a super-safe messenger between your bank account or line of credit and whoever you’re buying something from. https://blog.google/products/google-pay/device-tokens-google-wallet/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[10.e.] wirelessly receiving, using the second air interface, the communications service from the wireless network absent involving the entity, absent	The Accused Products are configured to perform operations comprising “wirelessly receiving, using the second air interface, the communications service from the wireless network absent involving the entity, absent providing information to the entity, and absent receiving information from the entity.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, when conducting financial transactions via Samsung Pay and/or Google Pay, a Samsung smartphone wirelessly receives, using a cellular data network or WiFi (the second air interface), the communications service from the wireless network. The receiving of the communications service occurs absent involving the point-of-sale terminal (the entity), absent the Samsung smartphone

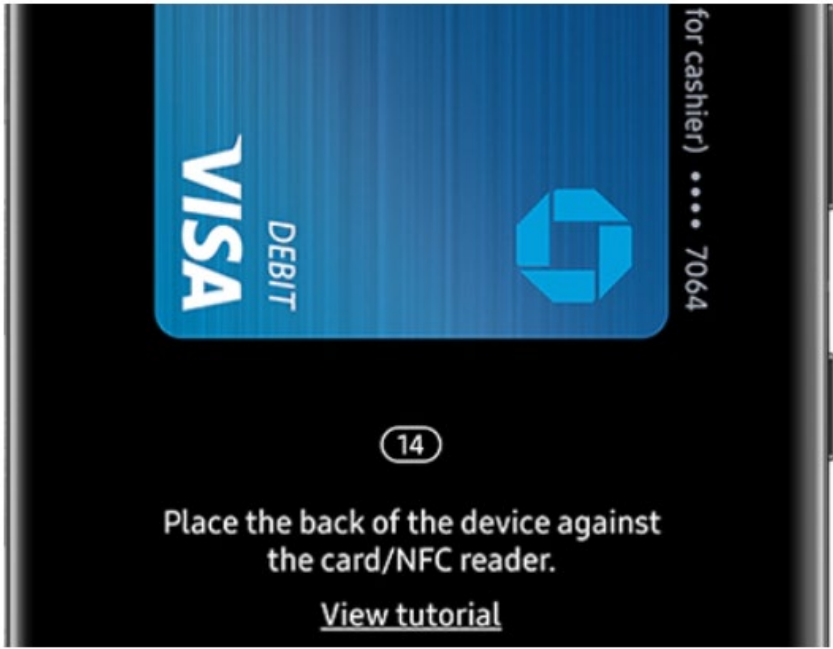
Claim	Exemplary Infringement Analysis Evidence ¹
providing information to the entity, and absent receiving information from the entity,	providing information to the point-of-sale terminal, and absent the Samsung smartphone receiving information from the point-of-sale terminal. For example, the Samsung smartphone can continue to receive the communications service while connected with the point-of-sale terminal via NFC. How to enable or disable Mobile data on your Galaxy phone Last Update date : Nov 17, 2021 Mobile data is an internet connection provided by a mobile network provider. You can https://www.samsung.com/latin_en/support/mobile-devices/how-to-enable-or-disable-mobile-data-on-your-galaxy-phone/ What is mobile data & how do I turn it on or off Mobile data is the internet connectivity provided by your mobile network provider. While your phone will automatically switch to Wi-Fi if a network is available, you can manually control your mobile data use by enabling and disabling it. You can also enable Data saver to prevent mobile data usage by apps that are running in the background. If you have disabled mobile data and would like to activate Wifi calling, you can find out more here. https://www.samsung.com/uk/support/mobile-devices/how-do-i-enable-or-disable-mobile-data/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[10.f.] wherein the wireless	The Accused Products are configured to perform operations comprising “wherein the wireless short-range communications link used by the first air interface is based upon unlicensed frequencies.”

Claim	Exemplary Infringement Analysis Evidence ¹
short-range communications link used by the first air interface is based upon unlicensed frequencies,	For example, the wireless short-range communications link used by NFC (the first air interface) is based upon the unlicensed 13.56 MHz frequency. How Does Near-Field Communication Work? Near-field communication is a wireless connectivity technology that is based on RFID. It uses induction coupling to enable communication between two compatible devices that are close. It enables users to automatically transfer data bi-directionally between two NFC-enabled devices by just touching both of them or by bringing them close to each other. NFC operates at the globally unlicensed 13.56 MHz frequency. It has three different data transfer rates – i.e., 212 kbit/s, 106 kbit/s, and 424 kbit/s. https://www.spiceworks.com/tech/networking/articles/what-is-near-field-communication/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[10.g.] wherein the second air interface uses a wireless communications link that is based upon licensed frequencies, and	The Accused Products are configured to perform operations “wherein the second air interface uses a wireless communications link that is based upon licensed frequencies.” For example, the cellular data network or WiFi (the second air interface) uses a wireless communication link that is based upon frequencies licensed from the Federal Communications Commission.

Claim	Exemplary Infringement Analysis Evidence ¹
	Why Do Cellular Carriers Have Multiple Frequencies?  Cellular carriers need licenses from the FCC to use specific cellular bands. Usually, one license within a large band only gives carriers rights to a small section. This is known as a block or channel. As you'll notice later, many carriers utilize similar bands. However, they operate on different blocks to avoid interfering with each other. Smaller bands, on the other hand, are not made up of multiple blocks and are usually exclusive to one carrier. https://www.wilsonamplifiers.com/blog/frequencies-by-provider/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[10.h.] wherein the first air interface is not involved in providing the communications service to the smartphone.	The Accused Products are configured to perform operations comprising “wherein the first air interface is not involved in providing the communications service to the smartphone.” For example, NFC (the first air interface) is not involved in providing the communications service to the Samsung smartphone.

