DMA.100203 – Apple – Operating Systems – iOS – Article 6(7) – SP – Features for Connected Physical Devices

Decision of 19 March 2025 – Final Measures

Non-Confidential Version

[This version has been adapted for publication. Only the adopted decision is legally binding.]

Table of Contents

1.   iOS NOTIFICATIONS

(1)   Apple shall provide effective interoperability with the iOS notifications feature.

(2)   The iOS notifications feature is described in Section 5.3.1 of the Decision. The feature enables Apple's hardware and services, including Apple's connected physical devices, to receive, access, use, respond to, and transmit iOS notifications as well as to select and manage which notifications are displayed. An iOS notification is a message, icon or another symbol that iOS displays or can display on an iOS device, by showing an alert, playing a sound, or badging the icon of an app sending the iOS notification. End users have access to settings regarding iOS notifications, which include the possibility for end users to configure if and how, and which iOS notifications are forwarded to the connected physical device. On the Apple connected physical device, end users can reply to and interact with iOS notifications (e.g. to accept or decline a calendar invitation), with the reaction being reflected on the iOS device (e.g. in the calendar app).

(3)   Apple shall implement an interoperability solution that provides third parties with access to the same iOS notifications feature described in the preceding paragraph

and Section 5.3.1 of the Decision as available to Apple, in a way that is equally effective as the solution available to Apple.

(4)   Apple shall provide effective interoperability with all functionalities of the iOS notifications feature which are available to Apple's own connected physical devices, including, but not limited to, AirPods, Apple Watch, Apple Vision Pro, as well as any future Apple connected physical devices. These functionalities are:

    (a)   receiving iOS notifications on the connected physical device and taking actions in response to iOS notifications, including custom actions defined by the third-party developer, on the connected physical device to ensure that the response or interaction is registered and reflected by the iOS device;

    (b)   selecting which iOS notifications are shown on each connected physical device within the companion app of the respective connected physical device or iOS settings, at the developer's option; and

    (c)   displaying logos associated with the app posting the iOS notification and images, attachments and other metadata associated with the iOS notification on the connected physical device.

(5)   Apple shall grant third parties access to additional functionalities if necessary to enable effective interoperability with the iOS notifications feature referred to in paragraph (3) of this Annex.

(6)   To provide third parties with an interoperability solution for the iOS notifications feature referred to in paragraph (3) of this Annex that is equally effective as that available to any of Apple's own connected physical devices, Apple shall implement the following measures.

    (a)   Apple shall provide third-party iOS apps, in particular companion apps of connected physical devices, with the full and complete payload[1] and metadata[2] of all iOS notifications. The third party and the end user must then be able to decide whether and how an iOS notification is relayed to the third-party connected physical device. To ensure interoperability under equal conditions with Apple's connected physical devices, Apple should ensure that the third party is able to pre-process in its iOS app the iOS notifications, for example to adjust the size of an image or summarise a text, before the iOS notification is relayed to the third-party connected physical device. Apple is allowed to require that third-party developers encrypt the iOS notification before relaying it to the connected physical device.

    (b)   Apple shall ensure that third parties are free to decide which transport technology they want to use to relay the iOS notification to the connected

---

[1]   The payload contains the custom iOS notification data including the delivery content and information about how iOS should notify the user.

[2]   Enabling, for example, the display of logos associated with the app posting the iOS notification as well as images and attachments associated with the iOS notification on the connected physical device.

physical device (e.g. Bluetooth only or other technologies such as infrastructure Wi-Fi, peer-to-peer Wi-Fi or cellular connections).

(c) Apple shall allow third parties to implement in their iOS app, or Apple shall make available in iOS settings, at the developer's option, functionality which enables end users to decide which iOS notifications from which apps are relayed to the third-party connected physical device. Apple shall also allow third parties to implement in their iOS app a functionality which enables end users to decide whether iOS notifications from a given app should be shown or not shown at certain times or under certain conditions (e.g. during certain activities or times of the day).

(7) Apple shall ensure that any interoperability solution for iOS notifications does not require any changes or further implementation to apps posting iOS notifications.[3] To the extent the developer of an app sending iOS notifications has enabled certain functionalities or settings for the relay and showing of its iOS notifications on Apple's connected physical devices, in particular the Apple Watch, these must automatically and to the same extent be available to third parties.[4]

(8) Apple shall also provide effective interoperability with any future updates, including new functionalities, of the iOS notifications feature insofar as they are available to Apple's own connected physical devices. To this end, the general measures in paragraph (101) of this Annex apply, including in particular the measures concerning future updates and new functionalities set out in paragraph (101)(j) of this Annex. To the current knowledge of the Commission, future or recently introduced functionalities of the iOS notifications feature include:

(a) prioritising certain notifications on top of the screen of the connected physical device (so called "Priority Notifications"); and

(b) showing a summary of non-emergency notification at scheduled times (so called "Summary Notifications").

(9) Apple shall implement the measures above in compliance with the measures for all features in Section 10 of this Annex.

(10) Apple shall implement the measures for the iOS notifications feature (except for (i) the ability to select which iOS notifications are shown on each connected physical device within the companion app, and (ii) the functionalities described in paragraph (8) of this Annex) in a beta version of iOS available to developers by the end of 2025

---

[3] Neither from developers of apps posting iOS notifications or of their end users. In particular, Apple may not require developers to change or add the programming of the payload of their iOS notifications.

[4] For example, if a messaging app developer has defined certain parameters for the showing of its iOS notifications – such as the headline, icon, or play sound – the same notification with the same parameters must be available out-of-the-box to third-party smartwatches, without the need for the messaging app developer to make special changes to their app in order to support third-party connected physical devices.

at the latest. Apple shall thereafter implement all measures for the iOS notifications feature by 1 June 2026 at the latest.

2.   HIGH-BANDWIDTH PEER-TO-PEER WI-FI CONNECTION

(11)   Apple shall provide effective interoperability with the high-bandwidth peer-to-peer Wi-Fi connection feature (hereinafter referred to as "P2P Wi-Fi connection feature").

(12)   The P2P Wi-Fi connection feature is described in Section 5.4.1 of the Decision. The feature enables iOS devices to establish and use a P2P Wi-Fi connection with another Apple device that supports the same P2P Wi-Fi communication protocol. The P2P Wi-Fi connection connects devices to transfer data without an intermediary, meaning that the P2P Wi-Fi connection works independently of either of the involved devices being connected to any local infrastructure Wi-Fi or cellular network. Furthermore, the P2P Wi-Fi connection can work concurrently with an infrastructure Wi-Fi connection. This means that an iOS device can be connected to a connected physical device via a P2P Wi-Fi connection, while maintaining a connection with infrastructure Wi-Fi. Apple implemented and uses the P2P Wi-Fi communication protocols AWDL and Wi-Fi Aware on iOS devices.

