

**RADIO SPECTRUM AND TECHNICAL STANDARDS ADVISORY
COMMITTEE**

Proposed Spectrum Release Plan for 2018-2020

Introduction

This paper proposes updates on the spectrum release plan (“SRP”) for its coming release that covers 2018 – 2020.

Background

2. An SRP is published by the Communications Authority (“CA”) annually to inform the industry about the potential supply of spectrum through an open, competitive bidding or tendering process or other appropriate means in the following three years. The SRP is updated every year on a rolling basis or as required taking into account the latest developments. The last SRP was published in February 2017 that covered the potential supply of spectrum for 2017 – 2019.

3. To update the SRP in a timely manner, the Office of the Communications Authority (“OFCA”) monitors the availability of spectrum for assignment for non-government use, having regard to international development on spectrum allocation, regional spectrum allocation decisions, technology and equipment availability and proposals from the industry. The recent findings of OFCA are given below.

Trend of Spectrum Allocations

900 MHz and 1800 MHz Bands

4. Spectrum in the frequency ranges of 890 – 915 MHz paired with 935 – 960 MHz (“the 900 MHz band”) and 1710 – 1785 MHz paired with 1805 – 1880 MHz (“the 1800 MHz band”) is currently deployed for the provision of public mobile telecommunications services. For the purpose of the re-assignment of the 900 MHz band and the 1800 MHz band upon expiry of the existing assignments in 2020/21, two rounds of public consultation have been conducted and were completed in 2016 and 2017 respectively. The CA will promulgate the re-assignment decision later this year.

Spectrum Demand for Public Mobile Telecommunications Services Towards 2020 and Beyond

5. To ensure adequate and timely availability of spectrum to meet the demand for public mobile telecommunications services towards 2020 and beyond, the World Radiocommunication Conference (“WRC”) of the International Telecommunication Union held in 2015 passed a resolution resolving to conduct sharing studies for 11 candidate frequency bands in the frequency range between 24.25 GHz and 86 GHz identified for terrestrial International Mobile Telecommunications (“IMT”) for consideration of the next WRC to be held in 2019. In Hong Kong, the CA announced in March 2017 its work plan to make available additional spectrum for public mobile telecommunications services toward 2020 and beyond, which covers the 24.25 – 27.5 GHz band (“the 26 GHz band”), the 27.5 – 28.35 GHz band (“the 28 GHz band”) and the 3.4 – 3.6 GHz band (“the 3.5 GHz band”).

26 GHz and 28 GHz Bands

6. Amidst the candidate bands for IMT identified in WRC-15 as mentioned in paragraph 5 above, the 26 GHz band is the lowest frequency band that is being considered by some major economies including European countries and Mainland China for deployment of the fifth generation (“5G”) mobile services. On the other hand, the 28 GHz band, which is not one of the candidate bands identified in WRC-15, is being considered by other economies such as the United States and Korea for 5G deployment. In Hong Kong, both the 26 GHz band and the 28 GHz band are not allocated to the mobile service now.

7. In view of the development, the CA plans to make available spectrum in the 26 GHz band and the 28 GHz band, with a contiguous bandwidth of 4.1 GHz altogether, as the first batch of spectrum for the provision of 5G services in Hong Kong. At present, the 27 – 31 GHz band is allocated to the fixed-satellite service (“FSS”) (Earth-to-space) and overlaps with the 26 GHz band (partially) and the 28 GHz band. However, according to the present record, there is no uplink earth station operating within the 26 GHz and 28 GHz bands for carrying commercial traffic. Yet, part of the 26 GHz band is being used for terrestrial fixed links but the concerned operators have been notified and required to return their spectrum in the 26 GHz band to the CA by 1 April 2019. On 7 December 2017, the CA issued a document inviting the industry players to express their interests in using the 26 GHz and the 28 GHz bands for the 5G mobile services.¹ Subject to positive interest expressed by the industry, the CA will conduct a public consultation on the concerned spectrum assignment in Q2 2018.

