

**TRA response to questions received relating to:
An Invitation to Tender for 1800 GSM Guard Band Licence**

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Authority (TRA)

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Questions received and responses

Question	Response
Through the vision of his majesty the King of developing the kingdom of Bahrain with the latest and best technology available would TRA evaluate the tender mostly by how well is the technology for the kingdom or by how much money they can make?	During this phase of the process TRA only provides answers to those questions that are seeking clarification to the content of the ITT.
What is the legal process and timing procedure in which TRA has to approve the technical information usually?	During this phase of the process TRA only provides answers to those questions that are seeking clarification to the content of the ITT.
Why would TRA invite international bidder?	During this phase of the process TRA only provides answers to those questions that are seeking clarification to the content of the ITT.
What is the time limit to process a broadband wireless licenses in your policies?	During this phase of the process TRA only provides answers to those questions that are seeking clarification to the content of the ITT.
Since you have trialed and tested the technology as adapted by [•] in order not to interfere with GSM on April 2008, which ended up without any interference with GSM. What assurances do you have that a third party could implement a network in this band without causing damages and interference?	Implementation issues will be taken into account by TRA during the bid evaluation process
Now since there is an international tender and a bid, why are you giving a single license of 5 MHz. Our network needs only 5 MHz to be implemented. We have deployment techniques that allow us to deploy in only 5 MHz? Would the others guarantee the same?	During this phase of the process TRA only provides answers to those questions that are seeking clarification to the content of the ITT.
How many entities applied or registered?	In total there have been four (4) successful registrations
How are you going to verify that the highest bidder can implement a compliant and non interfering network?	Implementation issues will be taken into account by TRA during the bid evaluation process
Since [•] is the first to apply in November 2006 for the frequency and has gone through the procedure requested by TRA, and demonstrated no interference with a pilot station which was paid for by [•] for a period of 2 years as mentioned in your ITT, IV., Background (clauses 122 - 127). After all this, shouldn't [•] be given the right of first refusal for at least one 5 MHz band?	During this phase of the process TRA only provides answers to those questions that are seeking clarification to the content of the ITT.
Can Fixed Broadband Wireless Access Services (FBWA) be considered within the list of allowed Telecommunication Services Licenses that can be used in conjunction with the radio spectrum Frequency License operable on the GSM1800 Guard Band (1790MHz – 1795MHz) considered in this tender?	The available Telecommunications Service license types are listed in Table 1 of the ITT document.
Can Mobile Broadband Wireless Access Services (MBWA) be considered within the list of allowed Telecommunication Services Licenses that can	The available Telecommunications Service license types are listed in Table 1 of the ITT document.

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be used in conjunction with the radio spectrum Frequency License operable on the GSM1800 Guard Band (1790MHz – 1795MHz) considered in this tender?	
In section IV. Background clause 126, the TRA states that system based on HC-SDMA was trialed. Is it safe to deduce that the system you refer to is iBurst, and do you consider that iBurst technology falls within the scope of this license, knowing that iBurst is based on smart antenna technology with cell handoff? May the TRA supply us with the results of the Trial of the HC-SDMA system interference on the GSM1800 base stations?	The tested system was iBurst. TRA takes a technology neutral approach and providing that the proposed technology can be proven to comply with the appropriate licensing conditions TRA will grant the necessary Telecommunications Service and Frequency licenses regardless of the technology that will be used. The result of the Trial of the HC-SDMA system is stated in Section IV – Paragraph 126.
If FBWA or MBWA services are allowed to be operated in the GSM 1800 Guard Band Frequency License, can you please specify to us the Telecommunication Service License Application Forms that are needed to be filled in this regard as per Annex 1 of the tender document?	All Telecommunications Service license types are available with the exception of the Mobile Service License (Table 1 of the ITT document).
As we understood from the tender that we need to bid for a Frequency License and for a Telecommunication Service License Type from the current license types available on the TRA website under www.tra.org.bh/en/LicensingAppply.asp . What type of license does the TRA consider the GSM 1800 Guard Band Auction to fall within if we want to provide Mobile Broadband Wireless Access Services using iBurst HC-SDMA technology? i.e. what license type from the ones listed on TRA web site: www.tra.org.bh/en/LicensingAppply.asp	All Telecommunications Service license types are available with the exception of the Mobile Service License (Table 1 of the ITT document). Thus, the provision of Mobile services are prohibited.
In Schedule A, the TRA states that Base Stations should be installed with proximity not less than 200 meters from current Mobile Telecommunication License holders base stations operating in the band: 1751.7 to 1781.5 MHz? May the TRA provide [•] with the GPS coordinates of the sites where currently the GSM base stations operating in the band 1751.7 to 1781.5 MHz are already installed?	Such information is confidential at this stage of the process. See answers below for information of the coordination process TRA expects to be followed.
Assuming the TRA is not able to provide GSM coordinates requested in question 6 above, and assuming Mobile Telecommunications License holders authorized to operate in the GSM 1800 1751.7 MHz - 1781.5 MHz band have their base stations installed with close proximity to each other (less than 400 meters), the winner of GSM 1800 Guard Band Auction may not be able to install their base station and thus coverage in a certain area may not be offered, resulting in poor service in selected areas where GSM 1800 Licensed Operators have dense deployment, that is, dense demand for telecommunication services.	TRA expects all licensed operators to co-operate and to co-ordinate the siting of base stations to ensure sufficient physical isolation is achieved, and expects licensees to comply with the conditions of their respective licenses. TRA does not provide radio engineering advice to licensed operators but does expect potential licensees to factor all such issues into their technical and business proposals.
In SCHEDULE A “ASSIGNMENT OF RADIO FREQUENCY SPECTRUM”, the TRA states that “The Licensees will not be permitted to operate a fixed	TRA expects operators to co-ordinate directly with each other. TRA can be involved in the co-ordination process but only upon receipt of