(13)   Apple shall implement an interoperability solution that provides third parties with access to the same high-bandwidth P2P Wi-Fi feature described in the preceding paragraph and Section 5.4.1 of the Decision as available to Apple, in a way that is equally effective as the solution available to Apple. For the avoidance of doubt, this includes using the P2P Wi-Fi connection feature between an iOS device and a nearby Apple or third-party connected physical device.

(14)   Apple shall provide interoperability with all functionalities of the high-bandwidth P2P Wi-Fi connection feature which are available to Apple's own connected physical devices, including, but not limited to, Apple Vision Pro, Apple Watch, as well as any future Apple connected physical devices. These functionalities are:

(a)   initiating a P2P Wi-Fi connection by discovering[5] nearby connected physical devices and securely pairing[6] with a nearby connected physical device via P2P Wi-Fi;

(b)   establishing a P2P Wi-Fi connection with high bandwidth, high speed, and latency, that does not have a central coordinator, and that can be maintained for the same amount of time as is available to Apple;

---

[5]   "Device discovery" refers to the ability of a device, whether it is an iPhone or a connected physical device, to discover or be discovered by nearby devices, e.g. by sending or listening to Bluetooth signals. Device discovery may be automatic or may follow explicit user action. Device discovery is essential in order to subsequently pair two devices and establish a connection between those devices.

[6]   "Pairing" refers to the process of connecting two nearby devices to establish a communication channel between the two devices. Nearby devices can typically be paired if they have either just discovered each other or have a trusted relationship.

(c) establishing a P2P Wi-Fi connection that can run independently and concurrently to infrastructure Wi-Fi (e.g. via internet router or, if Apple makes such a hotspot available to any of its own connected physical devices, hotspot provided by the iOS device or connected physical device) via channel switching, as well as synchronization to improve the performance of channel switching;

(d) establishing a P2P Wi-Fi connection that serves as a hotspot providing internet access to a connected physical device using a concurrent connection (e.g. cellular), if Apple makes such a functionality available to any of its own connected physical devices;

(e) establishing multiple concurrent P2P Wi-Fi connections without discontinuing existing P2P Wi-Fi connections between an iOS device and connected physical devices;

(f) establishing a P2P Wi-Fi connection upon request of the relevant third-party iOS app, without further user intervention via the companion app or otherwise, or without more user intervention than is required between Apple devices for a P2P Wi-Fi connection;

(g) allowing the P2P Wi-Fi connection between trusted devices[7] to run in the background after initiation, without the need for the app(s) initiating the P2P Wi-Fi connection to be in the foreground;

(h) once established, allowing iOS apps to use the P2P Wi-Fi connection, to access the same connection metadata, and to allow third parties to configure the same parameters of the Wi-Fi Aware connection as Apple uses itself in its P2P Wi-Fi connection solution;

(i) disabling the P2P Wi-Fi connection automatically once the use case is completed in order to save battery power and Wi-Fi bandwidth.

(15) Apple shall grant third parties access to additional functionalities if necessary to enable effective interoperability with the P2P Wi-Fi connection feature referred to in paragraph (13) of this Annex.

(16) Apple shall make Wi-Fi Aware available to third parties.

(17) Implementing a solution based on the use of Wi-Fi Aware means that Apple shall allow third-party connected physical devices access to the same functionalities of the P2P Wi-Fi connection feature as available to Apple's own connected physical devices. This means in practice that Apple shall:

(a) implement Wi-Fi Aware in its iOS devices and iOS in accordance with the Wi-Fi Aware specification unless Apple demonstrates that it is not necessary to ensure that third parties have access to the same functionalities and in an

---

[7] A "trusted device" is another device with which a device has a trusted relationship. Devices may establish a trusted relationship before or during the pairing process.

equally effective way as Apple's own connected physical devices under its own implementation of P2P Wi-Fi;

(b)   allow third parties to establish a Wi-Fi Aware connection between an iOS device and any third-party connected physical device that supports Wi-Fi Aware;

(c)   allow third parties to establish a Wi-Fi Aware connection on-demand, without further user intervention via the companion app or otherwise, or without more user intervention than is required between Apple devices to establish a P2P Wi-Fi connection;

(d)   allow third parties to establish a Wi-Fi Aware P2P connection with an iOS device, while the iOS device can maintain an infrastructure Wi-Fi connection in parallel. Furthermore, Apple shall implement a non-discriminatory channel switching policy that is most suitable for its own and third-party use cases;

(e)   allow third parties access to the same connection metadata and to configure the same parameters of the Wi-Fi Aware connection as Apple uses itself in its P2P Wi-Fi connection solution;

(f)   to the extent technically possible, ensure that the Wi-Fi chip of iOS devices, including legacy devices, allocate the memory available to support two concurrent P2P Wi-Fi connections in a non-discriminatory way, until Apple deprecates AWDL;

(g)   continue to constructively engage with Wi-Fi Alliance participants to further improve the Wi-Fi Aware standard regarding any functionality available to Apple's own connected physical devices under its own implementation of P2P Wi-Fi; in the absence of legitimate and substantiated intellectual property right concerns, Apple shall not prevent, explicitly or de facto, functionalities available under its own implementation of P2P Wi-Fi from becoming part of the Wi-Fi Aware standard;

(h)   update the iOS Wi-Fi Aware implementation to support the newest Wi-Fi Aware standard after its adoption by the Wi-Fi Alliance within a reasonable timeframe regarding any functionality available to Apple's own connected physical devices under its own implementation of P2P Wi-Fi, unless Apple demonstrates that effective interoperability with the same functionality already exists; for the avoidance of doubt, this includes supporting the wireless communication standards that are available to Apple's own connected physical devices.

(18)   To the extent technically possible, Apple shall provide third parties with a Wi-Fi Aware implementation in a way that is equally effective as its own implementation of P2P Wi-Fi. Until AWDL is deprecated, Apple must ensure, to the extent technically possible, that the solution made available to third parties is equally effective to the solution made available to Apple's connected physical devices, including in terms of set-up speed, bandwidth, transfer speed, performance, latency and uptime.

(19)   Apple shall also provide effective interoperability with any future updates, including new functionalities, of the P2P Wi-Fi connection feature, including with future functionalities of AWDL, insofar they are available to Apple's own connected physical devices. To this end, the general measures in paragraph (101) of this Annex apply, including in particular the measures concerning future updates and new functionalities set out in paragraph (101)(j) of this Annex. This applies regardless of whether the future functionalities are part of the Wi-Fi Aware standard, unless Apple demonstrates that it is not possible to incorporate them into the P2P Wi-Fi implementation based on Wi-Fi Aware. In addition, subject to legitimate and substantiated intellectual property right concerns, Apple shall not prevent, explicitly or de facto, future updates, including new functionalities, of AWDL from becoming part of the Wi-Fi Aware standard. Future functionalities of the P2P Wi-Fi connection feature include:

(a)   [confidential]

(b)   [confidential]

(20)   Apple shall implement the measures above in compliance with the measures for all features in Section 10 of this Annex.

