التاريخ : 29/8/2019

الرقم : REG-274-19

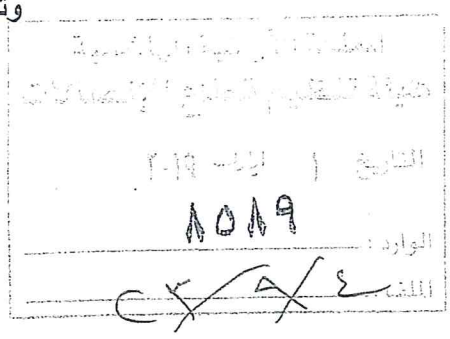
سعادة رئيس مجلس المفوضين / الرئيس التنفيذي المحترم
هيئة تنظيم قطاع الاتصالات

الموضوع: رد شركة زين على إخطار طلب ملاحظات على القرار التنظيمي الخاص بالشرائح الإلكترونية المدمجة eSIM

تحية طيبة وبعد،

اشـــارة الى كتابكم رقم (٢٣ظ/٤/٩٠٢٣/٥٥٢٤) تاريخ (٢٠١٩/٧/٩) والمتعلق بالموضـــوع أعلاه، نرفق طياً رد وملاحظات الشـــركـة الأردنيـة لخدمـات الهواتف المتنقلـة (زين) على إخطـار طلـب ملاحظـات على القرار التنظيمي الخـاص بـالشـــرائح الإلكترونية المدمجة eSIM ضمن المدة المحددة، راجين أخذها بعين الاعتبار.

وتفضلوا بقبول فائق الاحترام،،،



الشركة الأردنية لخدمات الهواتف المتنقلة ("زين")
المدير التنفيذي لدائرة الشؤون القانونية والتنظيمية

لما التميمي

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Attached Zain's letter Ref. No. : REG-274-19
Date: (29/8/2019)

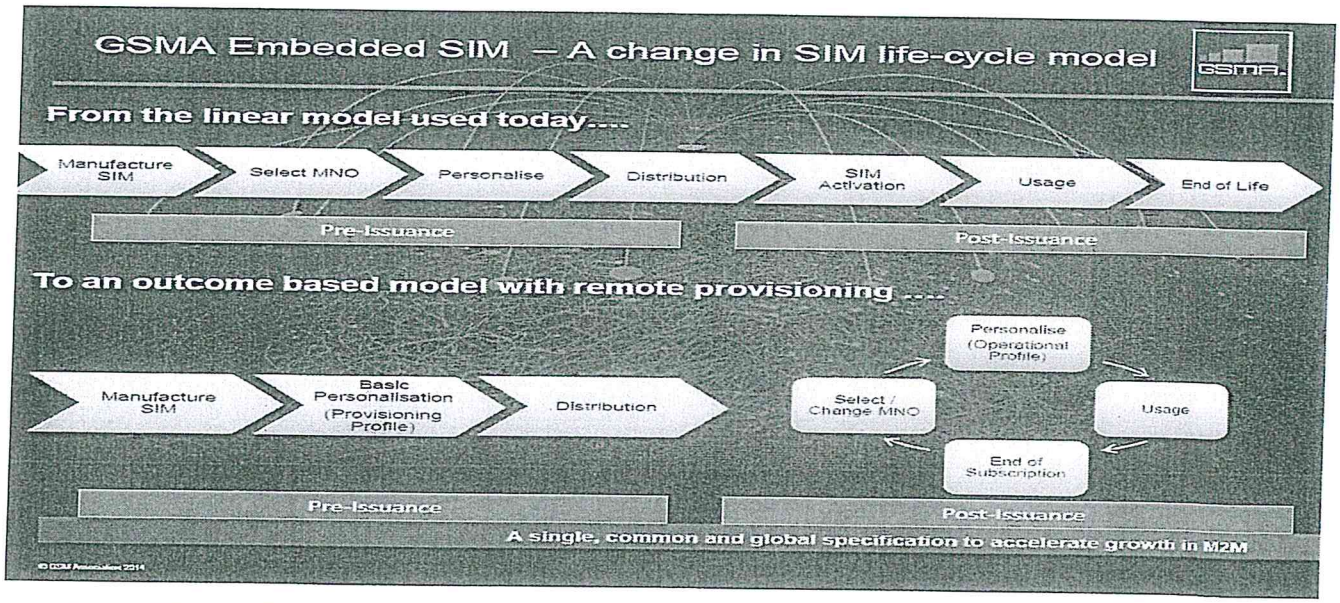
Zain's Reply, Comments and Suggestions to the Notice of Request for Comments on the Regulatory Decision on Integrated Electronic Subscriber Identification Modules (eSIM)