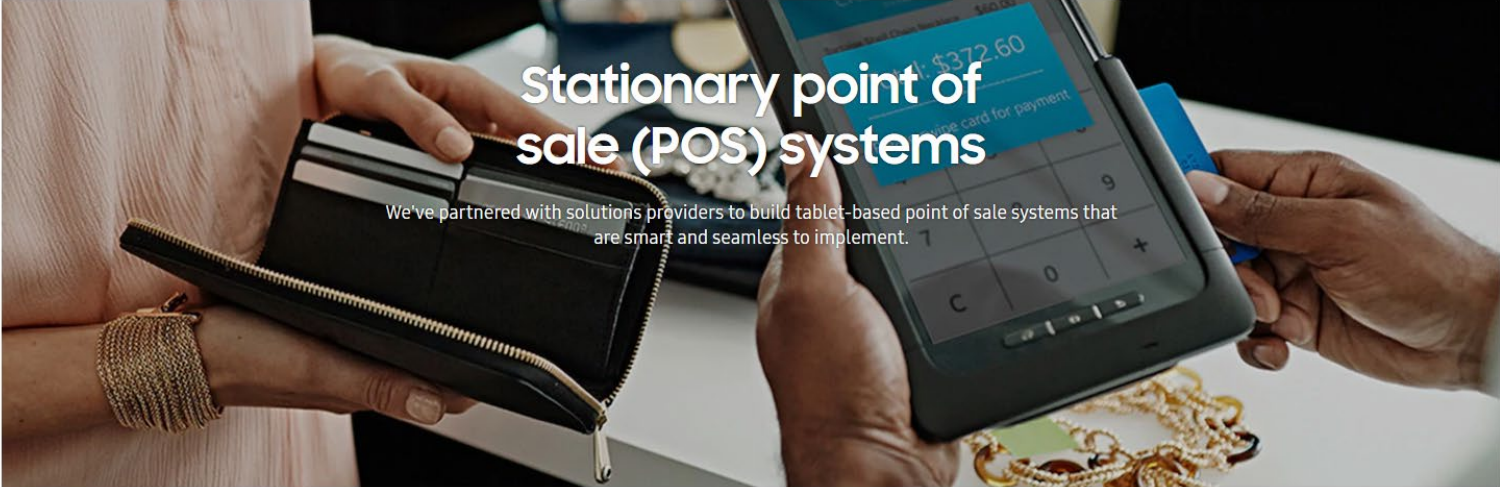
Claim	Exemplary Infringement Analysis Evidence ¹
	How to enable or disable Mobile data on your Galaxy phone Last Update date : Nov17, 2021 Mobile data is an internet connection provided by a mobile network provider. You can https://www.samsung.com/latin_en/support/mobile-devices/how-to-enable-or-disable-mobile-data-on-your-galaxy-phone/ What is mobile data & how do I turn it on or off Mobile data is the internet connectivity provided by your mobile network provider. While your phone will automatically switch to Wi-Fi if a network is available, you can manually control your mobile data use by enabling and disabling it. You can also enable Data saver to prevent mobile data usage by apps that are running in the background. If you have disabled mobile data and would like to activate Wifi calling, you can find out more here. https://www.samsung.com/uk/support/mobile-devices/how-do-i-enable-or-disable-mobile-data/ Background on NFC Technology Based on the 13.56 MHz wireless communication protocol, the NFC technology allows wireless communication between two NFC-compliant devices up to 10 centimeters apart. Very convenient, this connection does not rely on Wi-Fi, 4G, LTE or similar technologies, and it doesn't cost anything to use: no need for the user to be skilled, does not need batteries, does not emit RF waves in the absence of a reader (it is a passive technology), NFC is within range everyone's range thanks to the massive deployment of NFC in smartphones. https://www.st.com/content/st_com/en/support/learning/essentials-and-insights/connectivity/nfc.html

Claim	Exemplary Infringement Analysis Evidence ¹
	Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[11.] The system according to claim 10, further comprising the entity.	Each of the Accused Products comprises a system that “further compris[es] the entity.” Samsung smartphones can operate in conjunction with Samsung point-of-sale terminals. How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. https://www.samsung.com/uk/samsung-pay/faq/

Claim	Exemplary Infringement Analysis Evidence ¹
	 https://www.samsung.com/us/support/answer/ANS00045102/

Claim	Exemplary Infringement Analysis Evidence ¹
	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en

Claim	Exemplary Infringement Analysis Evidence ¹
	 Now playing: Samsung Kiosk with Windows 10 IoT Enterprise Offering security, flexibility, and seamless integration into your business. Shop now Exceptional self-service out of the box Samsung is setting the new standard for self-service with a flexible, all-in-one kiosk solution that is accessible for any business. The Samsung Kiosk is ready out of the box and simple to install, operate, and maintain—helping your business provide a modern and secure customer experience, faster. Streamline IT operations, boost revenue, and decrease total cost of ownership with Samsung. https://www.samsung.com/us/business/displays/interactive/kiosk/?msocid=11f87435ebd96d0b25a660c9ea286c88 The Samsung Windows All-In-One Kiosk helps brands institute a self-service checkout option quickly, easily and affordably. The sleek, all-in-one solution comes with a Windows operating system already installed. Featuring an interactive touch screen display printer, scanner, payment processor and more, Samsung Kiosk with Windows OS is suitable for businesses of any size. Here's how this innovative solution can help your retail business boost revenue, increase operating margins, and enhance the customer journey. https://insights.samsung.com/2023/06/28/6-ways-samsung-kiosk-gives-retailers-an-all-in-one-self-service-solution-2/