(21)   Apple shall implement the measures for Wi-Fi Aware 4.0 in the next major iOS release, i.e. iOS 19, at the latest, and for Wi-Fi Aware 5.0 in the next iOS release at the latest nine months following the introduction of the Wi-Fi Aware 5.0 specification.

3.   PROXIMITY-TRIGGERED PAIRING

(22)   Apple shall provide effective interoperability with the proximity-triggered pairing feature.

(23)   The proximity-triggered pairing feature is described in Section 5.5.1 of the Decision. The proximity-triggered pairing feature enables the pairing and setup of Apple connected physical devices with an iOS device via a proximity-triggered procedure through a streamlined user-friendly process. Proximity-triggered pairing works out of the box: there is no need for the user to install any app beforehand and the feature automatically works for any connected physical device for which Apple has implemented support, including the Apple Watch and AirPods.

(24)   Apple shall implement an interoperability solution that provides third parties with access to the same proximity-triggered pairing feature described in the preceding paragraph and Section 5.5.1 of the Decision as available to Apple, in a way that is equally effective as the solution available to Apple's own connected devices.

(25)   Apple shall provide interoperability with all functionalities of the proximity-triggered pairing feature which are available to Apple's own connected physical devices, including, but not limited to, AirPods, Apple Vision Pro, Apple Watch, as well as any future Apple connected physical devices. These functionalities are:

(a)   the ability of a third-party connected physical device to establish a Bluetooth connection with an iOS device for pairing purposes;

(b)   the ability for the pairing process between the third-party connected physical devices and the iOS device to be triggered by the proximity of the connected physical device to the iOS device;

(c)   the ability for the third-party connected physical device to be automatically discovered by the iOS device via the BLE protocol for the initiation of the pairing process without the need for the end user to first download a third-party companion app;

(d)   the ability to carry out the pairing and setup of the third-party connected physical device with the iOS device as a continuous and guided process starting with the proximity-triggered detection and, at the third party's option, continuing within the third-party companion app;

(e)   The ability to make use of the same end user journey and ease of use for end users, as technically possible given the possible need to install a companion app, which includes:

(i)   showing the same user prompts (in terms of, *inter alia*, number, content, format and design) as shown for Apple's most comparable connected physical device;

(ii)   showing the same information screens (in terms of, *inter alia*, number, content, format and design) as shown for Apple's most comparable connected physical device, in as much this is feasible considering the device capability;

(iii)   limiting the necessary time and user engagement to the same level as required for pairing Apple's most comparable connected physical device, including the number of prompts and information screens; in particular, where the end user is prompted to initiate the pairing process with a third-party connected physical device, the third-party companion app of the third-party connected physical device must be capable of being opened or downloaded, at the determination of the third-party developer, seamlessly without an additional user prompt unless Apple shows an equivalent prompt for its own connected physical devices;

(f)   the settings regarding device pairing, including the location of the settings (e.g. in iOS settings or in an app) and the scope of settings.

(26)   Apple shall grant third parties access to additional functionalities if necessary to enable effective interoperability with the proximity-triggered pairing feature referred to in paragraph (24) of this Annex.

(27)   To enable out-of-the-box proximity-triggered device discovery, Apple may integrate a mapping between third-party connected physical devices and the expected contents of their BLE advertisements, the relevant companion app(s), as well as other necessary metadata (including, but not limited to, transmission power or security keys) into iOS. To obtain the necessary metadata for this mapping, Apple may set up a program for third-party connected physical device manufacturers to register their connected physical devices for the purpose of making use of the proximity-

triggered pairing feature. Apple shall ensure that such devices are registered and can use the proximity-triggered pairing feature within 15 days following the submission of the registration request. In the event of circumstances beyond Apple's control, Apple shall make best efforts to register the devices as soon as possible and not later than within four weeks following the submission of the registration request.

(28) Apple shall also provide effective interoperability with any future updates, including new functionalities, of the proximity-triggered pairing feature insofar as they are available to Apple's own connected physical devices. To this end, the general measures in paragraph (101) of this Annex apply, including in particular the measures concerning future updates and new functionalities set out in paragraph (101)(j) of this Annex.

(29) Apple shall implement the measures above in compliance with the measures for all features in Section 10 of this Annex.

(30) Apple shall implement the measures for the proximity-triggered pairing feature in a beta version of iOS available to developers by the end of 2025 at the latest. Apple shall then implement the measures for the proximity triggered feature for end users by 1 June 2026 at the latest.

4. BACKGROUND EXECUTION

(31) Apple shall provide effective interoperability with the background execution feature in relation to connected physical devices and related apps.

(32) The background execution feature is described in Section 5.6.1 of the Decision. The feature consists in the ability to timely execute actions on and communicate with an iOS device with respect to Apple connected physical devices, without the need for the iOS device to have the screen on or for a specific app to be in the foreground. The background execution feature allows Apple's services and hardware to access relevant iOS interfaces and resources regardless of whether an active end user interaction took place (e.g. after an iPhone is switched on, or when the screens of the iPhone and/or connected physical device are locked). In particular, it allows Apple to ensure that the iOS device can reliably continuously scan for Bluetooth Low Energy ("BLE") advertisement from connected physical devices; establish and maintain a connection with connected physical devices; have network access for purposes related to connected physical devices, e.g. to send and receive data via the internet; and process data for interaction with connected physical devices.

(33) Apple shall allow third parties effective interoperability with the same background execution feature described in the preceding paragraph and Section 5.6.1 of the Decision as available to Apple, in a way that is equally effective as the solution available to Apple.

(34) Apple shall provide interoperability with all functionalities of the background execution feature which are available to Apple's own connected physical devices, including, but not limited to, AirPods, Apple Vision Pro, Apple Watch, as well as any future Apple connected physical devices. Apple should provide interoperability with the following functionalities.

(a)   Apple shall grant iOS companion apps,[8] iOS sister apps,[9] and relevant iOS processes the same background execution capabilities on iOS devices to execute actions with respect to third-party connected physical devices that Apple grants, including via iOS processes and iOS daemons, to execute actions with respect to Apple's connected physical devices. This includes any restrictions, time windows, and resource limitations (e.g. on CPU and/or GPU execution), which Apple shall apply according to transparent, objective, precise, and non-discriminatory rules that also apply to Apple's services and hardware, including for use cases that Apple does not offer.

(b)   Any limitation or choice on the background execution capabilities of third-party iOS companion apps, iOS sister apps, or relevant iOS processes with respect to third-party connected physical devices as a result of a user action shall only be permissible if the user can take the same action with the same limiting effect regarding Apple's most comparable connected physical devices. This includes the action of a user terminating a companion or sister app in the app switching menu ("force-quitting") and the action of disabling Wi-Fi or Bluetooth through iOS Control Centre, as well as the resulting impact on background execution with the connected physical device.

