



**AUCTION OF  
1800 MHZ SPECTRUM RIGHTS (2013) AND  
2.5 GHZ SPECTRUM RIGHTS (2013)**

**INFORMATION MEMORANDUM**

26 APRIL 2013  
(UPDATED ON 4 June 2013)

INFO-COMMUNICATIONS DEVELOPMENT AUTHORITY  
REPUBLIC OF SINGAPORE

## Important Notice

***Terms and expressions used in this Important Notice are as defined in this Information Memorandum.***

This Information Memorandum has been prepared in connection with the proposed grant of 1800 MHz Spectrum Rights (2013) and 2.5 GHz Spectrum Rights (2013) pursuant to the Telecommunications Act (Cap. 323) and Telecommunications (Radio-communication) Regulations. This Information Memorandum is for informational purposes only. It is made available on the express understanding that it will be used for the sole purpose of assisting an interested party in deciding whether it wishes to proceed with a further investigation of possible participation in the allocation process.

This Information Memorandum is not intended to form any part of the basis of any investment decision or other evaluation of any decision to participate in the allocation process and should not be considered as a recommendation by IDA or IDA's advisers to participate in the allocation process. Each interested party must make its own independent assessment of the potential value of an 1800 MHz Spectrum Right (2013) or a 2.5 GHz Spectrum Right (2013) after making such investigation as it may deem necessary. All information contained in this Information Memorandum may be updated or amended at any time.

While the information contained in this Information Memorandum is accurate as at the time of posting on IDA's website, neither IDA nor any of IDA's advisers nor any of their respective directors, partners, officers or employees make any representation or warranty (express or implied) nor has nor will have any responsibility or liability in relation to the accuracy or completeness of the information contained in this Information Memorandum or any other written or oral information made available to any interested party or its advisers. Any responsibility or liability in respect of any such information or any inaccuracy in this Information Memorandum or omission from this Information Memorandum is expressly disclaimed.

This Information Memorandum does not constitute an offer or invitation to participate in the allocation process.

**Each recipient of this Information Memorandum should consult its own professional advisers or other relevant government agencies on the financial, legal, tax and other matters concerning any potential participation in the allocation process, any grant or any payments related to the grant of an 1800 MHz Spectrum Right (2013) or a 2.5 GHz Spectrum Right (2013).**

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## (A) GENERAL INFORMATION

### 1. Introduction

1.1 The Info-communications Development Authority of Singapore (“IDA”) is the authority in charge of regulating and promoting the information and communication technology industry in Singapore. Pursuant to the Telecommunications Act (Cap. 323) and the Telecommunications (Radio-communication) Regulations, IDA will offer to grant 1800 MHz Spectrum Rights (2013) and 2.5 GHz Spectrum Rights (2013) in respect of the 2 x 5 MHz lots of 1800 MHz spectrum (each lot to be known as an “**1800 MHz Spectrum Lot**”) or 2.5 GHz spectrum (each lot to be known as a “**2.5 GHz Spectrum Lot**”) respectively, allocated by way of the process described in this Information Memorandum (“**allocation process**”). An 1800 MHz Spectrum Right (2013) or a 2.5 GHz Spectrum Right (2013) will permit the use of the respective 1800 MHz Spectrum Lots or 2.5 GHz Spectrum Lots to operate telecommunication system(s) for the purposes of providing fourth-generation (“**4G**”) and other telecommunication services, provided that the party granted the 1800 MHz Spectrum Right (2013) and/or 2.5 GHz Spectrum Right (2013) has the necessary Facilities-Based Operator Licence (“**FBO Licence**”) for such operations. This Information Memorandum contains important information that interested persons should read and understand for the purpose of the allocation process.

1.2 This Information Memorandum contains:

- (a) Details of the 1800 MHz Spectrum Lots and 2.5 GHz Spectrum Lots available for allocation and the 1800 MHz Spectrum Rights (2013) or 2.5 GHz Spectrum Rights (2013) that will be granted in respect thereof;
- (b) A review of associated policy issues;
- (c) An indicative timetable; and
- (d) A description of the allocation process.

Unless expressly specified otherwise, terms and expressions used in this Information Memorandum are defined in the Auction Rules, as issued by IDA on 26 April 2013.

## 2. Spectrum Lots to be Allocated

- 2.1 A total of fifteen (15) 1800 MHz Spectrum Lots and twelve (12) 2.5 GHz Spectrum Lots are available for allocation, as shown in Table 1. The specific 1800 MHz Spectrum Lots and/or 2.5 GHz Spectrum Lots to be allocated will be determined through the allocation process. This process will comprise a New Entrant Allocation stage followed by a Main Auction stage, both of which are described in more detail below.

Table 1: Spectrum Lots Available for Allocation

Lot	Lower Band (MHz)	Upper Band (MHz)
<u>1800 MHz Spectrum Lots</u>		
1	1710 – 1715	1805 – 1810
2	1715 – 1720	1810 – 1815
3	1720 – 1725	1815 – 1820
4	1725 – 1730	1820 – 1825
5	1730 – 1735	1825 – 1830
6	1735 – 1740	1830 – 1835
7	1740 – 1745	1835 – 1840
8	1745 – 1750	1840 – 1845
9	1750 – 1755	1845 – 1850
10	1755 – 1760	1850 – 1855
11	1760 – 1765	1855 – 1860
12	1765 – 1770	1860 – 1865
13	1770 – 1775	1865 – 1870
14	1775 – 1780	1870 – 1875
15	1780 – 1785	1875 – 1880
<u>2.5 GHz Spectrum Lots</u>		
1	2500 – 2505	2620 – 2625
2	2505 – 2510	2625 – 2630
3	2510 – 2515	2630 – 2635
4	2515 – 2520	2635 – 2640
5	2520 – 2525	2640 – 2645
6	2525 – 2530	2645 – 2650
7	2530 – 2535	2650 – 2655
8	2535 – 2540	2655 – 2660
9	2540 – 2545	2660 – 2665
10	2545 – 2550	2665 – 2670
11	2550 – 2555	2670 – 2675
12	2555 – 2560	2675 – 2680

## 3. Existing Use of the Spectrum

- 3.1 Spectrum lots in the 1800 MHz frequency band have been designated for the provision of Public Cellular Mobile Telecommunication Services (“**PCMTS**”) in Singapore. Except for the 1800 MHz Spectrum Lot 5, the rest of the spectrum lots in the 1800 MHz frequency band have been assigned to SingTel Mobile Pte Ltd, M1 Limited and StarHub Mobile Pte Ltd through their respective

PCMTS Spectrum Rights, 1800 MHz Spectrum Right, and 1800 MHz Spectrum Right (2011), all of which will expire on 31 March 2017.

- 3.2 Spectrum lots in the 2.5 GHz frequency band have been designated for the provision of Wireless Broadband Access (“**WBA**”) services in Singapore. Part of the 2.5 GHz frequency band has been assigned to M1 Limited, SingTel Mobile Pte Ltd, StarHub Mobile Pte Ltd, and Packet One (S) Pte Ltd through their respective WBA Spectrum Rights, which will expire on 30 June 2015. In addition, IDA has assigned part of the 2.5 GHz frequency band on an administrative basis through the “Framework for Assignment of Frequencies on Non-Interference and Unprotected Basis” published by IDA on 8 March 2010.
- 3.3 In the “Interim Decision issued by IDA on the Spectrum Framework for 4G Mobile Communication Systems in Singapore” published on 24 January 2011, IDA has stated that as a policy, IDA allows the deployment of LTE systems in the 1800 MHz frequency band and the 2.5 GHz frequency band using existing spectrum rights.