Claim	Exemplary Infringement Analysis Evidence ¹
	POS Systems & Solutions Overview Customize your POS solution Retail Insights Contact us  Stationary point of sale (POS) systems We've partnered with solutions providers to build tablet-based point of sale systems that are smart and seamless to implement. Discover next-generation payment solutions • Android™ allows retailers to take advantage of .api integration for smarter POS systems • Native mobile operating systems like Android™ make integration of stationary POS to mobile POS seamless to implement • Samsung Knox™ custom configuration enables retailers to lock down tablets for unparalleled control over the device • A semi-integrated EPOS solution, where the payment terminal transmits the secure data and not the tablet, allows you to upgrade to accept new forms of payment, such as NFC and EMV. https://www.samsung.com/us/business/solutions/industries/retail/stationary-point-of-sale-pos-systems/?msockid=11f87435ebd96d0b25a660c9ea286c88

Claim	Exemplary Infringement Analysis Evidence ¹
	Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[12.a.] The system of claim 10, wherein said wirelessly providing by the smartphone, using the first air interface, information to the entity and wirelessly receiving by the smartphone, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving by the smartphone the communications service from the wireless network using the second air interface is	The Accused Products are configured to perform operations including “wherein said wirelessly providing by the smartphone, using the first air interface, information to the entity and wirelessly receiving by the smartphone, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving by the smartphone the communications service from the wireless network using the second air interface is performed over a first time interval.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, a Samsung smartphone conducting financial transactions via Samsung Pay and/or Google Pay is configured to perform operations including providing, using the first air interface (NFC), information to the point-of-sale terminal (the entity), and wirelessly receiving information, using the first air interface (NFC) information from the point-of-sale terminal, and doing so independently of, and absent involving the entity (the point-of-sale terminal) in, the smartphone receiving the communications service from the wireless network using the second air interface (a cellular data network or WiFi), which is performed over a first time interval. Fast, secure payments with Samsung Pay Samsung Pay allows you to tap to pay with your device anywhere NFC is available, making in-store payments quick and secure¹. You can also use Samsung Pay for in-app and online purchases at participating merchants, including Samsung.com. Learn more https://www.samsung.com/us/apps/samsung-wallet/

Claim	Exemplary Infringement Analysis Evidence ¹
performed over a first time interval;	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en Background on NFC Technology Based on the 13.56 MHz wireless communication protocol, the NFC technology allows wireless communication between two NFC-compliant devices up to 10 centimeters apart. Very convenient, this connection does not rely on Wi-Fi, 4G, LTE or similar technologies, and it doesn't cost anything to use: no need for the user to be skilled, does not need batteries, does no emit RF waves in the absence of a reader (it is a passive technology), NFC is within range everyone's range thanks to the massive deployment of NFC in smartphones. https://www.st.com/content/st_com/en/support/learning/essentials-and-insights/connectivity/nfc.html Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.

Claim	Exemplary Infringement Analysis Evidence ¹
[12.b.] wherein said wirelessly receiving by the smartphone, using the second air interface, the communications service from the wireless network absent involving the entity, absent providing by the smartphone information to the entity, and absent receiving by the smartphone information from the entity is performed over a second time interval; and	The Accused Products are configured to perform operations including “wherein said wirelessly receiving by the smartphone, using the second air interface, the communications service from the wireless network absent involving the entity, absent providing by the smartphone information to the entity, and absent receiving by the smartphone information from the entity is performed over a second time interval.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, a Samsung smartphone conducting financial transactions via Samsung Pay and/or Google Pay is configured to perform operations including wirelessly receiving by the Samsung smartphone, using the second air interface (a cellular data network or WiFi), the communications service from the wireless network absent involving the entity (the point-of-sale terminal), absent providing information to the entity, and absent receiving information from the entity, which is performed over a second time interval. The image is a screenshot of a Samsung support page. It features a title 'How to enable or disable Mobile data on your Galaxy phone' in a large, bold, black font. Below the title, in a smaller font, it says 'Last Update date : Nov17, 2021'. At the bottom of the screenshot, there is a line of text: 'Mobile data is an internet connection provided by a mobile network provider. You can'. https://www.samsung.com/latin_en/support/mobile-devices/how-to-enable-or-disable-mobile-data-on-your-galaxy-phone/

Claim	Exemplary Infringement Analysis Evidence ¹
	What is mobile data & how do I turn it on or off Mobile data is the internet connectivity provided by your mobile network provider. While your phone will automatically switch to Wi-Fi if a network is available, you can manually control your mobile data use by enabling and disabling it. You can also enable Data saver to prevent mobile data usage by apps that are running in the background. If you have disabled mobile data and would like to activate Wifi calling, <a data-bbox="1094 576 1339 602" href="#">you can find out more here. <a data-bbox="390 625 1591 657" href="https://www.samsung.com/uk/support/mobile-devices/how-do-i-enable-or-disable-mobile-data/">https://www.samsung.com/uk/support/mobile-devices/how-do-i-enable-or-disable-mobile-data/ Background on NFC Technology Based on the 13.56 MHz wireless communication protocol, the NFC technology allows <a data-bbox="1024 776 1199 802" href="#">wireless communication between two NFC-compliant devices up to 10 centimeters apart. Very convenient, this connection does not rely on Wi-Fi, 4G, LTE or similar technologies, and it doesn't cost anything to use: no need for the user to be skilled, does not need batteries, does not emit RF waves in the absence of a reader (it is a passive technology), NFC is within range everyone's range thanks to the massive deployment of <a data-bbox="926 917 1079 943" href="#">NFC in smartphones. <a data-bbox="390 961 1661 993" href="https://www.st.com/content/st_com/en/support/learning/essentials-and-insights/connectivity/nfc.html">https://www.st.com/content/st_com/en/support/learning/essentials-and-insights/connectivity/nfc.html Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[12.c.] wherein the first and second time intervals are non-overlapping with one another.	The Accused Products are configured to perform operations including “wherein the first and second time intervals are non-overlapping with one another.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, a Samsung smartphone