(c)   Apple shall grant third-party iOS companion apps and iOS sister apps equal use of background execution functionalities – regardless of whether an active end user interaction took place[10] – under transparent, objective, precise, and non-discriminatory rules that also apply to Apple's services and hardware, including for use cases that Apple does not offer. These functionalities include:

    (i)   having the iOS device constantly listen for signals from the third-party connected physical device based on BLE and any other communication protocol that Apple uses to scan for advertisements from the connected physical device;

    (ii)   allowing the iOS companion app or iOS sister app to timely establish, maintain and use a connection between the iOS device and the third-

---

[8]   An 'iOS companion app' is an iOS app that facilitates the use of connected physical devices, such as the pairing between an iPhone and the connected physical device, setup of the connected physical device, controlling functionalities of the connected physical device, or offering services relating to the use of the connected physical device.

[9]   A 'sister app' is an app that is designed to communicate with a corresponding app on another device. An iOS sister app is then an iOS app that is designed to communicate with a corresponding app on a connected physical device. For instance, the user may install the same fitness app from an app developer both on the iOS device and a smartwatch, with the two apps being designed to transmit data to each other, for instance to keep fitness statistics synchronised.

[10]   For example, after an iPhone is switched on or when the screens of the iPhone and/or connected physical device are locked.

party connected physical device to transmit data between the app and the third-party connected physical device; and

>   (iii)   allowing the iOS companion app and iOS sister app network access on the iOS device, including to send and receive data from internet servers, for purposes related to the connected physical device.

(35)   Apple may continue to require user permission for Bluetooth access APIs that currently require such user permission, in compliance with the requirements of Article 6(7) of Regulation (EU) 2022/1925.

(36)   Apple shall grant third parties access to additional functionalities if necessary to enable effective interoperability with the background execution feature referred to in paragraph (33) of this Annex.

(37)   Apple shall also provide effective interoperability with any future updates, including new functionalities, of the background execution feature insofar as they are available to Apple's own connected physical devices. To this end, the general measures in paragraph (101) of this Annex apply, including in particular the measures concerning future updates and new functionalities set out in paragraph (101)(j) of this Annex.

(38)   Apple shall implement the measures above in compliance with the measures for all features in Section 10 of this Annex.

(39)   Apple shall implement the measures concerning background execution for third-party companion apps in relation to force-quitting and Bluetooth/Wi-Fi disabling actions in the next major iOS release, i.e. iOS 19, and in any case by the end of 2025 at the latest, and all of the measures for the background execution feature in the release of iOS 20, and in any case by the end of 2026 at the latest.

5.   CLOSE-RANGE WIRELESS FILE TRANSFER

(40)   Apple shall provide effective interoperability with the features for close-range wireless file transfer solutions.

(41)   The features for close-range wireless file transfer solutions are described in Section 5.7.1 of the Decision. The features allow Apple to provide feature-rich close-range wireless file transfer solutions, such as AirDrop, to Apple's services and hardware. Close-range wireless file transfers solutions, such as AirDrop, allow iOS devices to transfer files (or more generically "items"), such as photos, URLs, or documents, between nearby Apple connected physical devices. Furthermore, close-range wireless file transfer solutions encompass the ability to pair nearby devices and have access to several communication protocols to transfer files (e.g. P2P Wi-Fi, infrastructure Wi-Fi). Pairing can both establish trust between devices or be facilitated through previously established trust.

(42)   Apple shall implement an interoperability solution that provides third parties with access to the same features for close-range wireless file transfer described in the preceding paragraph and Section 5.7.1 of the Decision as available to Apple, in a way that is equally effective as the solution available to Apple. For the avoidance of

doubt, this includes using file sharing between an iOS device and a nearby Apple or third-party connected physical device.

(43) Apple shall allow third parties effective interoperability with the same features for close-range wireless file transfer solutions controlled by iOS and their functionalities as available to Apple's own connected physical devices (including via AirDrop), including, but not limited to, Apple Watch, Apple Vision Pro, as well as any future Apple connected physical devices. Apple shall implement an interoperability solution that is equally effective as the solution available to Apple. To that end, Apple shall make the following features available to third-party close-range wireless file transfer solutions.

(a) <u>Accessibility.</u> The ability of close-range wireless file transfer solutions to be displayed and easily accessible in Apple and third-party services and hardware on an iOS device.

(b) <u>Advertisement and device discovery.</u> The ability of close-range wireless file transfer solutions to use a communication protocol to discover and be discovered by nearby Apple and non-Apple devices.

(c) <u>Trusted devices.</u> The ability of close-range wireless file transfer solutions to establish trust via the operating system with another device and subsequently filter incoming file transfer requests based on whether the shared file is being sent from a device that is trusted. A trusted device may be an Apple or non-Apple connected physical device.

(d) <u>Protocols.</u> The ability of close-range wireless file transfer solutions to establish and use the most appropriate available connection between an iOS device and an Apple or non-Apple connected physical device via a communication protocol or via a file sharing protocol that is based on a communication protocol.

(e) <u>Background execution.</u> The ability of close-range wireless file transfer solutions to initiate a file transfer via interfaces supported in iOS that do not require the launching of a separate app, or to execute and continue file sharing in the background if previously initiated by the end user. Any user interface displaying the progress of the file transfer shown to the end user using a third-party solution shall be under equal conditions as when using an Apple solution such as AirDrop, both on the sending and the receiving device.

(f) <u>File context.</u> The ability of close-range wireless file transfer solutions to launch the app from which a file was shared using a close-range wireless file transfer solution and store the file in that app, or another app appropriate for the file type in case the corresponding app is not installed on the receiving device.

(44) To provide third parties with an interoperability solution for iOS features of close-range wireless file transfer solutions that is equally effective as that available to any of Apple's own connected physical devices, Apple shall implement the following measures.

(45) <u>Accessibility</u>

(a)   Apple shall allow close-range wireless file transfer solutions to be displayed via the same user interface (e.g. iOS Share Sheet) and under the same conditions as Apple's wireless file transfer services, such as AirDrop, are displayed.

(b)   Apple shall allow third-party close-range file transfer solutions to launch a close-range wireless file transfer by tapping on the respective service in the relevant iOS user interface as available to Apple (e.g. iOS Share Sheet), which ultimately allows the end user to use the solution without the need to open the third-party solution into the foreground.

(c)   Apple shall allow third-party close-range file transfer solutions to trigger the system user interface responsible for the file transfer on the sending or receiving iOS device, provided that the receiving device has the solution installed. This may include a user experience to trigger device pairing or a notification to launch and connect a close-range wireless file transfer solution. The user experience for the end user using a third-party solution should be under equal conditions as when using an Apple solution such as AirDrop, both on the sending and the receiving device.

