



Information & Communications Technology Authority

Public Consultation

on

**A Policy for the Assignment
of 700 MHz Spectrum - Final**

(Ref: CD 2012-2)

Launch Date: 27 Sep 2012

Closing Date: 25 Oct 2012

Introduction

1. The Information and Communications Technology Authority ("Authority") is responsible, under section 9 of the Information and Communications Technology Authority Law (2011 Revision) ("the Law"), for the management of the electromagnetic spectrum in the Cayman Islands. Section 9 (1) of the Law states that:

9. (1) *Subject to this Law, the Authority has power to do all things necessary or convenient to be done for or in connection with the performance of its functions under this Law.*
- (2) *For the purposes of this section, the Authority shall –*
- (a) *allocate the electromagnetic spectrum for facilities and specified services within the Islands, or between the Islands and elsewhere;*
 - (b) *determine methods for assigning the electromagnetic spectrum;*
 - (c) *issue licences authorising the use of specified portions of the electromagnetic spectrum, including those used on any ship, aircraft, vessel or other floating or airborne contrivance or spacecraft registered in the Islands; and*
 - (d) *institute procedures for ensuring the compliance by licensees with any obligations regarding the use of the electromagnetic spectrum, imposed by or under the licence, this Law or any regulations made hereunder.*

2. In ICT Decision 2008-1, *Decision and Further Process – Policy for the Management and Allocation of Spectrum in the Cayman Islands* (6th March 2008)¹, the Authority noted at paragraph 6 that:

when allocating spectrum, it attempts to balance the following, sometimes competing, requirements:

- *To encourage the provision of quality and innovative ICT services to consumers;*
- *To satisfy Licensees' spectrum requirements;*
- *To ensure the effective and efficient use of spectrum, a scarce national resource; and*
- *To promote sustainable competition in the ICT sector.*

¹ Reference: <http://www.icta.ky/docs/Decisions/ICT%20Decision%202008-1%20Spectrum%20Management.pdf> to view complete document

3. Also, the Authority noted at paragraph 45 that:

Spectrum in the Cayman Islands has never been auctioned or sold, but rather has been assigned on a first-come first-served basis, provided the applicant can demonstrate that:

- a. The spectrum will be used to provide, directly or indirectly, new or enhanced ICT services which will be of benefit to the Cayman Islands.*
- b. The new or enhanced services will be commercially launched within a timescale acceptable to the Authority.*
- c. Efficient use will be made of the spectrum.*
- d. His use of the spectrum will not cause interference with the systems of other Licensees or third parties.*
- e. His use of the spectrum is consistent with the allocations recommended for ITU Zone 2.*
- f. The assignment will not adversely impact the development of competition in the ICT sector.*

4. The Authority is of the view that the above identified policy and spectrum assignment procedure remain appropriate.

5. On the assignment of the 700 MHz spectrum, the Authority has conducted two previous public consultations. At the end of the first consultation (CD 2009-3²) the Authority determined that the responses did not provide enough information on intended use for the Authority to come to a definitive conclusion on the best way of assigning channels in this spectrum. Further, as there were no immediate plans by licensees to use this spectrum, it was decided to wait until there was a specific planned use before looking to finalise any policy for the assignment of the 700 MHz spectrum.

6. The second consultation on 700 MHz spectrum allocation (CD 2011-1³) resulted in a Decision that was published on 1st December 2011. During that consultation the responses received indicated that the preference was to adopt the United States Federal Communications Commission ("FCC") Band Plan for the 700 MHz spectrum, as the majority of equipment and devices purchased by licensees, for use in the Cayman Islands, would likely be sourced from the US in order to help to keep costs down and achieve a faster implementation. While the Authority was in agreement in principle that the allocation of 700 MHz spectrum should be similar to that made by the FCC⁴, the Authority considered that it would be appropriate to see what developed over the coming months before making final decisions on this issue.

² Please see http://www.icta.ky/da_public.php#s700 for complete documents.