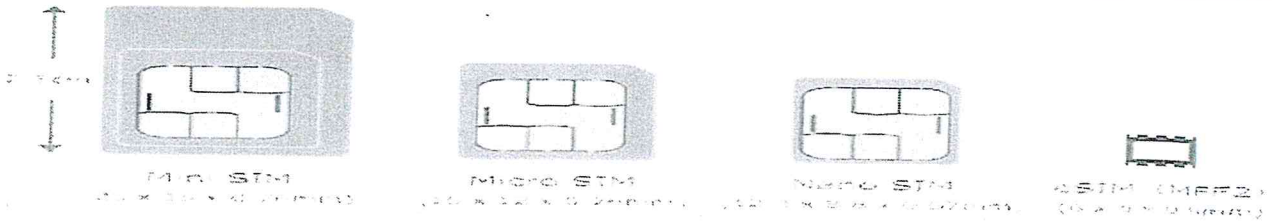
Introduction

Zain Company would like to thank the Telecommunication Regulatory Authority for its interest in the topic of EMBEDDED SIM (eSIM) and its publication of this regulatory decision (resolution), through which the Authority aims to regulate the use of such eSIM and to ensure the security and integrity of the information of subscribers using them.

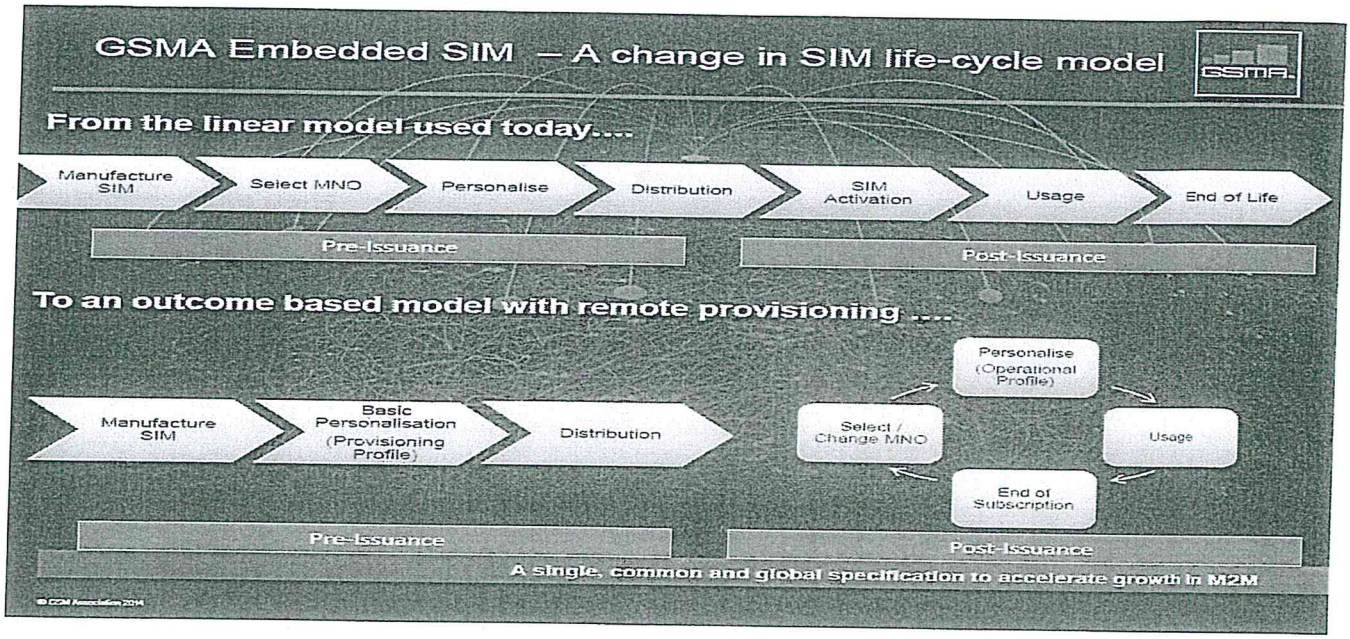
The telecommunication industry understand the significant benefits that eSIM proliferation will bring as this will accelerate the digital transformation of the entire mobile subscription management process. It will enable quicker, easier mobile connections, more device physical space arising from miniaturization, simplified logistics, cost reduction and new revenue streams. In addition, eSIM will enable new business models by a wide range of mobile based services in safety, security, navigation, traffic updates and infotainment.