(d)   In the event that the close-range wireless file transfer solution is not installed on the receiving device, Apple shall allow the sending device to discover the paired receiving device, and shall allow the user of the receiving device to be informed of an incoming file (e.g. via a notification, app clip, system user interface) and to be guided to the appropriate app store in order to facilitate the installation of the close-range wireless file transfer solution.

(e)   Apple shall allow the end user to set the same options and preferences in settings for third-party close-range file transfer solutions, including selecting between "Everyone" and "Contacts only" and adjusting the time limitations of the Everyone Mode, as are available to Apple. Apple shall treat these settings in the same way as it treats settings for its own close-range wireless file transfer solutions, such as AirDrop.

(46)   Advertisement and device discovery

(a)   Apple shall allow close-range wireless file transfer solutions to discover nearby Apple and non-Apple connected physical devices using protocols that include, but are not limited to, BLE, a P2P Wi-Fi connection, and NFC.

(b)   Apple shall allow third-party connected physical devices to discover nearby iOS devices for close-range wireless file transfers using protocols that include, but are not limited to, BLE, a P2P Wi-Fi connection, and NFC.

(c)   Apple shall allow close-range wireless file transfer solutions access to the iOS functionality that scans for advertisements for close-range wireless file transfers from nearby connected physical devices under equal conditions as is available to Apple's own close-range wireless file transfer solutions, such as AirDrop (e.g. that both devices have their screen on).

(47)   Trusted devices

(a) Apple shall allow close-range wireless file transfer solutions to trust a device via the operating system, such that future file transfers do not require re-establishing this trust. Subject to revocable end user consent, the device should remain trusted. Furthermore, the process for third-party solutions to trust another device shall be subject to equal conditions as available to Apple's solutions, such as AirDrop, including the user experience for trusting devices that belong to the same end user or trusting devices from the end user's contacts.

(b) Apple shall allow close-range wireless file transfer solutions to limit device discovery of nearby connected physical devices to devices that the end user has previously trusted, regardless of whether the trusted device is an Apple or third-party device, based on the user's choice for the device discovery mode.

(48) Protocols

(a) Apple shall allow close-range wireless file transfer solutions to use any communication protocol available to Apple's services or hardware, which includes but is not limited to, BLE, infrastructure Wi-Fi, cellular network and P2P Wi-Fi connection, to transfer files between the iOS device and nearby Apple or third-party connected physical devices (and vice-versa).

(b) Apple shall allow close-range wireless file transfer solutions to integrate their own file transfer protocols based on communication protocols.

(c) Apple shall allow close-range wireless file transfer solutions to change the communication protocol, for instance in the case where a faster alternative communication channel is available, and providing third-party solutions with the relevant information in order to make such a decision.

(d) Apple shall allow close-range wireless file transfer solutions to continue file sharing if the devices involved in the file transfer move out of wireless range using any other available connection (e.g. infrastructure Wi-Fi, cellular network), and provide the relevant connection metadata to indicate that the devices moved out of wireless range.

(49) Background execution

(a) Apple shall allow third-party close-range wireless file transfer solutions with the same background execution abilities as are available to Apple's solutions, such as AirDrop. This includes, but is not limited to, the ability to launch the file sharing protocol without needing to open the close-range wireless file transfer solution (e.g. via the iOS Share Sheet) to send or receive files.

(b) Apple shall allow close-range wireless file transfer solutions to continue receiving and sending files that are being transferred in the background after the transfer started, meaning that the app in which the file transfer was initiated does not need to remain in the foreground. Apple may require that the progress of the file transfer is presented to the user while it is ongoing and the iPhone screen is on, as long as Apple's solutions, such as AirDrop, are subject to the

same requirement and the close-range wireless file transfer solution can do so through an equivalent interface to Apple's solutions.

(50) File context. Apple shall allow close-range wireless file transfer solutions to open and store the receiving file under equal conditions as Apple's solutions, such as AirDrop, are capable of opening and storing a receiving file. This could, for instance, include sharing relevant metadata alongside the file that is also available to Apple's connected physical devices, or prompting an end user to open the received file in a specific app.

(51) Apple shall grant third parties access to additional functionalities if necessary to enable effective interoperability with the features for close-range wireless file transfer solutions referred to in paragraph (42) of this Annex.

(52) Apple shall also provide effective interoperability with any future updates, including new functionalities, of the iOS features used for close-range wireless file transfer solutions insofar as they are available to Apple's own connected physical devices. To this end, the general measures in paragraph (101) of this Annex apply, including in particular the measures concerning future updates and new functionalities set out in paragraph (101)(j) of this Annex.

(53) Apple shall implement the measures above in compliance with the measures for all features in Section 10 of this Annex.

(54) Apple shall implement the measures required to enable the scenario of close-range wireless file transfers while the receiving device has the relevant close-range wireless file transfer solution open by 1 June 2026. Apple shall implement all measures for the features for close-range wireless file transfer solutions in the release of iOS 20, and in any case by the end of 2026.

6. AUTOMATIC WI-FI CONNECTION

(55) Apple shall provide effective interoperability with the automatic Wi-Fi connection feature.

(56) The automatic Wi-Fi connection feature is described in Section 5.8.1 of the Decision. The feature allows Apple's connected physical devices to access and use information (including metadata) about certain local infrastructure Wi-Fi networks saved on the iOS device, to allow them to join these networks easily and without friction. An iOS device transmits this information to Apple connected physical devices, such as the Apple Watch, which use this information to establish a local infrastructure Wi-Fi connection, without the user having to select a Wi-Fi network on that device, and without the end user having to enter the password for the selected Wi-Fi network on the device.

(57) Apple shall implement an interoperability solution that provides third parties with access to the same automatic Wi-Fi connection feature described in the preceding paragraph and Section 5.8.1 of the Decision as available to Apple, in a way that is equally effective as the solution available to Apple.

(58) Apple shall make available to third-party connected physical devices Wi-Fi Network Information saved on the end user's iOS device for Wi-Fi networks for which Apple shares such information with any of its own connected physical devices.

(59) "Wi-Fi Network Information" consists of the information which the iOS device shares with Apple's own connected physical devices. This may include, for each Wi-Fi network: SSID (network name), indication if the SSID is broadcasted or not, the network password (if applicable), and the network security configuration. It may also include BSSID (access point identifier) and the Wi-Fi Channel number.

(60) Apple shall provide third-party iOS companion apps with the Wi-Fi Network Information for transmission to third-party connected physical devices.

(61) Apple shall share the Wi-Fi Network Information at the same cadence as it does for its own connected physical devices.

