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| **Radiocommunication Study Groups** |  |
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| Received: 22 February 2021  Subject: WRC-23 AI 1.5 | **Document 5D/478-E** |
| **22 February 2021** |
| **English only  SPECTRUM ASPECTS & WRC-23 PREPARATIONS** |
| Saudi Arabia (Kingdom of) | |
| SPECTRUM NEEDS AND USAGE FOR WRC-23 agenda item 1.5 | |
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In accordance to the Administrative Circular [CACE/963](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R00-CACE-CIR-0963) dated 2 November 2020, the ITU-R invited Administrations from Region 1 to submit their input contributions based on the spectrum usage within their territories for IMT or other technologies and the future spectrum needs for the mobile (except aeronautical mobile) service within the frequency band (470-960) MHz.

Therefore, the Administration of Saudi Arabia would like to provide the attached contribution regarding the questionnaire on spectrum needs and usage for the mobile (except aeronautical mobile) service within the frequency band 470-960 MHz in the kingdom of Saudi Arabia.

**Attachment**: 1

ATTACHMENT

saudi arabia answers to WP 5D Questionnaire on  
Agenda item 1.5 regarding IMT

Questionnaire on the spectrum use and the spectrum needs of the IMT applications/systems in mobile (except aeronautical mobile) within the frequency band 470-960 MHz in Region 1 in response to   
Resolution 235 (WRC-15)

| Questions | Answers |
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| **1.** How has your administration implemented IMT applications/systems in the frequency band 694‑960 MHz? |  |
| a) Which IMT band(s) and frequency arrangement(s)[[1]](#footnote-1) have been implemented  (e.g. in 700 MHz, 800 MHz, 900 MHz)? | 700 MHz: A7  800 MHz: A3  900 MHz: A2 |
| b) What amount of spectrum has been authorized in each of these bands? | 700 MHz: 703 – 723 // 758 – 778 (40 MHz)  800 MHz: 791 – 811 // 832 – 852 (40 MHz)  900 MHz: 880 – 915 // 925 – 960 (35 MHz) |
| c) Which IMT technologies have been implemented and what is the coverage of corresponding network (% of population covered by at least one operator)? |  |
| d) What is the total number of base stations per IMT technology? |  |
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| 2. Does your administration intend to implement additional spectrum for IMT applications/systems in the frequency band 694-960 MHz. If so, please indicate in which band(s). | Yes, the bands are:   1. 20 MHz (A10) 2. 2x10 MHz (A7) 3. 2x10 MHz (A3) |
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| **3.** Which additional spectrum does your administration anticipate will be required by IMT applications/systems in the mobile (except aeronautical mobile) service in the band 470‑694 MHz?  Could you specify: | Historically this band has been allocated for terrestrial TV in Saudi Arabia. Some administrations have already identified part of the band for IMT and repacked broadcasters in lower UHF frequencies.  In Saudi Arabia, there is very limited demand for terrestrial TV, only 1% of all households actually view terrestrial broadcast signals. This suggests an opportunity to refarm the band (614-694) MHz to be used for IMT in order to meet the increasing demand of broadband applications.  Given that this band is a sub-1 GHz band and using it for IMT will provide a wide-area mobile coverage using 4G and 5G technology. |
| a) the amount of spectrum expected to be required | 2 x 35 (FDD) in the 600 MHz |
| b) the timeline in which it will be required | The usage of this band for IMT requires reframing the current TV stations to be in the lower part and we anticipate that most of the spectrum will be available to be used within 1-3 years from the beginning of the repacking process, which will be started in 2021. |
| c) the duplex mode (TDD, FDD, downlink only) | We plan to adopt the current ecosystem deployed in some countries that support FDD with (617-652/663-698) band plan. |
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| **4.** Which IMT applications/systems and use cases in the mobile (except aeronautical mobile) service does your administration expect to require additional spectrum in the band 470-694 MHz? | Mostly 5G connectivity |

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1. See Recommendation ITU-R M.1036-6 “Frequency arrangements for implementation of the terrestrial component of International Mobile Telecommunications in the bands identified for IMT in the Radio Regulations” [↑](#footnote-ref-1)