#### **4. Use of the Spectrum Lots**

- 4.1 Any operator granted an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) will be required to deploy 4G telecommunication systems and provide 4G telecommunication services using all or part of its assigned spectrum in the respective frequency band(s). For the purpose of determining what a 4G telecommunication system or service is with respect to this requirement, 4G is defined as “*a cellular mobile communications system capable of evolving to achieve the targeted peak data rates of 100 Mbits/s for high mobility and 1 Gbit/s for low mobility as defined by ITU-IMT-Advanced; meeting at the minimum the standards and specifications of either LTE (i.e. 3GPP Release 8), or WiMax (i.e. IEEE 802.16-2009) or standards/specifications recognised as ITU-IMT-Advanced by the ITU.*”
- 4.2 Any operator granted an 1800 MHz Spectrum Right (2013) or a 2.5 GHz Spectrum Right (2013) (except the New Entrant Spectrum Right (please see Section A paragraph 6 for more details)) will also be required to comply with the following timelines for deployment of nationwide 4G telecommunication systems and services, depending on the spectrum portfolio allocated to them pursuant to the Auction:

<b>Operator which has been allocated:</b>	<b>Nationwide coverage requirements<sup>1</sup> (except MRT underground stations/lines and road tunnels)</b>	<b>Coverage requirements for MRT underground stations/lines and road tunnels</b>
At least 2 x 15 MHz of spectrum in the 2.5 GHz bands	by <u>30 June 2016</u>  (i.e., 12 months after the commencement of new spectrum rights in the 2.5 GHz band)	by <u>30 June 2018</u>  (i.e., 36 months after the commencement of new spectrum rights in the 2.5 GHz band)
Any other combination of spectrum in the 1800 MHz band and/or the 2.5 GHz band  (E.g., spectrum in the 1800 MHz band only; or less than 2 x 15 MHz of spectrum in the 2.5 GHz band)	by <u>31 March 2018</u>  (i.e., 12 months after the commencement of new spectrum rights in the 1800 MHz band)	by <u>31 March 2020</u>  (i.e., 36 months after the commencement of new spectrum rights in the 1800 MHz band)

4.3 The New Entrant granted the 2.5 GHz Spectrum Right (2013) in respect of the four (4) 2.5 GHz Spectrum Lots allocated via the New Entrant Allocation stage will be required to comply with the following timelines for deployment of nationwide 4G telecommunication systems and services:

	<b>Nationwide coverage requirements (except MRT underground stations/lines and road tunnels)</b>	<b>Coverage requirements for MRT underground stations/lines and road tunnels</b>
<b>Timeline</b>	by <u>30 June 2018</u>  (i.e., 36 months after the commencement of new spectrum rights in the 2.5 GHz band)	by <u>30 June 2020</u>  (i.e., 60 months after the commencement of new spectrum rights in the 2.5 GHz band)

4.4 Any operator granted an 1800 MHz Spectrum Right (2013) or a 2.5 GHz Spectrum Right (2013) will be required to negotiate in good faith to provide wholesale 4G telecommunication services, upon receiving a reasonable request for such provision.

4.5 Any operator granted an 1800 MHz Spectrum Right (2013) will also be required to provide, at the minimum, a publicly available mobile voice telephony service which meets the requirements for level “8” and “9” telephone numbers, within the service scope and obligations under its FBO licence(s). This includes the requirements to provide nationwide coverage by the timeframes specified in paragraphs 4.2 and (in the case of a New Entrant)

<sup>1</sup> The service coverage must extend to the whole island of Singapore (including MRT underground stations/lines and road tunnels), the offshore islands and the territorial waters of up to 15km from the coast line of the island of Singapore.

4.3, free access to emergency services, and uninterrupted, seamless call handover when moving from location to location at a speed of up to 100km/h. The operator may satisfy this requirement using only a portion of the spectrum in its 1800 MHz Spectrum Right (2013). It is also not required to satisfy this requirement through the use of 4G technologies only.

## 5. Rationale for Auction Approach

5.1 The allocation process for the 1800 MHz Spectrum Rights (2013) and 2.5 GHz Spectrum Rights (2013) will rely on the auction mechanism. This takes into account that spectrum is a scarce and finite resource and that a market-based allocation approach, such as an auction, is more effective in ensuring spectrum optimisation by operators. An auction will be a more efficient, objective and transparent approach for allocating scarce resources because it relies on market forces to allocate scarce resources to those who value them most.

## 6. Allocation for New Entrants

6.1 In order to facilitate greater competition and innovation in the market for the provision of 4G telecommunication services, IDA is prepared to grant a 2.5 GHz Spectrum Right (2013) in respect of four (4) 2.5 GHz Spectrum Lots ("**New Entrant Spectrum Right**") to an operator that is a New Entrant. IDA considers a New Entrant to be any operator that does not currently provide nationwide mobile system and service coverage in Singapore, i.e., an operator that is not SingTel Mobile Singapore Pte Ltd, StarHub Mobile Pte Ltd or M1 Limited (collectively, the "**existing nationwide operators**"), and that is not an associate of an existing nationwide operator<sup>2</sup>.

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<sup>2</sup> A person, *A*, is an associate of another person, *B*, if —

(a) *A* is a relative of *B*;

(b) *A* is a related corporation of *B*;

(c) *A* is a corporation whose directors are accustomed or under an obligation, whether formal or informal, to act in accordance with the directions, instructions or wishes of *B* or, where *B* is a corporation, of the directors of *B*;

(d) *B* is a corporation whose directors are accustomed or under an obligation, whether formal or informal, to act in accordance with the directions, instructions or wishes of *A* or, where *A* is a corporation, of the directors of *A*;

(e) *A* is a person who is accustomed or under an obligation, whether formal or informal, to act in accordance with the directions, instructions or wishes of *B* or, where *B* is a corporation, of the directors of *B*;

(f) *B* is a person who is accustomed or under an obligation, whether formal or informal, to act in accordance with the directions, instructions or wishes of *A* or, where *A* is a corporation, of the directors of *A*;

(g) *A* is a corporation in which *B*, alone or together with other associates of *B* as described in paragraphs (b) to (f), is in a position to control not less than 12% of the voting power in *A*;

(h) *B* is a corporation in which *A*, alone or together with other associates of *A* as described in paragraphs (b) to (f), is in a position to control not less than 12% of the voting power in *B*;

(i) *A* is a person with whom *B* has an agreement or arrangement, whether oral or in writing and whether express or implied, to act together with respect to the provision of telecommunication services;



- 6.2 The reserve price for the New Entrant Spectrum Right shall be the total Reserve Price of the four (4) 2.5 GHz Spectrum Lots. The allocation of the four (4) 2.5 GHz Spectrum Lots (“**New Entrant Allocation stage**”) will take place prior to the Main Auction in accordance with Section B. Any New Entrant intending to be take part in the New Entrant Allocation stage must submit a binding expression of interest and other information in accordance with the requirements described in Section B (“**Expression of Interest Document**”). Should the four (4) 2.5 GHz Spectrum Lots not be allocated at the close of the New Entrant Allocation stage, they will be made available for allocation in the Main Auction.
- 6.3 IDA will determine: (a) whether the Expression of Interest Document and Bank Guarantee(s) are in compliance with the Auction Rules; and (b) whether a party submitting such documents is eligible and should be registered as a New Entrant Bidder and entitled to participate in the New Entrant Auction.
- 6.4 Any party considering participation in the New Entrant Allocation stage should not assume that their application to participate in, their participation in, or the results of, the New Entrant Allocation stage will be kept confidential. IDA may also publicly announce information relating to the New Entrant Allocation stage and/or the provisional award of the four (4) 2.5 GHz Spectrum Lots either during or following the close of the New Entrant Allocation stage or the relevant procedure, without consulting any interested party.
- 6.5 IDA retains the discretion whether to proceed with the New Entrant Allocation stage in all situations.

## **7. Main Auction Registration and Initial Offers**

- 7.1 The Main Auction will take place after the New Entrant Allocation stage. Any party intending to participate in the Main Auction must use the Initial Offer Document to submit an Initial Offer for the number of 1800 MHz Spectrum Lots and/or the number of 2.5 GHz Spectrum Lots it wishes to obtain at the respective Reserve Price, capped by the spectrum caps specified in the Auction Rules, that is:
- (a) no more than eleven (11) 1800 MHz Spectrum Lots and 2.5 GHz Spectrum Lots in total, if no New Entrant Bidder is provisionally awarded the four (4) 2.5 GHz Spectrum Lots in the New Entrant Allocation stage prior to the Main Auction; or
  - (b) no more than nine (9) 1800 MHz Spectrum Lots and 2.5 GHz Spectrum Lots in total, if a New Entrant Bidder is provisionally awarded the four

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(j) *A* is a person with whom *B* has an agreement or arrangement, whether oral or in writing and whether express or implied, to trade or lease or otherwise transfer the right to use spectrum in the 1800 MHz or 2.5 GHz spectrum bands; or

(k) *A* is related to *B* in such other manner as prescribed by any regulations made under section 74 of the Telecommunications Act (Cap. 323).