(62) Apple may seek permission from the user for sharing "Wi-Fi Network Information" via a permission prompt in compliance with the requirements of Article 6(7) of Regulation (EU) 2022/1925. Among consent options that Apple offers to the user, there must be a one-time permission, so that such permission also applies to all Wi-Fi networks to which the iOS device connects in the future (provided the Wi-Fi network is in scope of paragraph (58)).[11]

(63) Apple shall grant third parties access to additional functionalities if necessary to enable effective interoperability with the automatic Wi-Fi connection feature referred to in paragraph (57) of this Annex.

(64) Apple shall also provide effective interoperability with any future updates, including new functionalities, of the automatic Wi-Fi connection feature insofar as they are available to Apple's own connected physical devices. To this end, the general measures in paragraph (101) of this Annex apply, including in particular the measures concerning future updates and new functionalities set out in paragraph (101)(j) of this Annex.

(65) Apple shall implement the measures above in compliance with the measures for all features in Section 10 of this Annex.

(66) Apple shall implement the measures for the automatic Wi-Fi connection feature in the next major iOS release, i.e. iOS 19, and in any case by the end of 2025 at the latest. By the end of 2025, the solution must provide access to the following Wi-Fi Network Information: SSID (network name), an indication if the SSID is broadcasted or not, the network password (if applicable), and the network security configuration.

(67) Apple shall update the solution to provide access to Wi-Fi Network Information that Apple shares with any of its own connected physical devices in the first dot release

---

[11] This measure shall not prevent Apple from showing more granular prompts, or showing prompts at a higher frequency, provided that Apple shows equivalent prompts in terms of granularity and frequency to users of its own connected physical devices. It shall also not prevent Apple from not showing any prompts with respect to third-party connected physical devices.

of iOS following 1 March 2026, i.e. iOS 19.4, and in any case by 1 June 2026 at the latest.

7. MEDIA CASTING

(68)   Apple shall provide effective interoperability with features for media casting.

(69)   The features for media casting are described in Section 5.9.1 of the Decision. The features allow Apple to provide media casting solutions, such as AirPlay, to Apple's services and hardware. Media casting is the ability to cast audio, video, and mirror screens between an iOS device and a connected physical device. Casting can take place either from an iOS device to a connected physical device, or from a connected physical device to an iOS device. Alternatively, the iOS device can be used to initiate casting between a streaming server (e.g. YouTube) and a connected physical device. In this case the iOS device connects to the connected physical device and sets up the stream, but the media stream itself takes place directly between the streaming server and the receiving device. The iOS device may act as a remote control (e.g. volume control, playback speed, etc.).

(70)   Apple shall implement an interoperability solution that provides third parties with access to the same features for media casting described in the preceding paragraph and Section 5.9.1 of the Decision as available to Apple, in a way that is equally effective as the solution available to Apple.

(71)   In particular, Apple shall allow effective interoperability with the iOS-controlled features used by Apple's media casting solutions including AirPlay. Therefore, Apple shall make the following features available to third-party casting solutions.

(a)   Accessibility. Apple shall allow the casting solution to be selectable in the same in-app picking menu as is used for AirPlay in supported apps. The casting solution must also be selectable directly from the iOS Control Centre picker as is used for AirPlay. The end user should be able to initiate and use the casting solution without the need to open the third-party casting app in the foreground, and in the case of using the iOS Control Centre picker without the need to open the media app in the foreground.

(b)   Centralised availability. Apple shall allow third parties to centrally provide their casting solution on iOS, e.g. through an extension, such that end users who install the casting solution can access the third-party casting provider in any app that uses standard media playback APIs without the need for the app developer to integrate an SDK in their apps.

(c)   Advertisement and discovery. Apple shall make available device discovery that allows compatible third-party devices to be discoverable on an iOS device, enabling that the sender iOS device shows these receivers in the casting pickers in the system user interface and in apps, and make the iOS device discoverable by third-party devices, by enabling sender devices to listen for the iOS device's capabilities as a receiver.

(d) <u>Communication protocols.</u> Apple shall allow third parties to make available the same communication protocols that are available to Apple's casting solutions, such as AirPlay. This includes but is not limited to Bluetooth, Infrastructure Wi-Fi, P2P Wi-Fi, and ultrawide band. Apple shall allow third parties to switch between available communication protocols and to access the required information to select the most suitable protocol. Apple shall allow third parties to integrate their media streaming protocols based on communication protocols.

(e) <u>Controls.</u> Apple shall allow the third parties to implement the same hardware button functionality (e.g. volume controls), in-app controls and lock screen controls (e.g. pause, fast forward, etc.) that are available to Apple's casting solutions, such as AirPlay.

(72) Interoperability for third-party casting solutions must be effective. Therefore, Apple shall:

(a) not impose limits or restrictions that may affect the audio, image or video quality achievable by third-party media casting solutions, such as inaccessibility of communication protocols, background execution restrictions, memory consumption, bandwidth limits or limits on other system resources, to the extent that these are not applied to AirPlay; and

(b) allow media casting solutions to use third-party DRM systems. Apple shall not impose restrictions concerning the casting of DRM-protected content that go beyond those applied to AirPlay.

(73) Apple shall grant third parties access to additional functionalities if necessary to enable effective interoperability with the features for media casting referred to in paragraph (70) of this Annex.

(74) Apple shall also provide effective interoperability with any future updates, including new functionalities, of the media casting features insofar as they are available to Apple's own media casting solution, such as AirPlay. For example, if Apple updates AirPlay to stream video at higher resolution, or to allow end users to initiate screen mirroring via an AI assistant, third party casting solutions should be provided the necessary interoperability to implement these functionalities as well. To this end, the general measures in paragraph (101) of this Annex apply, including in particular the measures concerning future updates and new functionalities set out in paragraph (101)(j) of this Annex.

(75) Apple shall implement the measures above in compliance with the measures for all features in Section 10 of this Annex.

(76) Apple shall implement the measures for the media casting features in the release of iOS 20, and in any case by the end of 2026 at the latest.

8. AUTOMATIC AUDIO SWITCHING

(77) Apple shall provide effective interoperability with the automatic audio switching feature.

(78)   The automatic audio switching feature is described in Section 5.10.1 of the Decision. The feature allows Apple's services and hardware to implement automatic audio switching functionality via iOS with respect to Apple audio output devices. Apple's audio switching functionality allows end users using Apple's own wireless headphones to automatically have the audio source (e.g. active Bluetooth connection of a connected headset) switch between two different Apple devices, such as an iOS device and an iPad. iOS audio routing policies ensure that audio is routed to the appropriate output device, so that audio switching works according to user expectations.

(79)   Automatic audio switching on Apple devices relies on certain information from Apple and third-party apps on iOS, and from iOS. This includes the relevant audio type (e.g. media, call, notification). Relevant information also includes data and information on the current audio route, the reason for selecting the current audio source (user action, iOS decision, etc.), and information on the upcoming audio source. Automatic audio switching on Apple devices factors in signals received from Apple connected physical devices from these devices (e.g. whether Apple AirPods are currently in-ear or not).