Claim	Exemplary Infringement Analysis Evidence ¹
	conducting financial transactions via Samsung Pay and/or Google Pay is configured to perform operations including having the first and second time intervals not overlapping with one another. Do I need to have an active internet connection for Samsung Wallet to work? Samsung Wallet requires an active internet connection when adding or removing a payment card and to download transaction history. You can connect via a Wi-Fi network or your mobile data connection. When you are using Samsung Pay/Wallet to make a purchase, no internet connection is needed. However, some networks will limit you to 10 transactions during a period without internet access, after which Samsung Wallet will require an active internet connection. We recommend connecting to the internet at least once per day to ensure Samsung Wallet stays up-to-date. https://www.samsung.com/us/support/answer/ANS10002586/?msocid=11f87435ebd96d0b25a660c9ea286c88

View transaction history

1. Open Google Pay .
2. Under "Manage your Money," click **See transaction history**.
3. Here, you can click on any transaction to see the detailed transaction page.

Troubleshoot to check your previous transaction history

Your transaction history only contains those made through Google Pay and not all UPI or banking transactions. If you can't view your Google Pay transaction history, do the next steps.

Step 1: Update Google Pay

To check for updates, go to the Play Store or App Store.

Step 2: Check email address for Google Pay

If you registered more than one email address for your Google Pay account, go through the email selection steps again.

1. Open Google Pay .
2. Select your preferred language.
3. Enter your 10 digit phone number.
4. To accept all in-app permissions, tap **Allow**.
5. Enter the Google account registered to your mobile device and tap **Continue**. **Tip:** You can also add a new Google account.
6. To secure your Google Pay app , select **Use screen lock** or **Use Google PIN**.
Tip: Under screen lock, you can choose pattern lock, fingerprint sensor, or passcode.
7. Add a bank account.

If you used only one email address to register a Google Pay account, wait for 3 to 4 hours then try to check your transaction history again. If you can't check it, it can be due to poor cellular reception or network coverage.

<https://support.google.com/pay/india/answer/7430307?hl=en#:~:text=View%20transaction%20history%201%20Open%20Google%20Pay%20.,any%20transaction%20to%20see%20the%20detailed%20transaction%20page>

Claim	Exemplary Infringement Analysis Evidence ¹
	Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[13.a.] The system of claim 10, wherein the wireless short-range link that is based upon unlicensed frequencies is further based upon a Time Division Duplex (TDD) protocol, and	The Accused Products are configured to perform operations including “wherein the wireless short-range link that is based upon unlicensed frequencies is further based upon a Time Division Duplex (TDD) protocol.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, a Samsung smartphone conducting financial transactions via Samsung Pay and/or Google Pay is configured to perform operations including communicating over the short-range link between the Samsung smartphone and the entity that is based upon unlicensed frequencies. How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you’d usually tap your physical card to complete the transaction. https://www.samsung.com/uk/samsung-pay/faq/

Claim	Exemplary Infringement Analysis Evidence ¹
	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en How Does Near-Field Communication Work? Near-field communication is a wireless connectivity technology that is based on RFID. It uses induction coupling to enable communication between two compatible devices that are close. It enables users to automatically transfer data bi-directionally between two NFC-enabled devices by just touching both of them or by bringing them close to each other. NFC operates at the globally unlicensed 13.56 MHz frequency. It has three different data transfer rates – i.e., 212 kbit/s, 106 kbit/s, and 424 kbit/s. https://www.spiceworks.com/tech/networking/articles/what-is-near-field-communication/

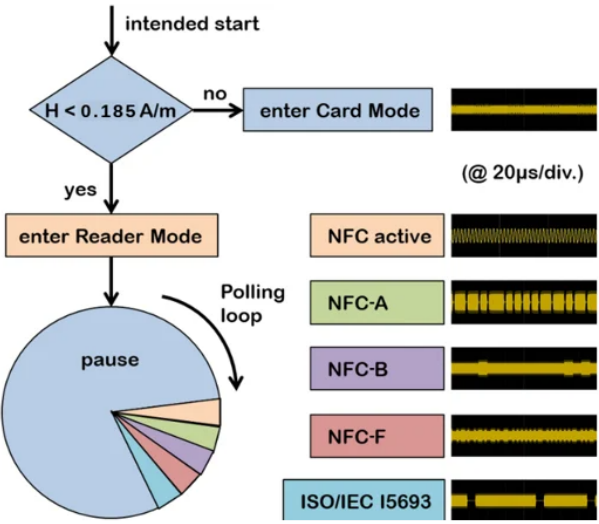
Claim	Exemplary Infringement Analysis Evidence ¹
	The short-range link between the Samsung smartphone and the entity is further based upon a Time Division Duplex protocol. NFC uses a time division duplex protocol. NFC is a short-range half duplex communication technology which provide secure communication between devices in near field region. Near field communication, is a technology that allows two devices in close range to securely exchange data wirelessly. NFC is a short-range (< 10 cm) wireless connectivity technology that operates at high frequency (HF) range with low bandwidth of radio waves, mainly at 13.56 MHz [13]. NFC comprises of three basic components - an antenna, a reader, and a tag. A reader (transmitter) sends a https://www.intechopen.com/chapters/75600 What Does Time Division Duplex Mean? Time division duplex (TDD) refers to duplex communication links where uplink is separated from downlink by the allocation of different time slots in the same frequency band. It is a transmission scheme that allows asymmetric flow for uplink and downlink data transmission. Users are allocated time slots for uplink and downlink transmission. Time division multiplexing separates uplink and downlink signals by matching full duplex communication over a half-duplex communication link. This method is highly advantageous in case there is an asymmetry of uplink and downlink data rates. TDD divides a data stream into frames and assigns different time slots to forward and reverse transmissions, thereby allowing both types of transmissions to share the same transmission medium. https://www.techopedia.com/definition/27019/time-division-duplex-tdd Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[13.b.] wherein the second air interface that uses a wireless	The Accused Products are configured to perform operations including “wherein the second air interface that uses a wireless communications link that is based upon licensed frequencies is further based upon an Orthogonal Frequency Division Multiplexed (OFDM) and/or Orthogonal Frequency Division Multiple Access (OFDMA) protocol.