³ See complete documents at: http://www.icta.ky/da_public.php#s700_2

⁴ See ICT Decision 2011-2 at: http://www.icta.ky/da_public.php#s700_2

7. As discussed in the paragraphs below, the technical landscape has changed rapidly in the 700 MHz spectrum band since the Authority's Decision was issued in early December 2011. The Authority now considers that there is sufficient information available for it to make an informed decision as to the most appropriate allocation of the 700 MHz spectrum for the Cayman Islands, subject to the responses to this consultation. Sections 2 and 3 below set out the current market progress in this area.

U.S. 700 MHz LTE progress

8. The following summarises the results of the Authority's research into the current state of the LTE roll-out in the U.S. with focus on the 700 MHz usage.

Verizon

9. Verizon is by far the furthest advanced in its deployment of an LTE system that uses the 700 MHz spectrum. Verizon currently covers 230 markets across the US, which represents two thirds of the population of the country, and it is expecting to cover a total of 400 markets, accounting for approximately 260 million people, by the end of 2012.⁵
10. Verizon has a large 22 MHz (Upper C band) block nationwide and in a few markets it also has an additional 12 MHz (Lower A band) and/or 12 MHz (Lower B band).

AT&T

11. AT&T has the second largest 700 MHz LTE network at the current time. It started rolling out that network in 2011 and went live in 15 markets in late 2011. Currently, AT&T is established in 72 markets, covering over 74 million people across the US. It expects to complete a nationwide network by the end of 2013.⁶
12. AT&T has two 12 MHz bands (Lower B band and Lower C band) that covers most but not all of the US. There are some large US cities, Miami as an example, in which AT&T only has 12 MHz (Lower C band) bands.

⁵ Information referenced from <http://www.zdnet.com/blog/gadgetreviews/the-state-of-4g-lte-verizon-sprint-and-at-t/29218>

⁶ Information referenced from <http://www.att.com/gen/press-room?pid=2943>

GSA Report on 700 MHz LTE Devices

13. In addition to monitoring news of the rapid build-out of networks using 700 MHz spectrum in the US, the Authority has also been monitoring information regarding devices being manufactured for this spectrum range worldwide.
14. According to the Global mobile Suppliers Association ("GSA") September 2012 report⁷, there are currently 417 LTE devices. Of these devices there are more being manufactured for the 700 MHz spectrum range than any other spectrum range for LTE use worldwide.
15. Of particular interest, GSA has also stated in their April 2012 report that "the majority of LTE user devices today support the 700 MHz band where LTE networks and services are developing fastest, especially in North America."⁸
16. See the following list for a breakdown of the current amount of available LTE devices by spectrum:
 - **700 MHz (US Digital Dividend, various bands) 193 devices**
 - 800 MHz (EU Digital Dividend, Band 20) 90 devices
 - 1800 MHz (Band 3) 98 devices
 - 2600 MHz (Band 7) 120 devices
 - 800/1800/2600 MHz 75 devices
 - AWS (Band 4) 78 devices

Source: GSA July 2012 Report 'Status of the LTE Ecosystem'

US FCC 700 MHz spectrum allocations

17. Given the recent developments in the US roll-out of LTE in the 700 MHz band and licensees' stated preference in the previous public consultation, the Authority is minded to allocate spectrum within the 700 MHz frequency range in line with the current FCC 700 MHz Band Plan. Those allocations are:

FCC 700 MHz Bands

<u>Lower Bands</u>	<u>Bandwidth</u>
<i>Block A</i> 698-704 & 728-734	12 MHz Paired
<i>Block B</i> 704-710 & 734-740	12 MHz Paired
<i>Block C</i> 710-716 & 740-746	12 MHz Paired
<i>Block D</i> 716-722	6 MHz
<i>Block E</i> 722-728	6 MHz