(4) 2.5 GHz Spectrum Lots in the New Entrant Allocation stage prior to the Main Auction<sup>3</sup>; and

(c) no more than six (6) 1800 MHz Spectrum Lots.

- 7.2 The party must also submit one or more Bank Guarantees that in total guarantee at least the Guaranteed Amount, which is calculated by multiplying the respective Reserve Price by the number of 1800 MHz Spectrum Lots and/or 2.5 GHz Spectrum Lots it submits an Initial Offer for. Copies of the Initial Offer Document and Bank Guarantee are set out in Appendices 6 and 7 to the Auction Rules respectively.
- 7.3 IDA will determine: (a) whether the Initial Offer Document and Bank Guarantee(s) are in compliance with the Auction Rules; and (b) whether a party submitting such documents is eligible and should be registered as a Bidder and entitled to participate in the Main Auction.
- 7.4 Any party considering participation in the Main Auction should not assume that their application to participate in, their participation in, or the results of, the Main Auction will be kept confidential. IDA may also publicly announce information relating to the Main Auction and/or the award of an 1800 MHz Spectrum Right (2013) or a 2.5 GHz Spectrum Right (2013) either during or following the close of the Main Auction, or the relevant procedure, without consulting any interested party.
- 7.5 For the avoidance of doubt, any party that has participated in the New Entrant Allocation stage is not precluded from participating in the Main Auction.

## **8. Determination as to whether the Main Auction will Proceed**

- 8.1 IDA retains the discretion whether to proceed with the Main Auction in all situations. For example, if the Initial Offers received by IDA specify no more than the number of 1800 MHz Spectrum Lots and no more than the number of 2.5 GHz Spectrum Lots available for allocation in the Main Auction in aggregate, IDA will not proceed with the Quantity Stage of the Main Auction and will allocate to each Bidder the number of 1800 MHz Spectrum Lots and/or 2.5 GHz Spectrum Lots specified in its Initial Offer. Each 1800 MHz Spectrum Lot and/or 2.5 GHz Spectrum Lot so allocated will be priced at the respective Reserve Price. The Main Auction will commence at the Assignment Stage in this case.
- 8.2 Please refer to Section C for details on how the 1800 MHz Spectrum Lots and 2.5 GHz Spectrum Lots will be allocated when the Main Auction proceeds.

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<sup>3</sup> In the case of the New Entrant Bidder, this total would include the four (4) 2.5 GHz Spectrum Lots provisionally awarded to it in the New Entrant Allocation stage.

## **9. Reserve Price**

9.1 The Reserve Price for each 1800 MHz Spectrum Lot is S\$16,000,000 and the Reserve Price for each 2.5 GHz Spectrum Lot is S\$10,000,000. The Reserve Price is exclusive of the applicable Goods and Services Tax (“GST”).

## **10. Fees and Charges Other than Spectrum Lot Fee and Winning Assignment Bid Payable for the Duration of the 1800 MHz Spectrum Rights (2013) and 2.5 GHz Spectrum Rights (2013)**

10.1 A Bidder (including any New Entrant Bidder) which is allocated any 1800 MHz Spectrum Lot and/or 2.5 GHz Spectrum Lot (“**Winning Bidder**”) and is granted an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) shall make the following payments in respect of each 1800 MHz Spectrum Lot or 2.5 GHz Spectrum Lot allocated to it:

- (a) An Annual Charge of S\$26,400, exclusive of the applicable GST; and
- (b) A one-time Application and Processing Fee of S\$5,400, exclusive of the applicable GST, to be paid in the first year of the duration of the respective 1800 MHz Spectrum Right (2013) and/or 2.5 GHz Spectrum Right (2013).

## **11. Outcome of the Main Auction**

11.1 In the case where the Main Auction proceeds, the outcome of the Main Auction will determine:

- (a) The number of available Spectrum Lots to be allocated should the Main Auction commence at the Quantity Stage;
- (b) The Winning Bidders arising from the Main Auction; and
- (c) The Winning Bids and any Winning Assignment Bids for the 1800 MHz Spectrum Lots and/or 2.5 GHz Spectrum Lots allocated under the Main Auction.

## **12. 1800 MHz Spectrum Rights (2013) and 2.5 GHz Spectrum Rights (2013), FBO Licences and Station/Network Licences, and Roll-out Requirements**

12.1 An 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) will constitute the grant of a right to use the specified portions of the radio frequency spectrum to operate a 4G telecommunication system for the purposes of providing 4G telecommunication services and other telecommunication services under that respective 1800 MHz Spectrum Right (2013) and/or 2.5 GHz Spectrum Right (2013).

12.2 A Winning Bidder is not required to apply for a new FBO Licence or Radio-Communications Network Licence pursuant to the grant of an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013), if it is already a holder of these licences. However, the Winning Bidder will need to

obtain IDA's approval to amend its existing FBO Licence and Radio-Communications Network Licence in order to provide 4G telecommunication services using the 1800 MHz Spectrum Right (2013) and/or 2.5 GHz Spectrum Right (2013). The Winning Bidder will also need to apply for IDA's approval to amend its existing FBO Licence and Radio-Communications Network Licence if it intends to provide other telecommunication services such as 3G services using the Spectrum Right(s), if it is not already licensed to do so. In both instances, the Winning Bidder will have to pay the applicable FBO Licence fees for the provision of the respective services under its existing FBO Licence using the 1800 MHz Spectrum Right (2013) or 2.5 GHz Spectrum Right (2013). In the event the Winning Bidder's existing FBO Licence will expire before the expiry of the Spectrum Right(s), the Winning Bidder may apply to IDA to extend the expiry of the existing FBO Licence to coincide with the expiry of the Spectrum Right(s).

- 12.3 A Winning Bidder that does not hold an FBO Licence at the time it is provisionally granted an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) must apply for an FBO Licence within thirty (30) Business Days of the provisional grant of an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013). Details on the FBO Licensing Framework and Guidelines can be found on IDA's website at [www.ida.gov.sg](http://www.ida.gov.sg). The FBO Licence must be obtained before telecommunication systems are deployed in Singapore and telecommunication services are provided using the 1800 MHz Spectrum Lot(s) and/or 2.5 GHz Spectrum Lot(s) specified in the 1800 MHz Spectrum Right (2013) and/or 2.5 GHz Spectrum Right (2013) granted to such Bidder.
- 12.4 By participating in the New Entrant Allocation stage and/or the Main Auction, a Winning Bidder is deemed to have been notified of, and have acceded to, the specific terms and conditions to be included in the FBO Licence, including the Schedule in relation to the provision of 4G telecommunication systems and services pursuant to the grant of an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) set out in Appendix 1.
- 12.5 All holders of FBO Licences will be required to pay the annual FBO Licence fees based on the provision of services specified in the FBO Licence Schedules. Please refer to IDA's website for a template of an FBO Licence<sup>4</sup>.
- 12.6 In addition, a Winning Bidder granted an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) will be required to apply for, and obtain, the relevant Station/Network (Spectrum) Licence(s) before operating the radio-communication systems to provide 4G telecommunication services using the 1800 MHz Spectrum Lot(s) and/or 2.5 GHz Spectrum Lot(s). The

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<sup>4</sup> <http://www.ida.gov.sg/Policies-and-Regulations/Industry-and-Licencees/Licensing/Framework-and-Guidelines/Guidelines-on-Licensing-Schemes.aspx#.UMvsCqzveCk>

fees payable for such Station/Network (Spectrum) Licences are prescribed in the First Schedule of the Telecommunications (Radio-communication) Regulations.