¹ See http://www.coms-auth.hk/filemanager/en/content_1082/EOI_on_26_28_GHz_bands.pdf

3.5 GHz Band

8. The 3.4 – 4.2 GHz band is currently allocated to the FSS (space-to-Earth) in Hong Kong. This frequency band is being used, among others, by satellite master antenna television (“SMATV”) systems operated by SMATV licensees and earth stations operated by carrier licensees for reception of satellite signals, including both traffic signals as well as telemetry signals.

9. Between 27 July and 7 September 2017, a public consultation on the change in the allocation of the 3.4 – 3.7 GHz band from FSS to mobile service in the timeframe of 2020 was conducted. Within the 3.4 – 3.7 GHz band, the 3.5 GHz band is proposed to be used for the provision of public mobile telecommunications services whereas the 3.6 – 3.7 GHz band is reserved as guard band. The consultation paper and the comments received are available on the CA website.² Subject to the re-allocation decision to be made by the CA in April 2018, the public consultation on spectrum assignment will be conducted in Q2 2018.

216 – 223 MHz Band

10. In March 2017, the Government decided on discontinuance of the Digital Audio Broadcasting (“DAB”) services in Hong Kong.³ Accordingly, all DAB services provided on Channel 11C (219.584 – 221.120 MHz) of the 216 – 223 MHz band have been ceased since 4 September 2017.

Way Forward

11. A draft of the updated SRP is given at the Annex. The updated SRP is scheduled to be released in early 2018.

Advice Sought

12. Members are invited to offer comments on the draft SRP at the Annex.

Office of the Communications Authority
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² See http://www.coms-auth.hk/en/policies_regulations/consultations/completed/index.html.

³ See <http://www.info.gov.hk/gia/general/201703/28/P2017032800689.htm>.

Draft Spectrum Release Plan for 2018 – 2020

Introduction

As part of the implementation of the Radio Spectrum Policy Framework announced by the Government in April 2007, the Communications Authority (“CA”) will publish a spectrum release plan (“SRP”) to inform the industry of the potential supply of radio spectrum through an open bidding, tendering process or other appropriate means for the following three years. The SRP is updated every year on a rolling basis, or as required, taking into account the latest developments.

Spectrum Release Plan for 2018 – 2020

Frequency Band (MHz)	Bandwidth (MHz)	Earliest Release Date⁴	Target Consultation Date	Remarks
890 – 915 935 – 960	50	2018 ⁵	Completed ⁶	Re-assignment of existing spectrum for mobile / wireless fixed services
1710 – 1785 1805 – 1880	150			
24250 – 27500	3250	2019	Q2 2018 ⁷	Assignment of new spectrum for mobile / wireless fixed services
27500 – 28350	850			
3400 – 3600	200	Early 2020	Q2 2018 ⁸	Assignment of new spectrum for mobile / wireless fixed services

⁴ Earliest release date refers to the earliest date when the spectrum concerned is expected to be available for release to the market through auction, tendering or other appropriate means, subject to the outcome of consultation and passing of the relevant subsidiary legislation. It does not however necessarily refer to the actual date of spectrum assignment.

⁵ The CA will promulgate the re-assignment decision later this year.

⁶ Two rounds of public consultation have been completed in 2016 and 2017 respectively.

⁷ The invitation for Expression of Interest was issued in early December 2017. The public consultation on spectrum assignment will be conducted in Q2 2018.

⁸ The public consultation on spectrum re-allocation was completed in September 2017. Subject to the re-allocation decision to be made in April 2018, the public consultation on spectrum assignment will be conducted in Q2 2018.