⁷ http://www.gsacom.com/news/gsa_354.php

⁸ http://www.gsacom.com/news/gsa_350.php

<u>Upper Bands</u>	<u>Bandwidth</u>
<i>Block A 757-758 & 787-788</i>	2 MHz Paired
<i>Block B 775-776 & 805-806</i>	2 MHz Paired
<i>Block C 746-757 & 776-787</i>	22 MHz Paired
<i>Block D 758-763 & 788-793</i>	10 MHz Paired
<u>Public Safety Use Only</u>	<u>Bandwidth</u>
<i>Broadband 763-768 & 793-798</i>	10 MHz Paired
<i>Narrowband 769-775 & 799-805</i>	12 MHz Paired

700 MHz Public Safety Bands

18. The FCC model for the 700 MHz spectrum reserves 22 MHz for Public Safety use. The FCC has split the use for Public Safety Bands into Broadband and Narrowband as shown above.
19. Similarly, the Authority proposes to reserve 22 MHz of the 700 MHz for use by public safety agencies in the Cayman Islands – noting that currently the 764 to 776 MHz frequency is already assigned to the C.I. Government. If, in due course, public safety agencies do not require all of the 22 MHz reserved bandwidth, the bandwidth not required by those agencies may be released for reassignment.

700 MHz Spectrum Allocation for the Cayman Islands

20. The Authority proposes to adopt the FCC 700 MHz Band Plan for the Cayman Islands. However, unlike the FCC, the Authority proposes initially to allocate a maximum of 12 MHz (paired) to each licensee who applies and fulfills the required criteria for spectrum allocation.
21. The Authority notes that 12 MHz is the amount of spectrum that AT&T is using to provide LTE 4G services in a number of large markets, e.g. Chicago, L.A. and Miami⁹. As these are much larger markets in respect to both population and businesses than Cayman, it is the Authority's view that initially this amount of spectrum should be adequate for each applicant interested in using this spectrum in the Cayman Islands.

⁹ <http://www.phonescoop.com/articles/article.php?a=187&p=231>

Procedure to Apply for 700 MHz Spectrum

22. The Authority proposes that all Licensees' previous requests for assignment of frequencies within the 700 MHz spectrum range should be resubmitted to the Authority once this consultation is concluded by the Authority finalising its policy for this spectrum range.
23. It is likely that several parties will request the same or overlapping frequency allocations. The Authority therefore proposes to invite applications for the initial assignment of 700 MHz spectrum to be received by the Authority within 60 days of when the Authority issues its decision in this proceeding. The Authority would then review each application and make a decision based on each submission's merits via a 'beauty contest' – with the 'merits' being broadly based on the factors set out at paragraph 3 above.

Requested Responses

24. The Authority welcomes comments along with any supporting information, documentation, and detailed rationale on the following questions:
- a. Should the Authority use the FCC spectrum allocation model for the 700 MHz spectrum in the Cayman Islands?
 - b. Should the Authority limit the maximum bandwidth allocation to 12 MHz (paired) at this time?
 - c. Is 60 days an appropriate amount of time to accept applications for the initial assignment of this spectrum upon conclusion of this consultation proceeding?
 - d. Is it appropriate for the Authority to make a decision on multiple applications applying for similar or conflicting bands by holding an applicant 'beauty contest'?
 - e. Are there any other comments relevant to this consultation and if so what are they?

Procedure for Submissions

25. All submissions on this issue should be in writing to be received by the Authority by 25 October 2012 at the latest.
26. The Authority will post any comments received on its website by 5 pm on 29 Oct 2012 and parties may file reply comments to any other parties comments by 2 Nov 2012. Parties who submit reply comments are to send

a copy to any party whose comments are addressed in the reply comments at the same time the reply comments are submitted to the Authority.

Submissions may be filed as follows:

By e-mail to:

consultations@icta.ky

Or by post:

Information and Communications Technology Authority
P.O. Box 2502
Grand Cayman KY1-1104
CAYMAN ISLANDS

Or by courier:

Information and Communications Technology Authority
3rd Floor, Alissta Towers
85 North Sound Road
Grand Cayman
CAYMAN ISLANDS

Or by fax to:

(345) 945-8284