

QUESTIONNAIRE ON SPECTRUM REQUIREMENTS FOR TERRESTRIAL  
TELEVISION BROADCASTING IN CONNECTION WITH  
WRC-15 AGENDA ITEM 1.2

**Name of the Administration/Sector Member:**

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- 1
- a) What standards have you adopted for digital terrestrial television broadcasting?
  - b) Have you started introduction of digital terrestrial television services?
  - c) If yes, please provide further detail on the number of multiplexes in use, their technical specifications, the percentage of geographic area or population they are intended to cover and the total spectrum use to inform WP 6A.

**Reply:**

- 1
- a) **DVB-T**
  - b) **Yes**
  - c) **See Annex 1**

- 2
- a) Have you commenced analogue television switch-off?
  - b) If you have any such plans, when do you expect to have completed the analogue switch-off process?

**Reply:**

- 2
- a) **Yes**
  - b) **Analogue switch-off has been completed on the 1 July 2011**

- 3
- a) What is the percentage of viewer uptake of terrestrial television in your country, including those whose service provider uses terrestrial broadcast re-transmission (e.g. in cable networks)?
  - b) If possible, please also provide details of the number or proportion of users who receive television primarily by terrestrial means.

**Reply:**

- 3
- a) **>90%**
  - b)

- 4 a) Indicate how many analogue television transmitters use channels in the frequency sub-band 694-790 MHz (as indicated in Resolution **232 (WRC-12)**).
- b) How many are in the remaining part of the UHF band.

**Reply:**

- 4 a) **N/A. No analogue TV transmitters in operation.**
- b) **N/A. No analogue TV transmitters in operation.**

- 5 a) What frequencies/channels are currently used or intended to be used by digital terrestrial television broadcasting in your country? Please distinguish between those in use and those intended to be used.
- b) If allotments/SFNs are in use, a sketch map of frequency allocations could be included, with an accompanying table of allocations, as shown in Annex 2. Otherwise, it might be possible to show main transmitters and channels, grouped in layers, in a table.
- c) Please indicate how many digital television assignments/allotments use channels in the frequency sub-band 694-790 MHz (as indicated in Resolution **232 (WRC-12)**), and
- d) How many are in the remaining part of the UHF band.

**Reply:**

- 5 a) **UHF channels currently used: 26, 28, 30, 33, 39, 49, 50, 54**  
**UHF channels intended to be used 41, 48, 56, 59**

b)

| Area | Layer 1 | Layer 2 | Layer 3 | Layer 4 | Layer 5 | Layer 6 |
|------|---------|---------|---------|---------|---------|---------|
| SFN1 | 33      | 49      | 50      | 54      | 56      | 59      |
| SFN2 | 26      | 28      | 30      | 39      | 41      | 48      |

c) **5**

d) **7**

- 6 a) Are those frequency bands also shared with other primary services?
- b) If yes, please give details of those systems and their spectrum use.

**Reply:**

- 6 a) **No**
- b) **N/A**

- 7 a) Are those frequency bands also shared with secondary services such as PMSE (Programme Making and Special Events), radio astronomy or wind-profile radar?

- b) If yes, please give details of those systems and their spectrum use.

**Reply:**

- 7 a) No  
b) N/A

- 8 a) Do you foresee the adoption or expansion of television services broadcast using second-generation systems such as DVB-T2?  
b) If yes, please give indicative details of the planned transition, including any simulcast period.

**Reply:**

- 8 a) Yes  
b) **No immediate plans at the moment. Possibly be under future consideration.**

- 9 a) Do you foresee a requirement for new and enhanced services, including HD and 3D television, on the terrestrial television platform?  
b) If yes, please give indicative details of the number and nature of services planned, and if known, the expected timeframe for their introduction.

**Reply:**

- 9 a) Yes  
b) **1 HD channel in operation.**

- 10 a) Are there plans in your country to launch more multiplexes in the future?  
b) If yes, how many more and when? Please also indicate the expected timeframe for their introduction.

**Reply:**

- 10 a) Yes  
b) **Request was sent to ITU for the registration in the GE06 plan of another 5 multiplexes. No further developments at the moment. We don't have specific timeframe.**

- 11 a) What is the amount of spectrum you foresee that will be required for terrestrial television broadcasting, if plans in Questions 8, 9 and 10 are to be supported, and services identified in Questions 6 and 7 are to be taken into account? Please indicate the modes of transmission that will be used, and timeframes.  
If appropriate, a suggested form to express these requirements is shown in Annex 3.

**Reply:**

**11 a) N/A**

ANNEX 1

| Country | No of multiplexes | System & modulation | FEC   | GI    | Reception mode <sup>1</sup> | Capacity per multiplex (Mb/s) | Current percentage population coverage       | Intended percentage population coverage                                      | Content per multiplex  | Total capacity (Mb/s)                  | Total spectrum bandwidth used or intended for implementation (MHz) <sup>2</sup> | Any additional comments (e.g. duration of licences)                                 |
|---------|-------------------|---------------------|-------|-------|-----------------------------|-------------------------------|--|--|--|--|---|---|
| CYP     | 1                 | DVB-T, 64-QAM       | 2/3   | 1/4   | Fixed                       | 19.9                          | 100%   | 100%   | 4 SD MPEG4<br>1 HD MPEG4   | 69.7<br>plus two<br>new muxes<br>(tbc) | 96  | Public service multiplex licensed until 2025  |
|         | 3                 | DVB-T, 16-QAM       | 5/6   | 1/4   | Fixed                       | 16.6                          | 95.0%<br>(85.0%<br>geographical<br>coverage) | According to the license granted the geographical coverage obligation is 75% | Mux 1:<br>6 SD MPEG4<br>Mux 2:<br>6 SD MPEG4<br>Mux 3:<br>3 SD MPEG4 |  |   | Commercial service multiplexes licensed until 2025                                  |
|         | 2                 | [DVB-T, tbc]        | [tbc] | [tbc] | Fixed                       | [tbc]                         | [tbc]  | According to the license granted the geographical coverage obligation is 75% | [tbc]  |  |   | Commercial service multiplexes licensed until 2025<br>Expected national multiplexes |

<sup>1</sup> E.g. fixed, portable outdoor/mobile, portable indoor.

<sup>2</sup> Refer Sections 2 and 3 on page 1 of this circular.