- 12.7 An 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) is granted by IDA pursuant to the powers granted to IDA under the Telecommunications Act (Cap. 323) (“**Telecommunications Act**”) and the Telecommunications (Radio-communication) Regulations. Templates of the 1800 MHz Spectrum Right (2013) and 2.5 GHz Spectrum Right (2013) are attached as Appendices 8 and 9 to the Auction Rules respectively. For the avoidance of doubt, IDA reserves the right to amend any of the conditions specified in the templates or to add or remove conditions as it considers appropriate.

### **13. Duration of 1800 MHz Spectrum Right (2013) and 2.5 GHz Spectrum Right (2013)**

- 13.1 An 1800 MHz Spectrum Right (2013) granted under the Main Auction, or otherwise allocated by IDA if the Main Auction does not proceed, will be effective as of 1 April 2017 or such other date as IDA may determine in accordance with the Auction Rules. A 2.5 GHz Spectrum Right (2013) granted under the Main Auction or otherwise allocated by IDA if the Main Auction does not proceed, will be effective as of 1 July 2015 or such other date as IDA may determine in accordance with the Auction Rules. The 1800 MHz Spectrum Rights (2013) and 2.5 GHz Spectrum Rights (2013) will be valid until 30 June 2030. There is no commitment by IDA that an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) allocated under this allocation process will be extended for any period, if at all.
- 13.2 If, at IDA’s discretion, there is any grant of an extension of an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013), or if there is any new allocation exercise for spectrum in the 1800 MHz and/or 2.5 GHz frequency bands, in which a Winning Bidder participates or is involved, there is no commitment by IDA that the same 1800 MHz Spectrum Lots and/or 2.5 GHz Spectrum Lots will be re-allocated in that subsequent extension or allocation exercise to the Winning Bidder for the respective Spectrum Lots in the allocation process, or that the same applicable fees and charges will apply in respect of these Spectrum Lots.

### **14. Spectrum Trading**

- 14.1 Spectrum trading of the whole or any part of rights and privileges granted under the spectrum rights allocated pursuant to the grant of an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) is subject to:
- (a) Written approval from IDA;
  - (b) Any restriction, condition or such other requirements as may be generally or specifically imposed by IDA, including but not limited to the

requirement that the holder of the 1800 MHz Spectrum Right (2013) and/or 2.5 GHz Spectrum Right (2013) has provided nationwide 4G telecommunication systems and services coverage, except at MRT underground stations/lines and road tunnels, in accordance with the timeline set out in the FBO Licence; and

- (c) The relevant provisions of the Telecommunications (Radio-communication) Regulations and Code of Practice for Competition in the Provision of Telecommunication Services (“**Telecom Competition Code**”).

## **15. Interim Spectrum Right (2013)**

- 15.1 IDA will offer the Winning Bidder provisionally granted the 1800 MHz Spectrum Right (2013) in respect of 1800 MHz Spectrum Lot 5 (1730 MHz to 1735 MHz paired with 1825 MHz to 1830 MHz) the option for the grant of an additional spectrum right, subject to the payment of the charges set out in paragraph 15.2 of this Information Memorandum and the Interim Spectrum Right Form attached at Appendix 2, for the use of the frequencies in the provisionally granted 1800 MHz Spectrum Lot 5 during an interim period from ten (10) Business Days after IDA receives payment for the spectrum right to 31 March 2017 (“**Interim Spectrum Right (2013)**”). The corresponding 1800 MHz Spectrum Right (2013) would commence following the expiry of the Interim Spectrum Right (2013). The conditions of the Interim Spectrum Right (2013) will be substantially similar to the conditions of the 1800 MHz Spectrum Right (2011) that was assigned to M1 Limited<sup>5</sup>. Should it take up the option, this Winning Bidder will also be required to provide a guard band of at least 200 kHz on the lower frequency boundary of the lot, unless it also holds the spectrum right for the spectrum lot on the other side of the boundary (i.e., 1800 MHz Spectrum Lot 4, 1725 MHz to 1730 MHz paired with 1820 MHz to 1825 MHz). A template of the Interim Spectrum Right (2013) is attached as Appendix 3. For the avoidance of doubt, IDA reserves the right to amend any of the conditions specified in the template in Appendix 3 or to add or remove conditions as it considers appropriate.

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<sup>5</sup> See the URL below for the 1800 MHz Spectrum Right (2011) assigned to M1 Limited: [http://www.ida.gov.sg/~media/Files/Archive/Policies%20and%20Regulation/Policies\\_and\\_Regulation\\_Level3/Individual%20Licences/M1\\_1800MHz\\_2011.pdf](http://www.ida.gov.sg/~media/Files/Archive/Policies%20and%20Regulation/Policies_and_Regulation_Level3/Individual%20Licences/M1_1800MHz_2011.pdf). The Interim Spectrum Right will include the condition to provide nationwide PCMTS. IDA notes that existing nationwide mobile operators are already subject to the condition to provide nationwide PCMTS in their respective PCMTS Spectrum Rights, and the 1800 MHz Spectrum Right or 1800 MHz Spectrum Right (2011) where relevant, and will be able to meet this condition from the date the Interim Spectrum Right is granted. Should existing nationwide mobile operators be unable to comply with the condition, they may request for an exemption from the condition with supporting reasons. Should the Winning Bidder acquiring the Interim Spectrum Right be a New Entrant, IDA is prepared to exempt the New Entrant from this spectrum right condition in view of the fact that the New Entrant would not have access to other 1800 MHz Spectrum Lots for the duration of the Interim Spectrum Right.

- 15.2 The Interim Spectrum Right (2013) shall be priced at S\$15,000,000, excluding the one-time Application and Processing Fee of S\$22,500, and an Annual Charge of S\$140,000 for the 1800 MHz Spectrum Lot, and the applicable GST for these items. The Winning Bidder is required to indicate on the Interim Spectrum Right Form if it wishes to exercise the option, and submit the Interim Spectrum Right Form to IDA within ten (10) Business Days of being provisionally granted the 1800 MHz Spectrum Right (2013) in respect of 1800 MHz Spectrum Lot 5. IDA will determine whether to approve the application, and inform the Winning Bidder of IDA's determination within two (2) Business Days (or such longer time as IDA deems appropriate which will be no more than four (4) Business Days) of receiving the Interim Spectrum Right Form. Should IDA approve the application, the Winning Bidder will be required to make the required payments to IDA within ten (10) Business Days of IDA's approval. IDA shall grant the Interim Spectrum Right (2013) to the Winning Bidder within ten (10) Business Days of receiving payment.

## **16. No Moratorium**

- 16.1 IDA may allocate further spectrum in the 1800 MHz (in the event that not all 1800 MHz Spectrum Lots are allocated in this Auction) and/or 2.5 GHz frequency bands at any time and in any manner, and does not commit to any moratorium period during which no such allocation will take place. However, IDA will give at least three (3) months' notice prior to the commencement of any further allocation exercise.

## **17. Radio Frequency Interference**

- 17.1 Each Winning Bidder granted an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) will be required to co-ordinate with other operators holding spectrum rights in the same frequency band, spectrum holders in adjacent frequency bands, and with neighbouring countries' network operators to avoid frequency interference problems when using 1800 MHz Spectrum Lot(s) and/or 2.5 GHz Spectrum Lot(s), and to make the most efficient use of the spectrum they hold. IDA will assist in cases where operators are unable to resolve these problems themselves.

## **18. Co-existence with Radar Services**

- 18.1 Each Winning Bidder granted a 2.5 GHz Spectrum Right (2013) shall not deploy mobile base stations operating in the 2.5 GHz band within the three (3) identified sites. Any New Entrant interested in being granted the New Entrant Spectrum Right may apply to IDA using the Application Form in Appendix 4 prior to its submission of an Expression of Interest Document to find out more details about the sites. Any party interested in participating in the Main Auction may apply to IDA using the same Application Form prior to its submission of an Initial Offer to obtain the same information.

## **19. Health and Safety Issues**

- 19.1 This Information Memorandum does not express any view or opinion on matters relating to health hazards from exposure to electromagnetic fields. Each Winning Bidder is expected to be apprised of and comply with any guidelines, recommendations or other standards that may be issued by the relevant ministries or statutory boards and/or internationally recognised expert bodies in this field.