Recent advances in the world of communication technologies have changed the traditional concept of the Subscriber Identification Module, called SIM card, and have recently begun to shift to the use of eSIM in modern mobile devices, which do not require a physical SIM card.



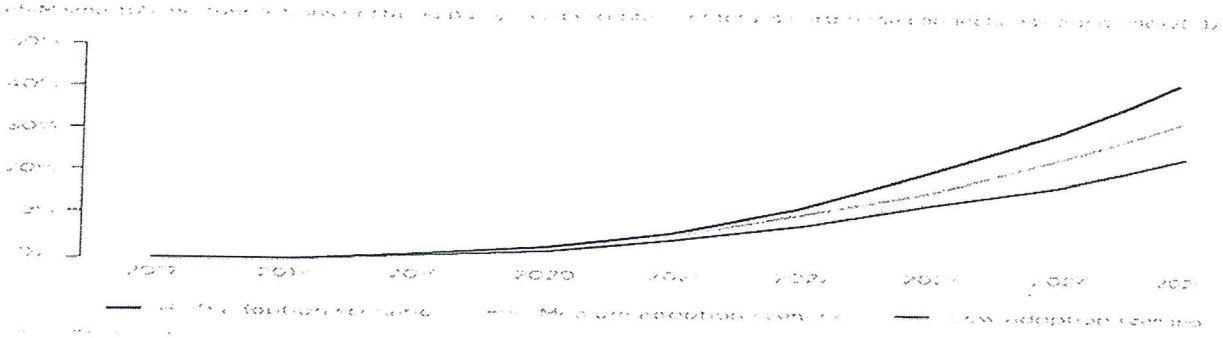


The e-SIM is a sim card that is embedded in a mobile device. In other words, eSIM is a digital SIM that allows activation of a cellular plan without having to use a physical SIM card. The eSIM stores all the information that is necessary to authenticate and identify a mobile subscriber.



According to a GSMA Intelligence scenario analysis for eSIM adoption (below Figure), by 2025 between around 25% (low adoption) and 40% (high adoption) of smartphone connections could be eSIM worldwide, with around a third a medium adoption case.5

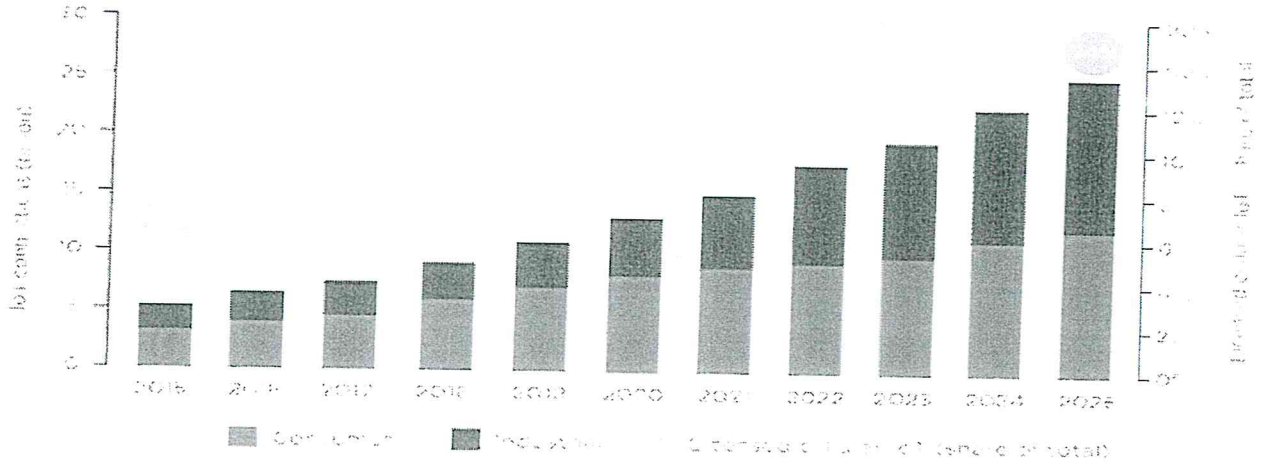
Scenario analysis for worldwide adoption of eSIM in the smartphone market



