

For information

**Bills Committee on
Telecommunications (Amendment) Bill 2009**

Use of FM Radio Spectrum in Hong Kong

At the Bills Committee meeting held on 30 November 2009, the Administration was requested to provide information on the availability, allocation and use of Frequency Modulation (FM) Band (87MHz - 108MHz) in Hong Kong. This paper sets out the supplementary information requested by the Bills Committee.

Availability of FM frequency spectrum in Hong Kong

2. Hong Kong follows the recommendations of the International Telecommunications Union (ITU) in allocating the spectrum 87 - 108 MHz for FM radio broadcasting services. To avoid mutual radio interference, FM frequencies are separated by 0.2 MHz apart. Technically speaking, there are about 100 FM frequencies available between 87MHz - 108 MHz. In accordance with international practice and having regard to our close proximity to Guangdong and Macao, we need to share the use of these FM frequencies with Guangdong cities and Macao on equity basis. Currently, Hong Kong is using 49 FM frequencies, while about 50 FM frequencies are being used by Guangdong cities and Macao.

3. Moreover, aero-nautical communications are operating in adjacent frequency band (108 – 137 MHz) to FM broadcasting. Therefore, some FM frequencies must be left idle in order to protect aero-nautical communications from undue interference.

4. The 49 FM frequencies used by Hong Kong spread across the FM Band with frequency gaps which are carefully planned to avoid interference with regional and aero-nautical communications. With the adoption of the aforesaid coordinative approach, we could also ensure that co-channel interference in the use of FM frequencies is reduced to the minimum.

Allocation of FM Channels for Territory-wide Coverage

5. Unlike most metropolitan areas in the world, Hong Kong has a

mountainous terrain which makes it particularly challenging to maintain territory-wide FM radio coverage. Multiple transmitting stations are required in order to provide territory-wide radio coverage. In addition, Hong Kong is a small place which renders re-using the same FM frequency at different hilltop stations infeasible.

6. In order to ensure the most efficient use of FM spectrum and hence offering the maximum possible number of FM programme channels in Hong Kong, the Government appointed a consultant in the early 1980s to design a VHF/FM Plan for Hong Kong. According to the recommendations of the consultant, Hong Kong requires seven hilltop¹ transmitting stations at strategic locations in order to provide territory-wide FM radio coverage. To avoid interference, frequency used at one hilltop site cannot be used elsewhere. Therefore, each FM programme channel requires at least seven FM frequencies. All 49 FM frequencies available to Hong Kong for territory-wide broadcasting have therefore been allocated and are currently being taken up by RTHK and the two commercial sound broadcasting licensees (i.e. Commercial Radio Hong Kong and Metro Broadcast) to broadcast seven FM programme channels on a territory-wide basis. Taking account of these requirements, there is thus no more room within the FM spectrum for territory-wide sound broadcasting.

7. A table showing the FM frequencies assigned to the seven FM radio programme channels is attached at the **Annex**.

Commerce and Economic Development Bureau
Office of Telecommunications Authority

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¹ These hilltop transmitting stations are located at Mount Gough, Kowloon Peak, Golden Hill, Beacon Hill, Cloudy Hill, Castle Peak and Lamma Island.

FM Frequency Table in Hong Kong

Radio Programme Channel	Frequencies (MHz)
CRHK Radio 1	88.1 - 89.5
CRHK Radio 2	90.3 - 92.1
RTHK Radio 1	92.6 - 94.4
RTHK Radio 2	94.8 - 96.9
RTHK Radio 4	97.6 - 98.9
Metro Showbiz	99.7 - 102.1
Metro Finance	102.4 - 106.3