## **(B) THE ALLOCATION FRAMEWORK FOR NEW ENTRANTS**

### **1. Binding Expression of Interest**

- 1.1 Any New Entrant interested in being granted the New Entrant Spectrum Right must submit to IDA:
- (a) its Expression of Interest Document (a copy of which is in Appendix 1 of the Auction Rules); and
  - (b) one or more Bank Guarantees (a copy of which is in Appendix 2 of the Auction Rules) guaranteeing in total at least the Guaranteed Amount of S\$40,000,000.
- 1.2 The submission must reach IDA by 5.00 pm on 3 June 2013 (the “**New Entrant Application Date**”).
- 1.3 A New Entrant is defined as an entity which:
- (a) Does not currently provide nationwide mobile telecommunication system and service coverage (including PCMTS or 3G services) in Singapore; and
  - (b) Is not an associate of any existing nationwide operator<sup>6</sup>.

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<sup>6</sup> A person, *A*, is an associate of another person, *B*, if —

(a) *A* is a relative of *B*;

(b) *A* is a related corporation of *B*;

(c) *A* is a corporation whose directors are accustomed or under an obligation, whether formal or informal, to act in accordance with the directions, instructions or wishes of *B* or, where *B* is a corporation, of the directors of *B*;

(d) *B* is a corporation whose directors are accustomed or under an obligation, whether formal or informal, to act in accordance with the directions, instructions or wishes of *A* or, where *A* is a corporation, of the directors of *A*;

(e) *A* is a person who is accustomed or under an obligation, whether formal or informal, to act in accordance with the directions, instructions or wishes of *B* or, where *B* is a corporation, of the directors of *B*;

(f) *B* is a person who is accustomed or under an obligation, whether formal or informal, to act in accordance with the directions, instructions or wishes of *A* or, where *A* is a corporation, of the directors of *A*;

(g) *A* is a corporation in which *B*, alone or together with other associates of *B* as described in paragraphs (b) to (f), is in a position to control not less than 12% of the voting power in *A*;

(h) *B* is a corporation in which *A*, alone or together with other associates of *A* as described in paragraphs (b) to (f), is in a position to control not less than 12% of the voting power in *B*;

(i) *A* is a person with whom *B* has an agreement or arrangement, whether oral or in writing and whether express or implied, to act together with respect to the provision of telecommunication services;

(j) *A* is a person with whom *B* has an agreement or arrangement, whether oral or in writing and whether express or implied, to trade or lease or otherwise transfer the right to use spectrum in the 1800 MHz or 2.5 GHz spectrum bands; or

(k) *A* is related to *B* in such other manner as prescribed by any regulations made under section 74 of the Telecommunications Act (Cap. 323).

- 1.4 The submission of an Expression of Interest Document will constitute a legally binding offer made by a Prospective New Entrant Bidder for the 2.5 GHz Spectrum Lots in respect of which the New Entrant Spectrum Right is offered.
- 1.5 IDA will review each Expression of Interest Document and Bank Guarantee, together with any accompanying documents, to determine whether any Prospective New Entrant Bidder which submitted such documents is eligible and should be registered as a New Entrant Bidder entitled to participate in the New Entrant Auction. In making this determination, IDA may consider, among other things:
  - (a) Whether, in the opinion of IDA, the Prospective New Entrant Bidder has demonstrated that it has the financial and technical capability to acquire a New Entrant Spectrum Right for the provision of 4G telecommunication services;
  - (b) Whether it would be in the public interest for such person to be granted a New Entrant Spectrum Right; and
  - (c) All or any facts, circumstances or matters which IDA considers to be relevant including, but not limited to, the financial or personal probity and standing of the applicant or any company in the same corporate Group as the applicant or any director or shareholder of the applicant or of any such company.
- 1.6 IDA may request at any time such clarification or additional information or documents from any Prospective New Entrant Bidder which submitted the documents referred to in Section B paragraph 1.1, as may be reasonably required for the purpose of making a determination in Section B paragraph 1.5.
- 1.7 For the purposes of this section, a Group means, in relation to a Prospective New Entrant Bidder:
  - (a) Any holding company of the Prospective New Entrant Bidder;
  - (b) Any subsidiary of the Prospective New Entrant Bidder;
  - (c) Any subsidiary of any holding company of the Prospective New Entrant Bidder; and
  - (d) Any other company in which two or more of the shareholders or directors (directly or indirectly) own more than 50 per cent of or control more than 50 per cent of the voting rights attaching to, or shares of the Prospective New Entrant Bidder.

For purposes of this definition, the terms “holding company” and “subsidiary” have the meanings given in the Companies Act (Cap. 50).

- 1.8 If IDA determines: (a) that the documents submitted by a Prospective New Entrant Bidder in accordance with Section B paragraph 1.1 comply with IDA’s

requirements; and (b) at IDA's discretion, that such Prospective New Entrant Bidder may be registered as a New Entrant Bidder, IDA will notify that Prospective New Entrant Bidder, within five (5) Business Days of the New Entrant Application Date (or such later date as is determined by IDA), that it is registered as a New Entrant Bidder, whether the allocation of the four (4) 2.5 GHz Spectrum Lots will proceed to an auction ("**New Entrant Auction**"), and if it proceeds to an auction, the identities of all other New Entrant Bidders.

- 1.9 If IDA determines: (a) that the documents submitted by a Prospective New Entrant Bidder in accordance with Section B paragraph 1.1 do not comply with IDA's requirements or (b) at IDA's discretion, that such Prospective New Entrant Bidder should not be registered as a New Entrant Bidder, IDA will notify that Prospective New Entrant Bidder, within five (5) Business Days of the New Entrant Application Date (or such later date as is determined by IDA), that it is not registered as a New Entrant Bidder. IDA has no obligation to give any reason for its decision in this respect.
- 1.10 If IDA notifies any Prospective New Entrant Bidder which submitted the documents referred to in Section B paragraph 1.1 that it is not registered as a New Entrant Bidder for any reason, IDA will promptly return that Prospective New Entrant Bidder's Bank Guarantee(s) to it.

## **2. The New Entrant Allocation Stage**

- 2.1 If there is no New Entrant Bidder, the four (4) 2.5 GHz Spectrum Lots set aside for a New Entrant will be made available for allocation under the Main Auction framework. If there is only one (1) New Entrant Bidder, IDA will allocate the four (4) 2.5 GHz Spectrum Lots to the sole New Entrant Bidder. In this case, the Winning Bid shall be equal to the total Reserve Price for the four (4) 2.5 GHz Spectrum Lots (i.e. S\$40,000,000). If there is more than one (1) New Entrant Bidder, IDA will proceed to allocate the four (4) 2.5 GHz Spectrum Lots via the New Entrant Auction, which will be a single-round sealed-bid auction involving all the New Entrant Bidders.
- 2.2 If IDA determines that the New Entrant Auction will proceed, IDA will notify each New Entrant Bidder of the details of the New Entrant Auction timetable and a list of all New Entrant Bidders participating in the New Entrant Auction. IDA will also provide each New Entrant Bidder with a New Entrant Bid Document (a copy of which is in Appendix 3 of the Auction Rules).
- 2.3 Each New Entrant Bidder must submit a sealed bid for the four (4) 2.5 GHz Spectrum Lots using the New Entrant Bid Document before 5.00 pm on the date of submission of New Entrant Bid Documents ("**New Entrant Auction deadline**") specified in the New Entrant Auction timetable, which will be no less than three (3) Business Days from the date of IDA's notification that the New Entrant Auction will proceed. The bid must be in increments of whole Singapore dollars above the Reserve Price, for the four (4) 2.5 GHz Spectrum Lots (i.e. a minimum bid of S\$ 40,000,000) made available for allocation. The

bid will constitute a legally binding offer made by the relevant New Entrant Bidder in respect of four (4) 2.5 GHz Spectrum Lots.