Claim	Exemplary Infringement Analysis Evidence ¹
communications link that is based upon licensed frequencies is further based upon an Orthogonal Frequency Division Multiplexed (OFDM) and/or Orthogonal Frequency Division Multiple Access (OFDMA) protocol.	On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, a Samsung smartphone conducting financial transactions via Samsung Pay and/or Google Pay is configured to perform operations including wirelessly communicating over a second air interface (cellular network or WiFi) that uses a wireless communications link that is based upon licensed frequencies is further based upon an Orthogonal Frequency Division Multiplexed (OFDM) and/or Orthogonal Frequency Division Multiple Access (OFDMA) protocol. Is OFDMA used in 5G or other cellular networks? Yes. OFDMA is used in the air interface stage of 5G New Radio (5G NR), which allows for mobile connectivity. OFDM, the older technology, is one of the primary enabling technologies of 3G and 4G cellular service. Where is OFDMA used? OFDMA technology can be applied anywhere data is sent along radio waves, including the: • Mobility mode of the IEEE 802.16 wireless standard known as WiMAX • Wireless LAN (WLAN) standard IEEE 802.11ax (Wi-Fi 6) • IEEE 802.20 mobile wireless metropolitan-area network (WMAN) standard • Downlink of the 3GPP Long-Term Evolution (LTE) fourth-generation mobile broadband standard (4G) https://www.cisco.com/c/en/us/products/wireless/what-is-ofdma.html#~q-a Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[14.] The system of claim 10, wherein said detecting by the smartphone that a proximity	The Accused Products are configured to perform operations including “wherein said detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity is based, at least in part, on receiving a short-range signal from the entity over the first air interface.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, a Samsung smartphone

Claim	Exemplary Infringement Analysis Evidence ¹
condition is satisfied between the smartphone and the entity is based, at least in part, on receiving a short-range signal from the entity over the first air interface.	conducting financial transactions via Samsung Pay and/or Google Pay is configured to perform operations including receiving a short-range signal (an NFC field) from the entity (the point-of-sale terminal) over the first air interface (NFC) which forms at least in part the basis of detecting by the Samsung smartphone that a proximity condition is satisfied between the smartphone and the entity. How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. https://www.samsung.com/uk/samsung-pay/faq/

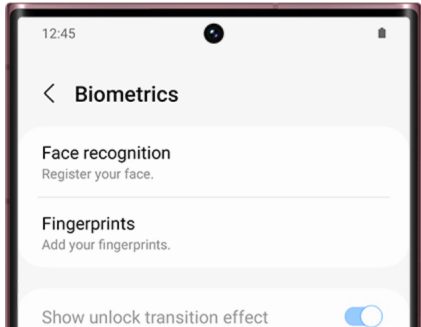
Claim	Exemplary Infringement Analysis Evidence ¹
	Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en How Does Near-Field Communication Work? Near-field communication is a wireless connectivity technology that is based on RFID. It uses induction coupling to enable communication between two compatible devices that are close. It enables users to automatically transfer data bi-directionally between two NFC-enabled devices by just touching both of them or by bringing them close to each other. NFC operates at the globally unlicensed 13.56 MHz frequency. It has three different data transfer rates – i.e., 212 kbit/s, 106 kbit/s, and 424 kbit/s. https://www.spiceworks.com/tech/networking/articles/what-is-near-field-communication/

Claim	Exemplary Infringement Analysis Evidence ¹
	Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[15.] The system of claim 14, wherein said detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity is based, at least in part, on a measurement of signal strength of the short-range signal.	The Accused Products are configured to perform operations including “wherein said detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity is based, at least in part, on a measurement of signal strength of the short-range signal.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, a Samsung smartphone conducting financial transactions via Samsung Pay and/or Google Pay is configured to perform operations including detecting by the Samsung smartphone that a proximity condition is satisfied between the smartphone and the entity (the point-of-sale terminal), which is based, at least in part, on a measurement of signal strength of the short-range signal (the NFC field).