The rapid adoption of IoT across different industry verticals for the manufacturing of smart and connected devices is rising rapidly resulting in the increasing demand for these eSIMs. The increasing popularity and application of machine to machine learning is leading to the rising deployment of eSIMs. Also, the global eSIM market is expected to be fueled by the increasing adoption from leading smartphone manufacturers such as Google and Apple. Smartphone manufacturers are expected to demand eSIMs to enhance their product offerings. Accordingly, eSIM interoperability and management require collective responsibility between all eSIM solution stakeholders (mobile operators, service providers, device makers, eSIM makers and end-users to work altogether to deploy globally an interoperable & seamless eSIM scheme able to address the tremendous need of mobile connectivity of devices.

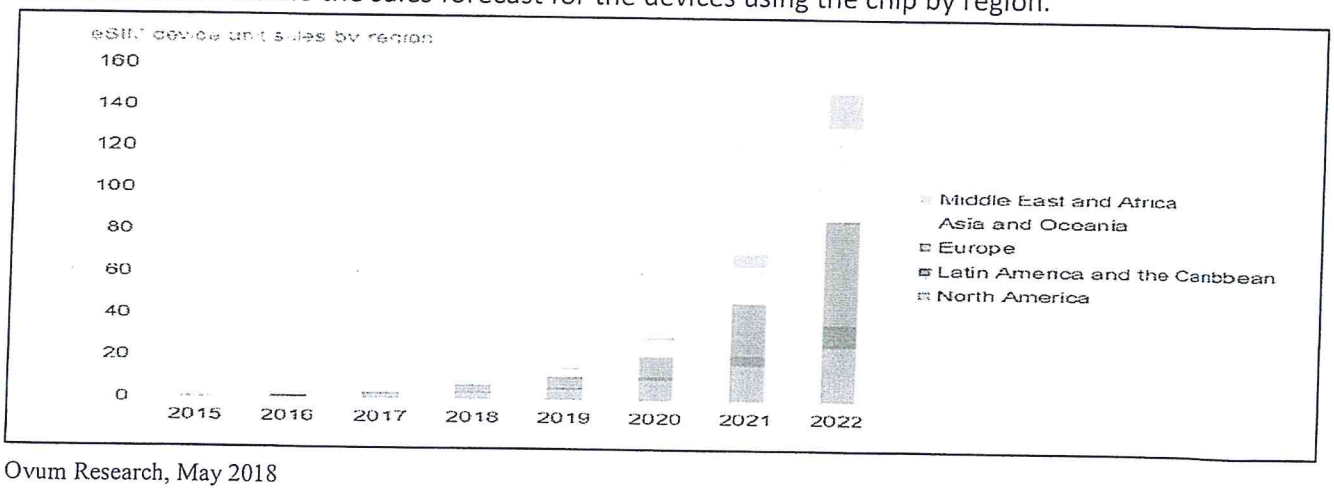
At this time, Cellular Networks serve a minor share of total IoT connections (14% by 2025, as shown in the below Figure), the explosion of the IoT market provides significant room for growth in the cellular IoT space and eSIM adoption. According to GSMA Intelligence, the number of licensed cellular IoT connections – including cellular M2M and licensed LPWA – will be more than triple between 2018 and 2025, reaching 3.5 billion globally.

IoT connections (cellular and non-cellular) worldwide



The use of electronic SIM is becoming a new trend in the world of cellular communications where by the end of 2018, more than 230 mobile operators, OEM and automotive makers have deployed eSIM remote subscription platform globally and, according to a study conducted by (OVUM), the eSIM market is expected to grow from 4.4 million to 148 million of devices sold until 2022, mostly Tablets and wearables, and this trend is expected to continue for some time to come as well.

The chart below shows the sales forecast for the devices using the chip by region.



Ovum Research, May 2018

Moreover, there are many various factors contributing to the rising demand for e-SIM Market and driving operator to support eSIM services. Existing and projected eSIM key Businesses Segmentation and Market Classification are indicated below:

1. **By Application,**
   - Wearables
   - Connected Cars
   - Tablets
   - Laptops
   - M2M
   - Smartphones
   - Other M2M/IoT Applications (Cars, Smart Homes, smart meters, security cameras, Medical, etc.)

2. **By Vertical,**
   - Telecommunication
   - Transportation and Logistics
   - Automotive
   - Retail
   - Consumer Electronics
   - Manufacturing
   - Energy and Utilities
   - eSIM Market

The use and activation of the integrated e-SIM (eSIM), which was recently launched by Zain with the approval of the Authority, is in full compliance with the international standards adopted for these SIMs, including protocols for information security for this purpose. Therefore, Zain has studied the clauses of this declaration, and would like hereunder to set out its comments and suggestions based on its group experience related to the deployment of the eSIM, requesting the Authority to take them into account, as follows:

General Remarks

1. **eSIM Legislations -** The decision stated that everything that applies to the traditional SIM - especially legal and regulatory legislations - applies to the EMBEDDED SIM (eSIM), which means that there is no justification for any special legislation / instructions for this eSIM that include many details of its own in the presence of a stable and existing regulation that regulates the usage of traditional SIMs (cellular lines).
2. **eSIM Security -** Therefore, the exclusivity of certain items of the eSIM (except for the purposes of security and protection of information in particular) will add undue regulatory, financial and operational burdens to the service providers, including the requirement to be programmable by the local telecommunication network operators. The same applies to the need that all data and records related to these eSIMs should be kept within the borders of the Hashemite Kingdom of Jordan only.
   i. **Profile programming** on these eSIMs is done by Vendor providers, and the network operator is programming the eSIM to configure it to work on the network, including specifying the MSISDN of that chip, which is very similar to what happens with Physical SIM currently. So it is not possible to limit the "programming" of the chip to the local telecom operators unless it is defined by the program to configure the eSIM to work on the network as stated above. By standard, eSIM allows the operator to download and manage their Profiles containing the subscription credentials and potentially some applications. The operator is the owner of the Profile and licenses its use to the subscriber.

Moreover, it is important to emphasize that, eSIM Profile involves the operator data related to a subscription, including the operator's credentials and potentially operator or third-party SIM based applications. The secure element in the eSIM solution can accommodate multiple Profiles. Profiles are remotely downloaded over-the-air into an eSIM. Although the eSIM is an integral part of the device, the Profile remains the property of the operator as it contains items "owned" by the operator (IMSI, ICCID, security algorithms, etc.) and is supplied under license. The content and structure for interoperable Profiles stored on eSIMs are similar to those installed on traditional SIMs.

ii. **Save eSIM data and records -** With regard to the need to save all data and records related to these electronic chips within the borders of the Hashemite Kingdom of Jordan only, we hope to clarify that some of the data on these chips are stored by the provider of this chip (Vendor), and this provider may be a non-Jordanian company or existing outside the Kingdom. Not to mention that recent developments in the world of telecommunications, including cloud computing, have become a constant and essential issue for the provision of ICT services in most parts of the world, and Jordan is no exception. Most of the services provided by this technology (cloud computing) are provided with ease and has already begun to spread very rapidly, note that the Authority has accompanied and absorbed these changes and responded positively to them, and has issued a study recently to develop regulatory requirements for cloud computing (June 2019). This means that cloud computing has become an indisputable reality, and has reached maturity to the extent that it has necessitated regulation.

Moreover, it is important to emphasize that cloud based eSIM services is driven by service providers (e.g. car industry, Energy providers, etc.) with limited support from operators. The eSIM is programmed with a combined service provider and operator data steered from service center enter mainly and it is around whole M2M ecosystem.

Important and sensitive information of subscribers that are available on the basis of their subscription to telecommunications services is preserved in a manner consistent with the International and local legislations. The presence of some information (not related to subscribers) within cloud computing is by no means a breach or a threat to the security and integrity of telecommunication information.

Special Remarks

Article No.	Article	Remark
(2)	Scope of Applying Instructions: These instructions are applicabl to all licensees/service providers	Zain Advocate to remove the two phrases "service providers" and "pursuant to subscription contracts" from the said paragraph and replace it with licensed mobile operator. Service Providers – which is a phrase for which no definition was stated in this decision – are companies licensed by the authority, and are not regulatory subject to it. Therefore, we see no justification for the addition of service providers to the scope of applying the instructions, and suffice with licensees to provide mobile telecom only.

		The phrase "pursuant to subscription contracts" is an unjustifiable addition, which is a phrase for which no definition was stated in this decision.
Fifth A	To be programmable by local mobile network operators	Zain advocate that the Authority definition for the "eSIM programming" is related to local activation and preparation of the eSIM to work on the meant network. Programming the profile on these eSIMs is done by the eSIM vendor. The mobile network operator programs the eSIM to prepare it for working on the network, including local specific MSISDN number of the particular eSIM, which is typical to what is going on with the physical SIM currently. Looking into one of the cases for eSIMs implementation, we find global car manufacturer ae selling cars pre-loaded with eSIMs. The car manufacturer partners with an overseas MNO for global connectivity. The overseas MNO then implements arrangements with a specific local MNO to allow the car's eSIM to operate.
Fifth D	All data and records related to the EMBEDDED SIM shall be kept within the borders of the Hashemite Kingdom of Jordan only	Zain advocate that the Authority's request for in boarder storage of the data and records should be related to the locally activated eSIM to work on the meant network. Further to the above response (fifth a), some of the data stored on these eSIMs are stored by M2M service providers, and such providers can be a non-Jordanian company or a company outside the kingdom. Recent developments in the world of telecommunications, including cloud computing, have become a constant and essential issue for the provision of ICT services in most parts of the world, and Jordan has started to increasingly use cloud computing, where most of the services provided by this technology are provided with ease, note that the Authority has accompanied and absorbed these changes and responded positively to them, and has issued a study recently to develop regulatory requirements for cloud computing (June 2019), assuring the importance of this technology, and urging the proper use thereof.

General Recommendations:

Since the eSIM market in Jordan is in its nascent stage, Zain Jordan advocate the followings;

1. A "light touch" regulation approach and disagree with the imposition of heavy-handed regulations and regulatory requirements from the outset. Zain Jordan believes that the Authority should be interested in (i) facilitating the eSIM ecosystem in Jordan (ii) encourage the MNOs to invest in the eSIM service to expedite its implementation in the Kingdom (iii) encourage the market by supporting to establish viable business cases to be implemented.

L.R.

2. The Authority to consider the GSMA eSIM related standard as the regulations to be followed and comply to. From an overall eSIM standards perspective, the GSMA standards are likely to be the globally adopted standard. Given the eSIM technology is extremely evolving, then these standards will be constantly reviewed and amended taking into consideration technological advancements and the changes in the Market (IoT/M2M. Moreover, the Authority intention to implement specific requirements on a globally-based standard may create incompatibilities especially given the fast-moving nature of these standards.

3. The Authority may request the MNOs to comply with the following:
   - MNOs providing eSIMs should be required to work with partners who are GSMA SAS accredited. This ensures that the specifications and equipment used by the eSIM providers are technically compatible.
   - eSIM service provider's infrastructure should be GSMA SAS accredited to ensure that the facilities and functions for the eSIM Remote Provisioning is safeguard against cyber-attacks.
   - New eSIM devices coming into the market should only be type-approved based on the GSMA standards. This ensures that "incompatible" devices do not flourish in the market.

L.F.

بسم الله الرحمن الرحيم

هيئة تنظيم قطاع الاتصالات

الرقم ظ/٢٠٣/٩/٤/٥٥٢٤

التاريخ

الموافق ٢٠١٩/٧/٩

الرئيس التنفيذي/ الشركة الأردنية لخدمات الهواتف المتنقلة
الرئيس التنفيذي/ شركة البتراء الأردنية للاتصالات المتنقلة
الرئيس التنفيذي/ شركة أمنية للهواتف المتنقلة

الموضوع: القرار التنظيمي للشرائح الإلكترونية المدمجة (eSIM)

تعلمكم الهيئة بصدور قرار مجلس المفوضين رقم (٧-٢٠١٩/٧) تاريخ ٢٠١٩/٦/٣٠ بالموافقة على القرار التنظيمي الخاص بالشرائح الإلكترونية المدمجة (eSIM) ونشره على موقعها الإلكتروني (www.trc.gov.jo) للاستشارة العامة لمدة (٣٠) يوما اعتبارا من تاريخه.

وتفضلوا بقبول فائق الاحترام،،،

رئيس مجلس المفوضين
الدكتور المهندس عمارين الجبور

نسخة: مديرية تنظيم خدمات وشبكات الاتصالات