- 2.4 The New Entrant Bidder that submits the highest valid bid will be allocated the four (4) 2.5 GHz Spectrum Lots. The sum of the 2.5 GHz Spectrum Lot Fees to be paid by this New Entrant Bidder will be the next-highest valid bid that is received by IDA or the total Reserve Price for the four (4) 2.5 GHz Spectrum Lots if no other valid bid is received by IDA by the close of the New Entrant Auction. IDA will announce the results of the New Entrant Allocation Stage within five (5) Business Days of the New Entrant Application Date (if the New Entrant Auction does not proceed) or two (2) Business Days (or such longer time as IDA deems appropriate which will be no more than four (4) Business Days) of the announcement of the close of the New Entrant Auction. For avoidance of doubt, the Winning New Entrant Bidder is not precluded from participating as a Bidder in the Main Auction.
- 2.5 The New Entrant Bidder that is provisionally awarded the four (4) 2.5 GHz Spectrum Lots following the close of the New Entrant Allocation stage (whether the New Entrant Auction proceeds or not) (“**Winning New Entrant Bidder**”), if any, shall take part in the Assignment Stage of the Main Auction to determine the assignment of the four (4) 2.5 GHz Spectrum Lots allocated to it and any additional 1800 MHz Spectrum Lots and/or 2.5 GHz Spectrum Lots it obtains in the Main Auction.
- 2.6 After the close of the Assignment Stage of the Main Auction, the 2.5 GHz Spectrum Right (2013) in respect of the 2.5 GHz Spectrum Lots provisionally awarded to the Winning New Entrant Bidder and any 1800 MHz Spectrum Right (2013) in respect of the 1800 MHz Spectrum Lots provisionally awarded to the Winning New Entrant Bidder will be granted to the Winning New Entrant Bidder following payment in full of the relevant Spectrum Lot Fees, Application and Processing Fees, any Winning Assignment Bid from the Assignment Stage of the Main Auction, and any Forfeiture Amount imposed on the Bidder. If the Winning New Entrant Bidder does not make these payments by 5.00 pm fifteen (15) Business Days after the closure of the Assignment Stage of the Main Auction, it will not be granted the 2.5 GHz Spectrum Right (2013) and (if applicable) the 1800 MHz Spectrum Right (2013).
- 2.7 The Winning New Entrant Bidder may apply to IDA to defer payment of the Winning Bid, Winning Assignment Bid (if any) and Application and Processing Fees in respect of any 1800 MHz Spectrum Right (2013) or 2.5 GHz Spectrum Right (2013) provisionally awarded pursuant to its participation in the Main Auction, to a date no later than six (6) months before the commencement of the respective Spectrum Right (“**Deferred Payment Date**”). The Winning New Entrant Bidder shall submit its application using the Deferred Payment Form in Appendix 4 of the Auction Rules and it shall be accompanied by one or more Bank Guarantees (a copy of which is set out in Appendix 5 of the Auction Rules) that in total guarantee an amount that is at

least 75% of the sum of the Winning Bid Price, Winning Assignment Bid (if any) and Application and Processing Fees due for the respective Spectrum Right(s), which must be valid until a date no earlier than thirty (30) Business Days after the Deferred Payment Date for the respective Spectrum Right(s). Such application must be submitted by 5.00 pm ten (10) Business Days after the closure of the Assignment Stage of the Main Auction. Should IDA approve the deferment of the payment of the 1800 MHz Spectrum Right (2013) and/or 2.5 GHz Spectrum Right (2013), the Winning New Entrant Bidder will be provisionally granted the respective Spectrum Right(s). IDA shall grant the respective Spectrum Right(s) to the Winning New Entrant Bidder only after receiving payment of the relevant Winning Bid, any Winning Assignment Bid and Application and Processing Fees by the Deferred Payment Date(s). For avoidance of doubt, payment of any Forfeiture Amount may not be deferred.

- 2.8 The Winning New Entrant Bidder will be granted the 2.5 GHz Spectrum Right (2013) and any 1800 MHz Spectrum Right (2013) following IDA's receipt of the required payments by the specified deadlines. A Winning New Entrant Bidder shall also pay the Annual Charge in each year of the respective Spectrum Right.

### **3. Forfeiture and Exclusion**

- 3.1 IDA may determine that a New Entrant Bidder will forfeit amounts up to the amount of its Bank Guarantee(s) for conduct prejudicial to the New Entrant Auction.
- 3.2 New Entrant Bidders can be excluded from the New Entrant Auction by notice from IDA in certain circumstances, including collusion between New Entrant Bidders and conduct prejudicial to the New Entrant Auction.

**(DISCLAIMER: Neither IDA nor any of its officers or employees makes any representation nor warranty (express or implied) nor accepts nor will accept any responsibility or liability whatsoever as to, or in relation to, any errors resulting from or relating to the New Entrant Auction. In no event shall IDA or any of its officers or employees be liable for any damages whatsoever resulting from or relating to the New Entrant Auction. No obligation or liability whatsoever on the part of IDA or its officers or employees will arise from the advice or service provided in connection with the New Entrant Auction.**

**New Entrant Bidders are solely responsible for ensuring the security of their bids and that only their Authorised Representatives submit bids on their behalf. Neither IDA nor any of its officers or employees will accept any responsibility or liability whatsoever for any of these matters.)**

## (C) INTRODUCTION TO THE MAIN AUCTION FRAMEWORK

This introduction is intended only to provide an overview of some of the major features of the Main Auction. Any party interested in participating in the Main Auction should familiarise itself with the Auction Rules and should seek appropriate independent legal and other advice in respect of the Auction Rules.

### 1. Pre-Auction and Initial Offer Stage

- 1.1 To be registered as a Bidder entitled to participate in the Main Auction, an interested party must, by 5.00 pm on the Application Date in accordance with the Auction Rules:
  - (a) Submit to IDA an Initial Offer in respect of up to the number of 1800 MHz Spectrum Lots and/or the number of 2.5 GHz Spectrum Lots specified by the spectrum caps in the Auction Rules, using an Initial Offer Document as attached as Appendix 6 of the Auction Rules; and
  - (b) Deposit one or more Bank Guarantees with IDA that in total guarantee at least the Guaranteed Amount, which is calculated by multiplying the respective Reserve Prices by the number of 1800 MHz Spectrum Lots and/or number of 2.5 GHz Spectrum Lots it submits an Initial Offer for, a copy of which can be found in Appendix 7 of the Auction Rules.
- 1.2 IDA has the discretion whether to proceed with either the Quantity or Assignment Stage of the Main Auction. IDA may allocate the 1800 MHz Spectrum Lots and 2.5 GHz Spectrum Lots at the respective Reserve Price if the Initial Offers received by IDA specify no more than the number of 1800 MHz Spectrum Lots available for allocation in the Main Auction in aggregate and no more than the number of 2.5 GHz Spectrum Lots available for allocation in the Main Auction in aggregate (“**available Spectrum Lots**”). In such event, the Quantity Stage of the Main Auction will not proceed, and the Main Auction will proceed to the Assignment Stage.
- 1.3 If IDA determines that the Quantity Stage of the Main Auction will proceed, IDA will notify Bidders of the Main Auction timetable and a list of all participating Bidders. An Information Session and a Training Session will be held to allow Bidders to familiarise themselves with the procedures for the Quantity Stage. Only Authorised Representatives will be permitted to attend the Information Session and Training Session on behalf of the Bidder they represent.
- 1.4 A timetable showing the indicative timing of the Main Auction and related matters is set out in Section D of this Information Memorandum. Details of the timing and location of the Information Session and Training Sessions will be provided to Bidders at least one (1) Business Day in advance.