Claim	Exemplary Infringement Analysis Evidence ¹
	2. The Polling Loop If you switch on the NFC function in your mobile phone, the integrated NFC interface will initially listen to the only available channel, at 13.56 MHz. If there is already a reader transmitting a continuous-wave (CW) carrier signal—e.g., if the phone is close to an active payment terminal reader—the NFC interface is allowed to become active only in the so-called Card Mode, meaning it acts as a transponder. This “listen before talk” rule prevents two NFC devices from interfering with each other. The criterion for a quiet channel is an alternating magnetic field (or H-field) amplitude below 0.185 A/m (RMS) over a few milliseconds, as detected by the NFC interface in the mobile phone. If the channel is quiet, and the function is supported, the integrated NFC interface can switch on in Reader Mode.  Fig. 1. Polling Loop: Initialization of NFC communication as implemented in a mobile phone. https://www.denpaflux.com/blogs/the-nfc-system-insights-and-first-measurements Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.

Claim	Exemplary Infringement Analysis Evidence ¹
[16.] The system of claim 10, wherein a value of the physiological parameter is provided by using a sensor of the smartphone.	The Accused Products are configured to perform operations including “wherein a value of the physiological parameter is provided by using a sensor of the smartphone.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, a Samsung smartphone conducting financial transactions via Samsung Pay and/or Google Pay is configured to perform operations including using a sensor of the smartphone (facial, fingerprint, or iris scanner) to provide a value of the physiological parameter (facial recognition, a fingerprint, or iris scan). Face recognition lets you unlock your phone in one quick move. To use Face Recognition, follow these steps: 1 Tap Settings The image shows a Samsung smartphone home screen with various app icons. The 'Settings' app icon, which is a blue gear, is highlighted with a blue rectangular box. Above the phone, there is instructional text for using face recognition, with the first step being '1 Tap Settings'. https://www.samsung.com/sg/support/mobile-devices/how-to-use-face-recognition-to-unlock-samsung-mobile-device/

Claim	Exemplary Infringement Analysis Evidence ¹
	Set up and use fingerprint unlock  It's time to set up fingerprint security and register your prints. The steps will be almost exactly the same, no matter what device you have. The only difference will be where the fingerprint sensor is located. 1 Navigate to Settings, then tap Security and privacy, and then tap Biometrics. Tap Fingerprints. 2 Enter your lock screen credentials. If you do not have a screen lock set up, you may be prompted to create one at this point. When you're ready, read the information, and then tap Continue. 3 Tap Register, and then use the on-screen prompts to register your fingerprint. When registering your fingerprint, make sure to fully cover the fingerprint sensor with your finger to prevent strong light from entering the fingerprint sensor. When you're finished, tap Done. 4 Next, make sure that the switch next to Fingerprint unlock is turned on. Note: If the fingerprint sensor on your device is located on the Side key or below the Side key, you can disable the "Fingerprint always on" option to prevent accidental unlocks. 5 To unlock your device using your finger, tap the screen or press the Power button or Side button. Then, place the registered finger on the fingerprint scanner, wherever it's located. The device will automatically unlock if it recognizes your fingerprint. https://www.samsung.com/us/support/answer/ANS10001613/

Claim	Exemplary Infringement Analysis Evidence ¹
	Set up Facial recognition Note: To use Face recognition, you need to set a PIN, Pattern, or Password first. Your face is unique to you, which makes it one of the best security features in your arsenal. 1. From Settings, swipe to and tap Security and privacy, and then tap Biometrics. 2. Tap Face recognition, and then enter your PIN or password. If you do not already have a secure screen lock, you will need to set one up. 3. Tap Continue, and then hold the phone 8-20 inches away as you position your face inside the circle. Hold the position until the progress bar reaches 100%. You may be prompted to remove your glasses to finish the process. 4. When you're done, adjust your desired settings.  https://www.samsung.com/us/support/answer/ANS00062630/

Claim	Exemplary Infringement Analysis Evidence ¹
	How to enable Iris authentication for Samsung Pay? Last Update date : Oct 08, 2020 The iris recognition feature uses the unique characteristics of your irises to strengthen the security of your device. Once your irises are registered, you can set the device to enable Iris authentication for Samsung Pay. https://www.samsung.com/sg/support/mobile-devices/how-to-enable-iris-authentication-for-samsung-pay/ Hello, Welcome to the Google Wallet community. Set up screen lock for tap to pay transactions Important: Coming soon, your credit and debit card won't be charged for retail payments unless you've recently used a verification method, like your fingerprint or PIN. Some users may already need to verify to make a payment. If you're asked to verify it's you, complete verification steps on your device to make a payment. To make contactless payments with Google Wallet, you must use a screen lock on your device for your security. You can unlock Google Wallet with several methods: • PIN • Pattern • Password • Fingerprint • Iris scan • 3D face unlock Tip: Google Wallet doesn't work with 2D face unlock or screen locks like Smart Unlock or Knock to Unlock. Set or change a screen lock 1. Open your phone Settings app. 2. Tap Security. ◦ If you don't find "Security," you can get help at your phone manufacturer support site. 3. Tap Screen lock. ◦ If you already set a lock, you must enter your PIN, pattern, or password before you can choose a different one. 4. Tap the option you'd like to use. Follow the on-screen instructions. https://support.google.com/wallet/thread/267917558/how-to-add-biometric-security-in-order-to-pay?hl=en

Claim	Exemplary Infringement Analysis Evidence ¹
	Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[17.] The system of claim 10, wherein said wirelessly providing by the smartphone, using the first air interface, information to the entity comprises: being proximate to a specific location within a store, then detecting a short-range signal being transmitted from said specific location within the store, and then performing a transaction to pay for one or more items.	The Accused Products are configured to perform operations including “wherein said wirelessly providing by the smartphone, using the first air interface, information to the entity comprises: being proximate to a specific location within a store, then detecting a short-range signal being transmitted from said specific location within the store, and then performing a transaction to pay for one or more items.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, a Samsung smartphone conducting financial transactions via Samsung Pay and/or Google Pay is configured to perform operations including wirelessly providing by the Samsung smartphone, using the first air interface (NFC), information to the entity (the point-of-sale terminal). This provision of information includes being proximate to a specific location within a store (the location of the point-of-sale terminal), then detecting a short-range signal (the NFC field) being transmitted from the specific location within the store, and then performing a transaction to pay for one or more items. How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you’d usually tap your physical card to complete the transaction. What is Tokenization? Samsung Pay uses network tokenization technology that replaces your real card details with a dynamic digital token that is transmitted instead of your physical card’s number. So your transactions remain secure, and your shopping stays safe.