(80)   Apple shall implement an interoperability solution that provides third parties with access to the same automatic audio switching feature described in the preceding paragraphs and Section 5.10.1 of the Decision as available to Apple, in a way that is equally effective as the solution available to Apple.

(81)   This means that Apple shall provide third parties access to the same data and information controlled or accessed by iOS that Apple uses to implement automatic audio switching functionality on Apple devices, and the ability to present their devices as a selectable audio route based on that information.

(82)   Apple shall not discriminate between its own and third-party connected physical devices in audio routing. Audio routing means iOS deciding which output channel plays audio (e.g. in-built iPhone speaker, local speakers, wired or wireless headphones) and routing audio to that channel. Apple may allow users to set audio routing preferences, but must provide such user choice in a non-discriminatory manner.

(83)   For the purpose of audio routing, Apple shall enable third parties to submit the same or similar device information to iOS and iOS must use that information in the same way as iOS uses the same or similar information from Apple connected physical devices (e.g. whether the headphone is in-ear).

(84)   Apple shall make that data and information available to third parties at the same time as it is made available to the processes or services that implement the automatic audio switching functionality on Apple devices. For instance, this concerns changes in the data and information that Apple uses to implement automatic audio switching functionality on Apple devices. To this end, the general measures in paragraph (101) of this Annex apply, including in particular the measures concerning future updates and new functionalities set out in paragraph (101)(j) of this Annex.

(85)   Apple shall grant third parties access to additional functionalities if necessary to enable effective interoperability with the automatic audio switching feature referred to in paragraphs (80) of this Annex.

(86)   Apple shall implement the measures above in compliance with the measures for all features in Section 10 of this Annex.

(87)   Apple shall implement the measures for the audio switching feature by 1 June 2026 at the latest, with exception of the functionality to present non-connected third-party devices as available audio routes. Apple shall provide effective interoperability with that functionality by 1 June 2027 at the latest.

9.   NFC CONTROLLER IN READER/WRITER MODE

(88)   Apple shall provide effective interoperability with the NFC controller of iOS devices in Reader/Writer mode ("NFC Reader/Writer mode") for third-party connected physical devices via Core NFC.

(89)   The NFC controller in Reader/Writer mode is described in Section 5.11.1 of the Decision. The NFC controller consists of a chip integrated in iOS devices, ensuring communication between an iOS device and a connected physical device via NFC technology. NFC Reader/Writer mode is an NFC mode in which an active NFC device interacts with another NFC device that acts passively. Core NFC is a publicly documented framework that allows developers to program third-party apps that can access the NFC controller of iOS devices in Reader/Writer mode to write data to NFC tags, interact with protocol-specific tags and read NFC tags, including ISO 7816 and ISO 15693, FeliCa™, MIFARE® tags and NFC tags of Types 1 to 5 that contain NDEF data. The NFC Reader/Writer mode can be used to transfer payment-related data, such as AIDs and secure credentials, including payment-related tokens. It can also be used to read smart cards, including payment cards, including to verify card possession for instance for Challenge-Response interactions.

(90)   Apple shall implement an interoperability solution that provides third parties with access to the same NFC controller in Reader/Writer mode feature described in the preceding paragraph and Section 5.11.1 of the Decision as available to Apple, in a way that is equally effective as the solution available to Apple.

(91)   To provide such access, Apple shall implement the following measures.

    (a)   Apple shall provide access to the NFC controller in Reader/Writer mode via Core NFC without AID restrictions, allowing third parties to interact with NFC devices via the NFC controller in Reader/Writer mode.

    (b)   Apple shall provide access to the NFC controller in Reader/Writer mode via Core NFC without AID restrictions, allowing third parties to transmit any APDU command referencing AIDs, in particular payment-related AIDs, from a third-party app to a connected physical device, including the SELECT command, and any data that is part of the respective APDU command, including secure credentials.

(c)   Apple shall provide access to the NFC controller in Reader/Writer mode via Core NFC to transfer secure credentials, including payment-related tokens, from the iOS device to connected physical devices.

(d)   Apple shall provide access to the NFC controller in Reader/Writer mode via Core NFC to read smart cards, including payment cards, including to verify smart card possession, without restrictions on the deployment of third parties' security measures, such as EMV Level 2 kernels.

(92)   Apple shall grant third parties access to additional functionalities if necessary to enable effective interoperability with the NFC controller in Reader/Writer mode feature referred to in paragraph (90) of this Annex.

(93)   Apple shall also provide effective interoperability with any future updates, including new functionalities, of the NFC controller in Reader/Writer mode feature insofar as they are available to Apple's own connected physical devices. To this end, the general measures in paragraph (101) of this Annex apply, including in particular the measures concerning future updates and new functionalities set out in paragraph (101)(j) of this Annex.

(94)   Apple shall implement the measures above in compliance with the measures for all features in Section 10 of this Annex.

(95)   Apple shall implement the measures for the NFC controller in Reader/Writer mode feature in the next major iOS release, i.e. iOS 19, and in any case by the end of 2025 at the latest.

10.   **MEASURES FOR ALL FEATURES**

(96)   According to Article 6(7) of Regulation (EU) 2022/1925, interoperability provided pursuant to Article 6(7) of that Regulation needs to be effective. This means that interoperability solutions shall be granted in a technically sound and workable manner for third parties, equally effective to the solution available to Apple, under equal conditions and without any undue obstacles. To achieve such effectiveness, Apple shall implement the measures in this section for each of the nine features referred to in Sections 1 to 9 of this Annex.

(97)   In the implementation of the specified measures, Apple may take strictly necessary and proportionate measures to ensure that interoperability does not compromise the integrity of the operating system, hardware and software features. Any integrity measure shall be duly justified and shall be based on transparent, objective, precise and non-discriminatory conditions that also apply to Apple's services and hardware. Under Article 6(7) of Regulation (EU) 2022/1925, second subparagraph, Apple shall only impose conditions and take integrity measures that reflect a genuine integrity risk and do so in a consistent and systematic manner. Under Article 6(7) of Regulation (EU) 2022/1925, second subparagraph, Apple shall only apply conditions the compliance with which is capable of being independently verified and not exclusively within the gatekeeper's control. An integrity measure cannot be considered strictly necessary and proportionate if it seeks to achieve a higher

integrity standard than the one that Apple requires or accepts in relation to its own services or hardware.

(98)   Any integrity measure shall be implemented in a way that does not undermine effective compliance with this Decision and Apple's obligations with Regulation 2022/1925 including for instance by subverting end users' or third parties' autonomy, decision-making, or free choice via the structure, design, function or manner of operation of a user interface or apart thereof.