## **2. Auction Procedure**

- 2.1 The Main Auction will be divided into two (2) stages: a Quantity Stage and an Assignment Stage.
- 2.2 The Quantity Stage will comprise a Clock auction conducted in accordance with the Auction Rules. The available Spectrum Lots will be divided into two (2) Categories: one Category for the 1800 MHz Spectrum Lots and another Category for the 2.5 GHz Spectrum Lots. The Clock auction will be conducted simultaneously in respect of both Categories.
- 2.3 The Clock auction proceeds in a series of Rounds. In Round 1, a Bid will be placed automatically on each Bidder's behalf that corresponds to the Bidder's Initial Offer. In subsequent Rounds, each Bidder shall bid for quantities of Spectrum Lots in each Category at the Standing Price for each Round, according to its eligibility and the spectrum caps in place. Each Bidder may be allowed to switch all or part of the Spectrum Lots bid from one Category into another Category, or decrease the total number of Spectrum Lots bid. In the latter event, the Bidder shall submit an Exit Bid for the number of Spectrum Lots by which it has decreased its bid. Its eligibility will also be reduced by the number of Spectrum Lots by which it has decreased its bid.
- 2.4 IDA may designate certain bids as Standing High Bids in each Category in every Round. If excess demand in a Category is zero (0) in the last completed Round and excess demand in that same Category was strictly positive in the immediately preceding Round, IDA will designate a number of Standing High Bids equal to the number of Spectrum Lots available in that Category. Standing High Bids of a Round in a Category cannot otherwise be changed in any manner whatsoever in the next Round; i.e. a Bidder may not switch out any Spectrum Lots bid or reduce the total number of Spectrum Lots bid in the Category if the Spectrum Lots in question have been designated Standing High Bids. If Standing High Bids in a Category have been designated in a Round, they remain Standing High Bids in that Category in the next Round if excess demand for that Category is zero (0) in the next Round.
- 2.5 If there is excess demand in a Category at the close of a Round, the Standing Price of the Category shall increase in the next Round. The Clock auction shall proceed until the first Round where the total excess demand is zero (0), whereupon it will close. Upon the close of the Clock auction, the Closing Price for a Category will be the lowest price associated with the Standing High Bids in that Category. Each Bidder shall be provisionally awarded the quantity of spectrum equivalent to the number of Standing High Bids associated with that Bidder at the close of the Clock auction. Thereafter, the Quantity Stage shall close.

- 2.6 The Assignment Stage will proceed following the close of the Quantity Stage<sup>7</sup>. All Bidders which have been provisionally awarded 1800 MHz Spectrum Lots and/or 2.5 GHz Spectrum Lots from the New Entrant Auction and the Quantity Stage<sup>8</sup> of the Main Auction shall participate in the Assignment Stage. The Assignment Stage shall proceed in either one (1) or two (2) phases:
- (a) Phase 1: The submission of a joint proposal by all Winning Bidders indicating whether there is agreement by all Winning Bidders on the assignment of the allocated 1800 MHz Spectrum Lots and 2.5 GHz Spectrum Lots; and
  - (b) Phase 2 (if there is no agreement by all Winning Bidders on the assignment of all or part of the allocated 1800 MHz Spectrum Lots and 2.5 GHz Spectrum Lots): The conduct of a single-round sealed-bid auction for the set of 1800 MHz Spectrum Lots and/or 2.5 GHz Spectrum Lots whose assignment is contended.
- 2.7 In Phase 1, IDA will provide all Winning Bidders with a Form for Agreement or Non-Agreement of Spectrum Assignment, a copy of which can be found in Appendix 10 of the Auction Rules. If there are unsold lots, IDA will also inform all Winning Bidders of IDA's preference, if any, of the frequency assignments for the unsold lots. The Winning Bidders shall submit one (1) or more joint proposals for the assignment of the 1800 MHz Spectrum Lots and one or more joint proposals for the assignment of the 2.5 GHz Spectrum Lots. The Winning Bidders shall jointly indicate in the relevant Annex to the Form for Agreement or Non-Agreement of Spectrum Assignment whether there is an assignment of all or some of the 1800 MHz Spectrum Lots and 2.5 GHz Spectrum Lots to which all Winning Bidders agree. The Winning Bidders shall also jointly indicate:
- (a) if all Winning Bidders agree on one or more assignments of 1800 MHz Spectrum Lots and 2.5 GHz Spectrum Lots, the specific frequency assignment(s) for which the Winning Bidders agree; and
  - (b) if all Winning Bidders agree on an assignment of only part of the 1800 MHz Spectrum Lots and/or 2.5 GHz Spectrum Lots, or do not agree on any assignment of all the 1800 MHz Spectrum Lots and/or 2.5 GHz Spectrum Lots:
    - (i) the specific non-contended segment(s), and the identity of the Winning Bidder(s) assigned the non-contended segment(s) ("**Non-Contending Winning Bidder(s)**"); and

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<sup>7</sup> Or, if the Quantity Stage does not proceed, after the Initial Offer Stage.

<sup>8</sup> Or the Initial Offer Stage, as the case may be.



- (ii) the specific contended segment(s), and the identity of the Winning Bidders contending for the segment(s) (“**Contending Winning Bidders**”).

2.8 The Winning Bidders shall jointly submit the Form for Agreement or Non-Agreement of Spectrum Assignment by the Assignment Stage Phase 1 deadline, which will be 5.00 pm on the date specified in the Assignment Stage schedule. IDA will determine whether the Assignment Stage will further proceed, and inform all Winning Bidders of the outcome within two (2) Business Days (or such longer time as IDA deems appropriate which will be no more than four (4) Business Days) of the Assignment Stage Phase 1 deadline. For each Category:

- (a) if only one (1) valid proposal is submitted, the IDA may, at its sole discretion, accept or reject the proposal; or
- (b) if more than one valid proposal is submitted, the IDA may, at its sole discretion, accept one of the proposals or reject all proposals; or
- (c) if IDA does not accept any of the valid proposals under (a) or (b), or if IDA does not receive any duly submitted Form for Agreement or Non-Agreement of Spectrum Assignment, or if the Winning Bidders submit a Form for Agreement or Non-Agreement of Spectrum Assignment indicating that there is no agreement on any assignment, IDA will proceed to Phase 2 of the Assignment Stage for all Spectrum Lots in the band; or
- (d) if IDA accepts a valid proposal under (a) or (b), but this proposal only indicates agreement on part of the assignment, IDA will proceed to Phase 2 of the Assignment Stage for the Spectrum Lots in the contended segment(s) of the Category.

2.9 Phase 2, if required, will consist of a single-round sealed-bid auction for the contended assignments. In Phase 2, IDA will identify for each Contending Winning Bidder, an exhaustive list of Assignment Bid Options. Each Assignment Bid Option must:

- (a) be for contiguous frequency assignments in the contended segment(s) of the spectrum band;
- (b) consist of exactly the same number of lots that the Contending Winning Bidder won in the New Entrant Auction and Main Auction;
- (c) not preclude any other Contending Winning Bidder from also winning contiguous frequencies within the band; and
- (d) must be compatible with frequency assignments for any unsold lots that IDA deems acceptable.

- 2.10 IDA will inform each Contending Winning Bidder of the date and time by which each Contending Winning Bidder must submit its Assignment Bid Form, a copy of which can be found in Appendix 11 of the Auction Rules, in accordance with the Assignment Stage schedule.
- 2.11 Each Contending Winning Bidder shall indicate a bid for each Assignment Bid Option on its Assignment Bid Form, representing the price that the Contending Winning Bidder is willing to pay for that frequency assignment in the relevant band. Each Contending Winning Bidder shall submit its Assignment Bid Form by the Assignment Stage Phase 2 deadline, which will be 5.00 pm on the date specified in the Assignment Stage schedule.
- 2.12 IDA will determine the Winning Assignment Bids for each contended assignment in the following way:
- (a) IDA will identify the aggregate value of all feasible combinations of Valid Assignment Bids, taking exactly one bid from each Contending Winning Bidder.
  - (b) From amongst these feasible combinations, IDA will identify the combination of Valid Assignment Bids that yields the highest value.
  - (c) Where two (2) or more feasible combinations of Valid Assignment Bids yield the same highest value, IDA shall determine the winning assignment by considering which of those contended assignments is most closely aligned to the assignment of existing Spectrum Lots. In the event that IDA is unable to, or at IDA's discretion decides not to, determine a contended assignment that is most closely aligned with the assignment of existing Spectrum Lots, IDA may employ a method of random selection from amongst these feasible combinations to make its determination.
  - (d) The Valid Assignment Bids in the combination identified in steps (a) through (c) are the Winning Assignment Bids.
  - (e) Each Contending Winning Bidder will be required to pay a price equal to the amount of their Winning Assignment Bid(s).