Claim	Exemplary Infringement Analysis Evidence ¹
	Will I receive a receipt after making a purchase with Samsung Pay? When paying with Samsung Pay you will receive a receipt for your purchases just as you would with a physical card. You will receive a notification confirmation about your transaction, but you will not receive a separate physical or digital receipt from Samsung Pay. https://www.samsung.com/uk/samsung-pay/faq/ When you make a payment When you make a payment, you will need to authenticate your identity by using your fingerprint or Samsung Pay PIN before the information can be sent to the payment terminal. The merchant will only receive a token, and your payment information will be kept secure. The token will be sent to the payment network, where it will be decrypted and verified against the information stored in a secure vault on internal networks. Once authenticated, the payment will be approved and sent back to the merchant. Only the payment network and your bank will have information about the transaction. https://www.samsung.com/us/support/answer/ANS00043932/

Claim	Exemplary Infringement Analysis Evidence ¹
	Pay in a store Step 1: Wake up & unlock your phone Important: For users with a Pixel 7 or Pixel 7 Pro, Face Unlock is currently not supported for tap to pay transactions. Turn on your screen, then unlock your phone. You don't need to open the Google Wallet app. Tip: In most countries or regions, smaller transactions don't require you to unlock your phone. Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. Step 3: If prompted, follow the on-screen instructions Some stores ask for a PIN or signature. If you're asked, follow the steps on the screen. • Debit cards: Enter the PIN that you set up with your bank. This PIN is different from the one you use to unlock your device. • Credit cards: For larger transactions, sign the receipt or the on-screen signature box. https://support.google.com/wallet/answer/12060043?hl=en#

Claim	Exemplary Infringement Analysis Evidence ¹
	What device tokens are When you pay for something with a physical card — credit, debit or prepaid — the merchant usually charges you through the printed number on the front of your card, known as the Funding Primary Account Number (FPAN). Every time this happens, you provide that number to the merchant, and that number is then sent along to a handful of other parties like the merchant’s bank, the card network (an organization that facilitates transactions between banks and merchants), the payment service provider and more. In contrast, Google Wallet creates a device-specific virtual account number, or device token, for each payment method you add, so your real card number isn’t stored on your device or shared with merchants. Thanks to this tokenization, the only parties who have your actual FPAN when you make a purchase are the bank that issued the card and the card network. What’s more, your device token functions independently from your physical card. It’s linked to your bank account or line of credit, not the card itself. So you can think of a device token as a super-safe messenger between your bank account or line of credit and whoever you’re buying something from. https://blog.google/products/google-pay/device-tokens-google-wallet/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[18.] The system of claim 10, wherein the entity comprises a check-out counter in a store, and wherein said wirelessly	The Accused Products are configured to perform operations including “wherein the entity comprises a check-out counter in a store, and wherein said wirelessly providing by the smartphone, using the first air interface, information to the entity comprises: performing a financial transaction to pay for one or more items.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, a Samsung smartphone conducting financial transactions via Samsung Pay and/or Google Pay is configured to perform operations including wirelessly providing by the Samsung smartphone, using the first air interface (NFC), information to the entity (a check-

Claim	Exemplary Infringement Analysis Evidence ¹
providing by the smartphone, using the first air interface, information to the entity comprises: performing a financial transaction to pay for one or more items.	out counter and its respective point-of-sale terminal). This provision of information includes performing a financial transaction to pay for one or more items. How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. What is Tokenization? Samsung Pay uses network tokenization technology that replaces your real card details with a dynamic digital token that is transmitted instead of your physical card's number. So your transactions remain secure, and your shopping stays safe. Will I receive a receipt after making a purchase with Samsung Pay? When paying with Samsung Pay you will receive a receipt for your purchases just as you would with a physical card. You will receive a notification confirmation about your transaction, but you will not receive a separate physical or digital receipt from Samsung Pay. https://www.samsung.com/uk/samsung-pay/faq/ When you make a payment When you make a payment, you will need to authenticate your identity by using your fingerprint or Samsung Pay PIN before the information can be sent to the payment terminal. The merchant will only receive a token, and your payment information will be kept secure. The token will be sent to the payment network, where it will be decrypted and verified against the information stored in a secure vault on internal networks. Once authenticated, the payment will be approved and sent back to the merchant. Only the payment network and your bank will have information about the transaction. https://www.samsung.com/us/support/answer/ANS00043932/

Claim	Exemplary Infringement Analysis Evidence ¹
	Pay in a store Step 1: Wake up & unlock your phone Important: For users with a Pixel 7 or Pixel 7 Pro, Face Unlock is currently not supported for tap to pay transactions. Turn on your screen, then unlock your phone. You don't need to open the Google Wallet app. Tip: In most countries or regions, smaller transactions don't require you to unlock your phone. Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. Step 3: If prompted, follow the on-screen instructions Some stores ask for a PIN or signature. If you're asked, follow the steps on the screen. • Debit cards: Enter the PIN that you set up with your bank. This PIN is different from the one you use to unlock your device. • Credit cards: For larger transactions, sign the receipt or the on-screen signature box. https://support.google.com/wallet/answer/12060043?hl=en#