Spectrum included in previous versions of Spectrum Release Plan

Frequency Band (MHz)	Bandwidth (MHz)	Remarks
216 – 223	7	Use of Channel 11C (219.584 – 221.120 MHz) for digital audio broadcasting (“DAB”) services has ceased since 4 September 2017. Channel 11A to 11D (within the range of 216 – 223 MHz) may be used for new digital broadcasting and telecommunications services, including broadcast-type mobile TV and DAB services.
678 – 686 (UHF TV Channel No. 47)	8	This band was assigned through the auction of radio spectrum in the UHF band held in June 2010 for the provision of broadcast-type mobile TV services.
832.5 – 837.5 877.5 – 882.5	10	These bands were assigned through the auction of radio spectrum in the 850 MHz, 900 MHz and 2 GHz Bands held in February/March 2011 for the provision of public mobile telecommunications services.
885 – 890 930 – 935	10	These bands were assigned through the auction of radio spectrum in the 850 MHz, 900 MHz and 2 GHz Bands held in February/March 2011 for the provision of public mobile telecommunications services.
1466 – 1480	14	This band may be used for new digital broadcasting and telecommunications services, including broadcast-type mobile TV and DAB services. As a result of the second consultation on the development of mobile TV services which took place in January 2008, this band has been reserved subject to further development of the worldwide market.
1780.1 – 1785 1875.1 – 1880	9.8	These bands were assigned through the auction held in June 2009.

Frequency Band (MHz)	Bandwidth (MHz)	Remarks
1904.9 – 1919.9 2019.7 – 2024.7	20	These bands were previously assigned to mobile network operators for the provision of 3G mobile services. The assignments expired on 21 October 2016. In accordance with the decision of the CA announced on 15 November 2013, ⁹ these bands were put back to reserve following the expiry of the relevant assignments in October 2016.
1930.2 – 1940.0 1960.0 – 1969.8 2120.2 – 2130.0 2150.0 – 2159.8	39.2	In accordance with the decision of the CA announced on 15 November 2013, ⁹ these bands were planned to be released for auction towards end 2014 and were therefore included in previous SRP. Following the decision of the CA announced on 2 May 2014, ¹⁰ the bands released for auction were revised to 1920.3 – 1935.1 MHz, 1960.0 – 1969.8 MHz, 2110.3 – 2125.1 MHz and 2150.0 – 2159.8 MHz instead (with a total bandwidth of 49.2 MHz). These revised bands were assigned through the auction held in December 2014 for the provision of public mobile telecommunications services.
2010 – 2019.7	9.7	This band was listed for the auction of radio spectrum in the 850 MHz, 900 MHz and 2 GHz Bands held in February/March 2011 for the provision of public mobile telecommunications services but was not acquired by any bidder in the auction. The CA will review the demand for this band.
2300 – 2390	90	This band was assigned through the auction of spectrum for broadband wireless access service held in February 2012.
2500 – 2515 2620 – 2635	30	These bands were assigned through the auction of spectrum for broadband wireless access service held in January 2009.

⁹ See http://www.coms-auth.hk/filemanager/statement/en/upload/237/ca_statements20131115_en.pdf.

¹⁰ See http://www.coms-auth.hk/filemanager/statement/en/upload/270/decision_20140502_e.pdf.

Frequency Band (MHz)	Bandwidth (MHz)	Remarks
2515 – 2540 2635 – 2660	50	These bands were assigned through the auction of spectrum for broadband wireless access service held in March 2013.
2540 – 2570 2660 – 2690	60	These bands were assigned through the auction of spectrum for broadband wireless access service held in January 2009.

This SRP is for information by the industry and public. Publication of the SRP does not constitute any allocation or assignment of the spectrum. The SRP does not bind the CA in exercise of its discretion in the actual spectrum allocation and assignment. The CA will conduct separate consultation exercises before exercising its powers under sections 32H(2)(a) and (b) and 32I(1) of the Telecommunications Ordinance (Cap 106) as is reasonable in all the circumstances of the case. In making a decision on spectrum allocation and/or assignment, the CA will also take into account all relevant matters of the case. The CA is entitled to depart or deviate from the SRP where the circumstances so warrant. The SRP is subject to annual review and may from time to time be amended, as and when it is considered necessary in the light of latest developments.

Office of the Communications Authority
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