### **3. Results of the Main Auction**

- 3.1 IDA will announce the results of the Quantity Stage and Assignment Stage within two (2) Business Days (or such longer time as IDA deems appropriate which will be no more than four (4) Business Days) of the close of each Stage.
- 3.2 An 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) will be granted following payment by the Winning Bidder in full of the relevant Winning Bid, any Winning Assignment Bid, Application and Processing Fees and any Forfeiture Amount imposed on the Bidder. If a Winning Bidder fails to pay such amount by 5.00 pm fifteen (15) Business Days after the closure of

the Assignment Stage of the Main Auction, that Bidder will not be granted the relevant Spectrum Right.

- 3.3 A Winning Bidder may apply to IDA to defer payment of its Winning Bid, Winning Assignment Bid (if any) and Application and Processing Fees in respect of an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) provisionally granted to it, to a date no later than six (6) months before the commencement of the respective Deferred Payment Date. A Winning Bidder shall submit its application using the Deferred Payment Form in Appendix 4 of the Auction Rules and it shall be accompanied by one or more Bank Guarantees (a copy of which is set out in Appendix 5 of the Auction Rules) that in total guarantee an amount that is at least 75% of the sum of the Winning Bid, Winning Assignment Bid (if any) and Application and Processing Fees due for the respective Spectrum Right, which must be valid until a date no earlier than thirty (30) Business Days after the Deferred Payment Date. Such application must be submitted by 5.00 pm ten (10) Business Days after the closure of the Assignment Stage of the Main Auction. Should IDA approve the deferment, IDA shall grant the relevant Spectrum Right to the Winning Bidder only after receiving payment of the Winning Bid, any Winning Assignment Bid and Application and Processing Fees by the Deferred Payment Date. For avoidance of doubt, payment of any Forfeiture Amount may not be deferred.
- 3.4 A Winning Bidder will be granted its 1800 MHz Spectrum Right (2013) and/or 2.5 GHz Spectrum Right (2013) following IDA's receipt of the required payments by the specified deadlines. A Winning Bidder shall also pay the Annual Charge in each year of the respective Spectrum Right(s).

#### **4. Forfeiture and Exclusion**

- 4.1 IDA may determine that a Bidder will forfeit amounts up to the amount of its Bank Guarantee(s) for breaches of the Auction Rules and other conduct prejudicial to the Main Auction.
- 4.2 Bidders can be excluded from the Main Auction by notice from IDA in certain circumstances, including collusion between Bidders and conduct prejudicial to the Main Auction.

**(DISCLAIMER: Neither IDA nor any of its officers or employees makes any representation nor warranty (express or implied) nor accepts nor will accept any responsibility or liability whatsoever as to, or in relation to, any errors resulting from or relating to the Main Auction. In no event shall IDA or any of its officers or employees be liable for any damages whatsoever resulting from or relating to the Main Auction. No obligation or liability whatsoever on the part of IDA or its officers or employees will arise from the advice or service provided in connection with the Main Auction.**

**Bidders are solely responsible for ensuring the security of their bids and that only their Authorised Representatives submit bids on their behalf. Neither IDA nor any of its officers or employees will accept any responsibility or liability whatsoever for any of these matters.)**

## **(D) TIMETABLE**

- 1.1 The timetable set out below is indicative only of the expected timing of certain key events prior to the start of the allocation process. The Auction Rules contain provisions relating to the notice which will be given of certain dates and events in relation to the allocation process.
- 1.2 Please note that IDA may at any time change any of the times or dates and/or shorten or extend the time periods set out in the Auction Rules upon giving at least twenty-four (24) hours notice, save in emergency situations where such changes may be made without notice.

<b>Milestones</b>	<b>Date</b>
Publication of Information Memorandum and Auction Rules	26 April 2013
Deadline for Submission of Queries	8 May 2013
Submission of New Entrant Expression of Interest Document and Bank Guarantee(s) (New Entrant Application Date)	3 June 2013
Announcement of whether New Entrant Auction will proceed (if applicable)	7 June 2013
Submission of Initial Offer Document and Bank Guarantee(s) for Main Auction (Application Date)	24 June 2013
Announcement of whether Main Auction Quantity Stage will proceed	To be informed to Bidders at a later date
Information Session and Notification of Main Auction Details (if applicable)	
Auction Start Date (if applicable)	

## **(E) THE REGULATORY REGIME IN SINGAPORE**

### **1. The Regulatory Authority**

1.1 IDA is the authority in charge of regulating the information and communication technology industry in Singapore. IDA is a statutory board under the purview of the Ministry of Communications and Information.

### **2. Relevant Legislation**

2.1 There are various pieces of legislation and subsidiary legislation that are relevant to the grant of the 1800 MHz Spectrum Rights (2013) and 2.5 GHz Spectrum Rights (2013). Parties interested in being granted an 1800 MHz Spectrum Right (2013) and/or a 2.5 GHz Spectrum Right (2013) should ensure that they familiarise themselves with such legislations and seek independent legal and other appropriate advice in respect of such legislation.

2.2 The relevant legislation includes (but is not limited to):

- (a) The IDA Act;
- (b) The Telecommunications Act; and
- (c) The Telecommunications (Radio-communication) Regulations.

2.3 There are also various codes of practice governing the field of telecommunications, which include (but are not limited to):

- (a) The Telecom Competition Code; and
- (b) The Code of Practice for Info-Communications Facilities in Buildings (“**COPIF**”).

### **3. The IDA Act**

3.1 The IDA Act sets out the functions and powers of IDA with regard to the licensing and regulation of telecommunication systems and services in Singapore.

### **4. The Telecommunications Act**

4.1 The Telecommunications Act is the primary legislation relating to telecommunications. The Telecommunications Act empowers IDA to grant licences for the provision of telecommunication services and to regulate the telecommunication industry in Singapore. It also authorises IDA to make regulations governing the classes of licences to be granted by IDA and the conditions for their grant, as well as the control and regulation of interference by radiowaves, electrical and other telecommunication means in Singapore. Offences and penalties relating to the unlawful operation of telecommunication systems or services are also stipulated in the Telecommunications Act.

## **5. The Telecommunications (Radio-communication) Regulations**

- 5.1 The Telecommunications (Radio-communication) Regulations was gazetted on 2 March 2001 and came into force on that date in place of the repealed Radio-Communication Regulations (which was gazetted in August 1994).
- 5.2 The Telecommunications (Radio-communication) Regulations set out the regulatory framework by which IDA exercises licensing and regulatory functions in respect of the allocation, management and use of radio frequency spectrum in Singapore.
- 5.3 All parties participating in the allocation process should familiarise themselves with the Telecommunications (Radio-communication) Regulations.

## **6. The Telecom Competition Code**

- 6.1 The Telecom Competition Code first came into force on 29 September 2000. On 9 April 2012, IDA issued a revised Telecom Competition Code 2012. The Telecom Competition Code 2012 sets out a comprehensive regulatory framework for the development of fair and effective competition in the telecommunication industry in Singapore.
- 6.2 The licensing framework adopted by IDA under the Telecommunications Act, for providing telecommunication services, is divided into the following categories of licensees:
  - (a) Facilities-based licensees;
  - (b) Services-based licensees;
  - (c) Telecommunication equipment dealer licensees; and
  - (d) Self-provisioning licensees.
- 6.3 The Telecom Competition Code applies to the categories of licensees listed in (a), (b), and (c) above, albeit to varying degrees in recognition that certain licensees should be obliged to comply with more stringent obligations by virtue of the extent of their control over the market.

## **7. COPIF**

- 7.1 The COPIF was introduced in 2000 to ensure that developers and/or owners of buildings and developments provide adequate space and facilities for the deployment and operation of installation, plant and systems which are used for providing info-communication services to the buildings. The COPIF also specifies the duties to be observed by developers and/or owners of buildings and developments, and telecommunication licensees in relation to the provision, maintenance and utilisation of the relevant space and facilities provided, as required under COPIF. The current COPIF came into effect on 15 September 2008. Amendments to the COPIF were announced on 17 April 2013 and will come into effect from 1 May 2013.

7.2 The Telecom Competition Code and COPIF are available on the IDA website.