(99)   Apple shall inform the Commission in writing of any integrity measure it intends to take, providing a justification of their strict necessity and proportionality at least 4 weeks in advance of their implementation, or without undue delay in case of urgency, unless the measure meets each of the following cumulative conditions: (i) it is not user-facing, (ii) it is exclusively of a technical nature, (iii) it is implemented for Apple and third parties in precisely the same way and (iv) Apple has determined that the change will have no or only insignificant impact of any nature on third parties, including technical or commercial impact. Apple shall retain written documentation on how any such determination was made.

(100)   Pursuant to Article 8(1) of Regulation 2022/1925, the gatekeeper shall ensure that the implementation of any measures pursuant to Article 6(7) of Regulation 2022/1925 complies with applicable law, in particular Regulation (EU) 2016/679, Directive 2002/58/EC, legislation on cybersecurity, consumer protection, product safety, as well as with the accessibility requirements.

(101)   Apple shall implement the following measures for each of the features described in Sections 1 to 9 of this Annex.

(a)   Apple shall make available the interoperability solutions and measures implemented in compliance with this Decision to all providers of services and providers of hardware without undue delay, to the extent they indicate, including through the use of APIs, an interest in making use of any or all of the features listed in Sections 1 to 9 of this Annex.

(b)   Apple shall not impose any restrictions on the type or use case of the software application and connected physical device that can access or make use of the features listed in Sections 1 to 9 of this Annex. Apple shall not impose any undue restrictions, including by requiring third parties to use other Apple products or services unless required for the functioning of the feature, or by requesting third parties to make choices in situations where such choice is not justified (for example, choosing between using the interoperability solution and continuing to use the same bundle ID) or prevent third parties from benefitting from access to other features, including using the feature in combination with other features within the scope of Article 6(7) of Regulation 2022/1925.

(c)   Apple shall not undermine effective interoperability with the features listed in Sections 1 to 9 of this Annex by behaviour of a technical, commercial, contractual or any other nature. In particular, Apple shall:

(i)   enable third parties to make use of the interoperability solution in their existing apps via an automatic update of such apps; and

(ii)   not degrade, remove, disable, or otherwise make ineffective the interoperability solution, or prevent or impede updates, including security updates, for the end user as long as the end user is eligible to benefit from the functionalities allowed by these interoperability solutions; Before taking any such measure in this respect, Apple shall notify the end user explaining how the measures Apple intends to take will affect the interoperability solution relied on by third-party services on the end user's iOS device.

(d)   Apple shall ensure that any interoperability solution implemented for the features listed in Sections 1 to 9 of this Annex is equally effective to the solution available to Apple's services and hardware, specifically Apple's own connected physical devices including, but not limited to, Apple Watch, AirPods, Apple Vision Pro, as well as any future Apple connected physical device. Apple shall apply such equal effectiveness across all dimensions, including, but not limited to, the end user journey, ease of use for end users, device and software setup, data transmission speed, and energy consumption.

(e)   To ensure access is equally effective to the solution available to Apple's own services and hardware in terms of end user journey, Apple shall not decrease the ease, convenience and speed of using third-party services and hardware from the end user perspective. In particular, Apple shall refrain from adding friction by:

(i)   Offering choices to, or requesting permission from, the end user in a non-neutral or leading manner, including by using design patterns, dark patterns, or misrepresenting or exaggerating any risks of using the third-party connected physical device or granting a permission.

(ii)   Preventing the third party from explaining to end users in their own language the relevance of any system prompts shown, immediately before the prompt is shown or within the prompt.

(iii)   Showing unnecessary recurring prompts or notifications that the end user cannot easily and permanently disable in the same prompt or notification.

(iv)   Preventing the third party from triggering a permission prompt again in the future, unless the end user has so decided.

(f)   Apple shall provide the interoperability solutions implemented to address the measures listed in Sections 1 to 9 of this Annex free of charge, irrespective of their beneficiary, application, product and use case. Apple shall also not charge any fees directly or indirectly for any of the measures set out in this Annex.

(g)   Apple shall provide complete documentation for the interoperability solution. This includes Apple making available complete, accurate and well-documented frameworks and APIs to the extent access to such frameworks or APIs are relevant for the implementation of the measures set out in this Annex.

(h)   Apple shall provide reasonable technical assistance, free of charge, to third parties to implement effective interoperability with the features listed in Sections 1 to 9 of this Annex.

(i)   Apple shall ensure that all interoperability solutions implemented to address the measures specified in this Annex are subject to Apple's usual practices, including beta testing.

(j)   Should Apple make changes to a feature listed in Sections 1 to 9 of this Annex, including with new functionalities of the feature or updates, Apple shall: (i) develop such new or updated features or functionalities in a way that they are interoperable with third-party services or hardware; (ii) include the interoperability solutions at an appropriate stage in the beta version of the new or updated feature or functionality; (iii) make available the updated interoperability solution and documentation for the relevant feature no later than at the time the new or updated feature becomes available to any Apple's services or hardware.

(k)   Apple shall maintain the interoperability solution over time such that the solution and its documentation continue being available, functional, usable, and effective for all developers without interruption. [12] If, in exceptional circumstances, Apple wishes to deprecate an interoperability solution or parts of it, Apple shall submit a reasoned request in accordance with the procedure described in paragraph (102) of this Annex.

(l)   Apple shall communicate to the Commission within one month of the date of notification of this Decision all the measures that it intends to take to comply with the Decision in sufficient detail to enable the Commission to make a preliminarily assessment as to whether the measures comply with the Decision. In particular, Apple shall: (i) describe in detail the interoperability solution it intends to make available; (ii) explain how this solution addresses all of the measures required by the Decision and will provide third parties effective interoperability under equal conditions to those available to Apple's services and hardware; and (iii) provide detailed planning of the steps leading to the implementation and release of the effective interoperability solution.

(m)   Upon expiry of the implementation deadline for each feature, Apple shall communicate to the Commission all the measures that it has taken to comply with the Decision. Under this obligation, Apple shall describe the interoperability solution made available to third parties, including all technical details and potential APIs, as well as any potential integrity measures. Apple

---

[12]   Wherever measures in this section address maintenance or adjustment of an interoperability solution, this maintenance or adjustment covers, among others, any software changes concerning the interoperability solution. This is agnostic to the choice of how such changes are made, such as, by "refactoring" (i.e. restructuring) the existing code. This may include the creation of (and replacement by) a new framework, in the case where this is the most appropriate way of maintaining or adjusting the interoperability solution.

shall provide the Commission with a non-confidential version of this report for publication.

(102) The Commission may, in exceptional circumstances, in response to a reasoned request from Apple showing good cause, modify or substitute one or more of the measures listed in this Annex or a part of them. The request shall not have the effect of suspending the application of the measures and, in particular, of suspending the expiry of any time period in which the measure has to be complied with.

****