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<p>station that is closer than 200 meters to a pre-existing GSM base station operated in the band 1751.7 MHz - 1781.5 MHz by the Mobile Telecommunications License holders in Bahrain unless it is successfully coordinated between the Licensee and the Mobile Telecommunications License holders authorized to operate in the GSM 1800 1751.7 MHz - 1781.5 MHz band. For co-ordination to be successful, the parties concerned must exchange any and all relevant information. TRA expects the costs resulting from co-ordination of stations with pre-existing GSM 1800 base stations operated in the band 1751.7 MHz - 1781.5 MHz by the current GSM license holder in Bahrain to be borne by the relevant Licensee.” Can the TRA please advice if the coordination will need to be made with direct communication between the Licensee and the Mobile Telecommunications License holders? Or shall the coordination be directed by the TRA between both parties involved? Can the TRA please state as well on what are the relevant information details that need to be exchanged between both parties to result for successful coordination and network deployment and minimum network roll-out delays? Finally can the TRA inform us on the cost details that will have to be borne by the licensee and that will result from the above needed coordination with the Mobile Telecommunications License holders?</p>	<p>a complaint or dispute resolution request from a licensed operator.</p> <p>TRA expects the operators to decide on the relevant information to be exchanged but expects that it will consist of the technical information needed to ensure inter-operator interference does not occur.</p> <p>Licensees will have to bear any costs associated with the siting of their own radio equipment and their own costs associated with the co-ordination process.</p>
<p>In SCHEDULE B “FREQUENCY LICENSE FEES” the TRA states that “Spectrum fees will be announced once TRA has knowledge of the technology to be deployed by the Licensee(s). Spectrum fees will be calculated according to the mechanism set out in the Spectrum Policy and Planning document published by TRA from time to time.” Kindly note that [•] will be deploying iBurst HC-SDMA in the GSM1800 Guard Band auctioned in this tender. Can you please advice us in this regard on what will be the spectrum fee to be paid by [•]? The information is critical for us to be used in our business plan for the services to be delivered with this license.</p>	<p>Pursuant to section 18(a)(2) of the Law, the successful Bidder is required to pay to TRA annual spectrum fees. Such fees are dependent upon the <i>channel bandwidth of the technology to be deployed</i> by the Licensee. Currently spectrum fees are calculated in accordance with the mechanism set out in the Spectrum Policy and Planning document published jointly by TRA and Ministry of Transportation in June 2006, also available on TRAs' website: http://www.tra.org.bh/en/pdf/spectrum_policy_TRA_MOT_final.pdf Whilst the method of calculation for Spectrum Fees is clearly articulated within the Spectrum Policy and Planning document, in the absence of the knowledge of which technology will be deployed by the successful licensee TRA is unable to state at this stage exactly what the payable spectrum fees will be. However a reasonable planning estimation would be that the fees would be in the order of BD33,000 per annum</p>