

REPORT

Report on mobile phone Jammers

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A Report issued by the
Telecommunications Regulatory Authority
31st August 2004

REFERENCE **MOU/RP/038**

Purpose: To provide feedback on the results of the Consultation on the use of mobile phone Jammers and to give an outline of the position taken by the Authority prior to the publication of a regulation on the matter.



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REPORT

Report on mobile phone Jammers

Table of contents

1	Introduction	3
1.1	Scope.....	3
2	Material responses received	4
2.1	Should Jammers be used and if so when?.....	4
2.2	The approach to permitting the use of Jammers	5
2.3	The use of Jammers across all mobile bands	6
2.4	Detectors as a more appropriate alternative	6
2.5	Other relevant feedback	6
3	Conclusion.....	8

REPORT

Report on mobile phone Jammers

1 Introduction

On 20th of March 2004, the Telecommunications Regulatory Authority (TRA) launched a consultation on the subject of the use of Jammers. (The consultation was limited to GSM Jammers, however as there are other mobile phones systems currently in use in Bahrain and as new technologies may develop in the future, as discussed below, the TRA proposes changing the scope of Jammers to include all types of mobile phones). The process involved the publication of a consultation document MOU/CN/016, which examined the options for permitting the use of Jammers, the impact of denying their use and the alternative courses of action being considered by the TRA.

The consultation process was completed on the 18th April 2004 at which time written responses had been received from 15 parties. These were: Arabian Gulf University, Bahrain Chamber of Commerce, Bahrain Cinema Company, Bahrain Defence Force, BAPCO, BATELCO, Canadian Wireless Telecommunications Association, Economic Development Board, Ministry of Commerce, Ministry of Labour and Social Affairs, Ministry of Transport, Ministry of Works and Housing, MTC Vodafone Bahrain, Tender Board of the Kingdom of Bahrain and University of Bahrain. These responses included much useful comment, and, although largely in agreement with the proposals contained in the consultation document, raised some issues for further consideration.

This report summarises the material input received, discusses it where necessary and sets out the Authority's position, highlighting any actions that will be taken.

With this report the Authority has issued a draft regulation on the use of mobile phone Jammers in the Kingdom of Bahrain. The TRA welcomes comments on this draft Regulation in so far as the draft Regulation does not reflect the conclusions reached by the Report, or where respondents consider that there are new implications arising from this draft Regulation which the TRA should be aware of with a view to amending the draft Regulation. Following review of any responses to this draft Regulation, the TRA will issue a final Regulation and, if appropriate, a further Report summarizing responses received.

1.1 Scope

As a Report, this document has no status other than as a means of disseminating information.

REPORT

Report on mobile phone Jammers

2 Material responses received

The structure of this report reflects that of the consultation paper on mobile phone Jammers. Each of the following paragraphs reiterates the questions that were asked in the sections of the consultation and, where appropriate, the position proposed by the Authority. A discussion of points raised and reconsideration of relevant issues in the light of comments received is also given.

2.1 Should Jammers be used and if so when?

The TRA sought views on whether Jammers should be used in Bahrain, and if they should, how and in what situations Jammers could be permitted, how and what problems they may cause. Views were also sought on whether the use of Jammers would undermine the existing operators' licences and, if so, how this should be dealt with.

Responses:

Most respondents to this question either argued strongly that Jammers should not be permitted under any circumstances, or else held a view that there might be infrequent occasions when the use of a Jammer might be justified. A minority of the responses considered that Jammers could be routinely used in areas where the use of phones is annoying, potentially used for cheating (examination rooms) or where a mobile phone may cause a problem with health monitoring equipment (hospitals).

While a Jammer can successfully stop a mobile phone from working it must be remembered that to do so requires the transmission of a radio signal to be large enough to "swamp" the mobile. In doing this the Jammer becomes a problem in the area of health monitoring equipment and for this reason Jammers may not be advisable to be deployed in hospitals at all. Instead, signs asking people to switch off their mobiles and, where necessary, mobile phone detectors should be deployed.

Most of the other areas where respondents considered that the use of Jammers might be acceptable, such as cinemas, libraries etc, are areas where the use of a mobile phone is considered a "nuisance" by other people. While the TRA agrees that the use of a mobile phone in these places should be discouraged, it considers that the most appropriate way of doing this is through an awareness campaign; advertising, notices and announcements as appropriate. The potential negative effects of the deployment of a Jammer far outweighs the benefits of jamming a mobile signal. In particular as the precise range of a Jammer cannot be controlled, "jammed" areas prevent mobile phones from calling for emergency help and licensed operators have a right under the Telecommunications Law, to expect that the radio spectrum, for which they pay a licence fee to use, to be kept clear of interference across the entire area over which they are obliged to provide service. Indeed one respondent pointed out that the operators could be considered in breach of the law if they did not offer access to the emergency services continuously and without restriction.