Claim	Exemplary Infringement Analysis Evidence ¹
	What device tokens are When you pay for something with a physical card — credit, debit or prepaid — the merchant usually charges you through the printed number on the front of your card, known as the Funding Primary Account Number (FPAN). Every time this happens, you provide that number to the merchant, and that number is then sent along to a handful of other parties like the merchant’s bank, the card network (an organization that facilitates transactions between banks and merchants), the payment service provider and more. In contrast, Google Wallet creates a device-specific virtual account number, or device token, for each payment method you add, so your real card number isn’t stored on your device or shared with merchants. Thanks to this tokenization, the only parties who have your actual FPAN when you make a purchase are the bank that issued the card and the card network. What’s more, your device token functions independently from your physical card. It’s linked to your bank account or line of credit, not the card itself. So you can think of a device token as a super-safe messenger between your bank account or line of credit and whoever you’re buying something from. https://blog.google/products/google-pay/device-tokens-google-wallet/ Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.
[19.] The system of claim 10, wherein establishing the wireless short-range communications link between the smartphone and	The Accused Products are configured to perform operations including “wherein establishing the wireless short-range communications link between the smartphone and the entity is performed in response to the physiological parameter.” On information and belief, the Accused Products include software configured to execute this claim limitation. Plaintiff reserves its right to supplement these contentions with the corresponding source code. For example, a Samsung smartphone conducting financial transactions via Samsung Pay and/or Google Pay is configured to perform operations including establishing the wireless short-range communications link (NFC) between the Samsung smartphone and the entity (the point-of-sale terminal) in response to the physiological parameter (facial recognition, fingerprint, or iris).

Claim	Exemplary Infringement Analysis Evidence ¹
the entity is performed in response to the physiological parameter.	How does Samsung Pay work? Samsung Pay uses Near Field Communication (NFC) to make contactless mobile payments. How do I make in-store purchases with Samsung Pay? - Start by either swiping-up from the home button or opening the Samsung Pay app from your home screen. - Next, select the card you want to pay with. - You can authenticate by IRIS (available on selected phones), fingerprint or pin. - Hover your phone about 2-4 cm over the card reader where you'd usually tap your physical card to complete the transaction. https://www.samsung.com/uk/samsung-pay/faq/ Where you can use Google Wallet Important: To make contactless payments, Near Field Communication (NFC) must be on. To turn on NFC, check your phone settings app. To use tap to pay on Pixel Fold or another foldable device, fold your device. You can pay with Google Wallet wherever you find the contactless or Google Pay symbols. They're located on the payment terminal screen or cash register at checkout. You can buy items with your phone or pay for transit on trains and buses on contactless terminals with either of these logos:   <i>Google Pay symbol Contactless symbol</i> https://support.google.com/wallet/answer/12060043?hl=en

Claim	Exemplary Infringement Analysis Evidence ¹
	Pay in a store Step 1: Wake up & unlock your phone Important: For users with a Pixel 7 or Pixel 7 Pro, Face Unlock is currently not supported for tap to pay transactions. Turn on your screen, then unlock your phone. You don't need to open the Google Wallet app. Tip: In most countries or regions, smaller transactions don't require you to unlock your phone. Step 2: Hold the back of your phone to the payment reader When you're done paying, a blue check mark appears on the screen. If the check mark isn't on your screen: • Try to hold your phone in a different way. Your NFC antenna could be near the top or bottom of your device. • Hold your phone closer to the payment reader. • Hold your phone to the payment reader for a few extra seconds. If there's a check mark but the cashier says that the payment didn't work: • Double-check if the store accepts mobile payments. • Contact your bank. There may be an issue with your card and your bank may have declined the transaction. If the transaction is declined, you aren't charged. Step 3: If prompted, follow the on-screen instructions Some stores ask for a PIN or signature. If you're asked, follow the steps on the screen. • Debit cards: Enter the PIN that you set up with your bank. This PIN is different from the one you use to unlock your device. • Credit cards: For larger transactions, sign the receipt or the on-screen signature box. https://support.google.com/wallet/answer/12060043?hl=en#

Claim	Exemplary Infringement Analysis Evidence ¹
	Hello, Welcome to the Google Wallet community. Set up screen lock for tap to pay transactions Important: Coming soon, your credit and debit card won't be charged for retail payments unless you've recently used a verification method, like your fingerprint or PIN. Some users may already need to verify to make a payment. If you're asked to verify it's you, complete verification steps on your device to make a payment. To make contactless payments with Google Wallet, you must use a screen lock on your device for your security. You can unlock Google Wallet with several methods: • PIN • Pattern • Password • Fingerprint • Iris scan • 3D face unlock Tip: Google Wallet doesn't work with 2D face unlock or screen locks like Smart Unlock or Knock to Unlock. Set or change a screen lock 1. Open your phone Settings app. 2. Tap Security. ◦ If you don't find "Security," you can get help at your phone manufacturer support site. 3. Tap Screen lock. ◦ If you already set a lock, you must enter your PIN, pattern, or password before you can choose a different one. 4. Tap the option you'd like to use. Follow the on-screen instructions. https://support.google.com/wallet/thread/267917558/how-to-add-biometric-security-in-order-to-pay?hl=en Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendants.