Requirements for specific ICT Equipment

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This technical specification is issued by The Communications, Space and Technology Commission in the Kingdom of Saudi Arabia in accordance with the provisions of the Communications and Information Technology Act issued by Royal Decree No. (M/106) dated 02/11/1443 AH and its bylaw, and the Commission's regulation.

Document History Table

Version	Issue Date	Description
Issue 1	July 2021	
Issue 2	Feb 2024	

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1– Scope

1-1   This document specifies the requirements for the following product categories:

      1-1-1   Mobile Phones, Tablets and Mobile Computers

      1-1-2   Mobile Routers and Customer Premises Equipment CPEs

      1-1-3   Cellular IoT devices

Note: Limited exceptions from any of the listed requirements in this document may be made at the sole discretion of CST on a case-by-case basis.

2– Enforcement

2-1   This technical specification shall enter into force from issue date.

2-2   Any previous version of this document is withdrawn.

3– Requirements for Mobile Phones, Tablets and Mobile Computers

3-1   General Requirements

3-1-1   Each interface must comply with the applicable technical specifications issued by CST.

3-1-2   Applications for type approval of these devices are only accepted through the manufacturer of the device. Third parties are not permitted to apply for the approval of these devices.

3-1-3   Samples of the device might be required by CST for testing purposes upon request.

3-1-4   It is the responsibility of the manufacturer to perform testing and provide confirmations from all Saudi mobile network operators that the device meets the listed requirements and providing a proof of acceptance following the form in annex 1 before applying for type approval.

3-1-5   In order to ensure devices' compatibility with Saudi mobile networks, manufacturers must perform testing, provide declaration of major software update and receive acceptance from all Saudi mobile network operators before deploying major software updates on their devices.

3-1-5-1   A major software update is any update made to the operating system of the device that changes the technical specifications and the connectivity features of the device or any other technical requirements, thus affecting the technical performance of the device and its connection with the infrastructure of communications and information technology networks for service providers., such as enabling, or modifying of current or new frequencies, transmission modes, or connectivity services.

3-1-5-2   "Declaration of Major Software Update" should follow the form in annex 2.

3-1-6   Saudi mobile network operators shall perform the required tests and provide acceptance to manufacturers as well as CST.

3-2   Technology Requirements:

3-2-1   Devices are required to support LTE (4G) technology as a minimum requirement.

3-2-2   CST strongly encourages supporting the following technologies:

3-2-2-1   5G NR technology

3-2-2-2   eSIM

3-2-2-3   WiFi 6 and WiFi 6e (5.925 – 7.125 GHz).

3-3   Frequency Requirements:

3-3-1   The following frequency bands are mandatory to be supported by devices per the technology supported:

3-3-1-1   LTE: B1, B3, B8, B20, B28, B40 and B41 (2540-2640MHz)

3-3-1-2   5G NR: n1, n3, n8, n28, n40, n41, n71, n77 and n78

Note: n1, n3, n8, n28, n40, n71 and n77 frequency support requirement shall enter into force from issue date.

3-4   Voice Services Requirements:

3-4-1   Devices shall support the following voice services:

3-4-1-1   VoLTE: Voice over LTE

3-4-1-2   VoWiFi: Voice over WiFi

3-4-2   CST also strongly encourages the support of the following services:

3-4-2-1   VoNR: Voice over New Radio

3-4-2-2   ViNR: Video over New Radio

3-5   Emergency Communications Services Requirements:

3-5-1   All handsets must support the Cell Broadcast Service (CBS) service as per CST's technical requirements on mobile devices to enable cell broadcast service (CBS) alert published on CST website.

3-5-2   All smart handsets must also support the Advanced Mobile Location AML emergency communication service and testing should be carried out to ensure compliance with ETSI TR 103 393

Note: AML emergency communication service requirement shall enter into force from issue date.

3-6   E-Label Requirements:

3-6-1   Devices are required to have CST E-Label embedded in their software as a proof of compliance.

3-6-2   E-Label must be accessible by users of the devices.

3-6-3   It is the responsibility of the manufacturer to implement the E-Label design showing the certificate number issued by CST.

3-6-4   After having the approval from CST, the issued type approval number (TA xxxx-y) must be inserted it in the E-Label.

3-6-5   The E-Label must follow the following design:

> **Kingdom of Saudi Arabia**
>
>
>
> (Certificate number starts with TA)

3-6-6   The CST's logo can be found on CST's website through the brand guidelines webpage.

4– Requirements for Mobile Routers and CPEs

4-1   General Requirements

4-1-1   Each interface must comply with the applicable technical specifications issued by CST.

4-1-2   Samples of the device might be required by CST for testing purposes upon request.

4-2   Technology Requirements:

4-2-1   All CPEs and Mobile Routers are required to support the following technologies as a minimum requirement.

4-2-1-1   LTE (4G)

4-2-1-2   WiFi 6

Note: WiFi 6 technology requirement shall enter into force from issue date.

4-2-2   CST also strongly encourages the support of the following technologies:

4-2-2-1   5G NR

4-2-2-2   WiFi 6e (5.925-7.125 GHz)

4-3   Frequency Requirements:

4-3-1   The following frequency bands are mandatory to be supported by devices per the technology supported:

4-3-1-1   LTE: B1, B3, B8, B20, B28, B40 and B41 (2540-2640MHz).

4-3-1-2   5G NR: n1, n3, n8, n28, n40, n41, n71, n77 and n78.

Note: n1, n3, n8, n28 n40, n71 and n77 frequency support requirement shall enter into force from issue date.

5– Requirements for Cellular IoT devices

5-1   General Requirements

5-1-1   Each interface must comply with the applicable technical specifications issued by CST.

5-1-2   Tracking devices usage and importation are only allowed through Tracking Services providers whom registered at CST.

5-1-3   All the requirements and conditions of the Internet of Things (IoT) Regulatory Framework must be met.

5-1-4   Samples of the device might be required by CST for testing purposes upon request.

5-2   Technology Requirements:

5-2-1   Devices are required to support either LTE (4G), NB-IoT, or LTE-M technologies as a minimum requirement.

5-3   Frequency Requirements:

5-3-1   The following frequency bands are mandatory to be supported by devices per the technology supported:

    5-3-1-1   LTE/NB-IoT/LTE-M: B3, B8, B20, and B28.

5-3-2   CST also strongly encourages the support of the following frequency band:

    5-3-2-1   LTE/NB-IoT/LTE-M: B71.

Appendix 1 : Technical Requirements On Mobile Devices To Enable Cell Broadcast Service (CBS) Alert

1- Mobile devices must be enabled to receive all alerts.

2- The alert message should not support any features related to forwarding, copying, or replying to the message.

3- The message must support adding a phone number or a URL link.

4- The mobile phone must support displaying or deleting the previous alert message as requested by the user.

5- The mobile phone must enable receiving synchronized alert messages.

6- The mobile phone should include features that help people with special needs such as converting text to speech or flashing light.

7- The device must support giving the priority to the Cell Broadcast Alert Messages over all functions of the mobile phone, including voice calls and SMS.

8- The message should support both Arabic and English, where the primary language being Arabic and secondary language is English.

9- Distribution of the channels shall be according to the Commercial Mobile Alert System (CMAS) as per Table (1).

10- Adopt the behaviours and settings for the mobile phone as per Table (2).

Primary Channel Primary Language	Secondary Channel Secondary Language	Alert Settings Title	Alert			
			Alerts Level	Severity Level	Urgency Response Level	Certainty Level
4370	4383	National Warning Alerts (Category 1)	This Warning Alert on National Level			
4371	4384	Extreme Emergency Warning Alerts (Category 2)	Extreme	Extreme	Immediate	Observed
4372	4385		Extreme	Extreme	Immediate	Likely
4373	4386	Emergency Warning Alerts (Category 3)	Severe	Extreme	Expected	Observed
4374	4387		Severe	Extreme	Expected	Likely
4375	4388		Severe	Severe	Immediate	Observed
4376	4389		Severe	Severe	Immediate	Likely
4377	4390		Severe	Severe	Expected	Observed
4378	4391		Severe	Severe	Expected	Likely
4379	4392	Alerts (Category 4)	Security Alerts			
4380	4393	Testing Alerts (Category 5)	Monthly Test			
4381	4394	Exercises (Category 6)	Exercises			

Table (1)

Alert Classification	Mobile Phone Behavior					
	Mode	Sound	Vibration	Duration (seconds)	Acknowledgement	Settings
Category 1	The alert is activated even in silent mode	Audible Signal	Yes	With a minimum of 10.5 seconds and a maximum of 32.5 seconds	Stopping the alert requires the recipient's acknowledgement	Mandatory Activation
Category 2	The alert is activated even in silent mode	Audible Signal	Yes	10.5	Stopping the alert requires the recipient's acknowledgement	Mandatory Activation
Category 3	The alert is activated even in silent mode	Audible Signal	Yes	10.5	Stopping the alert requires the recipient's acknowledgement	Mandatory Activation
Category 4	The alert is not required during silent mode	Audible Signal	Yes	With a minimum of 5 seconds and a maximum of 10.5 seconds	Stopping the alert requires the recipient's acknowledgement	Optional Activation
Category 5	The alert is not required during silent mode	Audible Signal	Yes or No	10.5	Stopping the alert does not require recipient's acknowledgement	Optional Activation
Category 6	The alert is activated even in silent mode	Audible Signal	Yes	10.5	Stopping the alert requires the recipient's acknowledgement	Mandatory Activation

Table (2)