The use of Jammers in examination rooms is a slightly different situation because here the mobile phone is not annoying others, because in fact the users of mobile phones in these circumstances do not wish anyone to know that they are using their phones. However the use of a mobile phone during an exam gives the user an unfair advantage over other examinees, and undermines the whole purpose of the examination itself. However, the use of Jammers even in these circumstances still has significant disadvantages as already discussed, and a far more appropriate approach would be to use detectors, perhaps highly visible, making it clear to everyone that an individual has tried

REPORT

Report on mobile phone Jammers

to cheat. This has a double advantage in that the use of a mobile phone has been detected and can be dealt with simply by asking everyone to switch their phones off and waiting until this has happened, and secondly it raises awareness amongst examiners and examinees that someone has attempted to cheat. Peer pressure can often be the most effective deterrent. The use of Jammers would mask the fact that an examinee had attempted to cheat, and he or she may try again during other examinations.

2.2 The approach to permitting the use of Jammers

The TRA sought views on the possible approach for permitting Jammers whereby the applicant would have to show good reason, supported by evidence, as to why the use of mobile phones should be restricted or prohibited. The applicant would have to demonstrate that the use of a Jammer at the specified location would not adversely affect mobile phones beyond the prohibition space. In addition the TRA suggested that such permissions would be time limited and that advance permission would have to be sought and granted by the TRA.

Responses:

Responses to this question fell into two areas. Those who felt that Jammers should be prohibited under all circumstances clearly would not consider any situation where a Jammer should be deployed. Others considered that a highly controlled system, including usage time constraints would work. Some suggested that Jammers output powers should be kept low, and that a demonstration of the range of the Jammers, in each case, would ensure the limited area over which the Jammers was effective.

The TRA agrees that if the deployment of a Jammer were to be permitted, decision on permitting its use would have to be on a case-by-case basis, the output power would have to be constrained and the period of deployment strictly limited. Nevertheless the TRA's default position would be to prohibit deployment unless a strong case for Jammers use was made. In addition the TRA works closely with the Ministry of Transportation (Directorate of Wireless Licensing, Frequency and Monitoring -DWL, F&M) in all areas of radio transmission within the Kingdom of Bahrain, and would, for every application for deployment of a mobile phone Jammer, consult with them and arrive at a decision based on its own and the DWLF&M's findings. Furthermore the TRA would ensure that mobile network operators were made aware of the location, range and deployment time of each use of a Jammer, to allow them to manage customer complaints that may arise from the use of Jammers.

Whilst the presumption is that mobile phone Jammers are in general prohibited, the procedure to be followed in order to apply to use a Jammer for a particular time and duration, as set out in the draft Regulation, is as follows:

- Applicant of a mobile phone Jammer must contact licensed mobile operators to explain the problem caused by using mobile phones and seek to resolve the problem without using Jammers.
- If no solution with the licensed mobile operators was found, the Applicant should apply to the TRA for approval to use a mobile phone Jammer with the details set out in the draft Regulation at least 20 working days prior to the Jammer's intended use;
- The TRA will issue a response within 15 working days of receipt of a complete application, such response to be copied to licensed mobile operators;

REPORT

Report on mobile phone Jammers

- Within 5 working days that the period for the Jammer's use has expired, the Applicant shall inform the TRA that the Jammer has been withdrawn from service.

2.3 The use of Jammers across all mobile bands

The TRA sought views on the suggestion that Jammers would have to work equally well on all frequency bands allocated to mobile phones.

Responses:

The point of this question was to highlight the fact that *if* the use of Jammers were to be permitted, then the Jammers would have to work on all mobile bands because different mobile bands are allocated to different mobile operators. It is clear that such a Jammer would have to be a sophisticated device because while it would have to transmit a jamming signal on each of the mobile bands, it would have to leave the bands in between clear of any interference. Respondents to this question agreed that all bands would have to be treated equally; they either re-iterated their outright opposition to Jammers, or else accepted the point that all bands should be equally jammed.

If the TRA were to consider the use of a Jammer it would have to be satisfied that all three mobile bands currently in use in Bahrain could be effectively jammed, and would require a demonstration that this was the case. This means that currently 3G systems based on CDMA would have to be affected in a similar manner to 2G GSM systems. Consequently the TRA has decided to amend the wording of the draft Regulation (in particular in the definitions section), so that the concept of Jammers applies to all mobile phones, and not just GSM mobiles and so that it will also encompass future technological developments without requiring further amendment.

2.4 Detectors as a more appropriate alternative

The TRA sought views on the suggestion that detectors provide a more appropriate alternative to jamming and sought suggestions for other alternatives.

Responses:

In general all respondents considered that detectors should be deployed wherever possible where the use of a mobile phone is considered either anti-social or dangerous. The TRA's position is that detectors are the preferred way of actively managing the problem of mobile phone usage in inappropriate places.

2.5 Other relevant feedback

Several respondents suggested that an awareness campaign instead of, or in association with, detectors was the best way forward. In many cases the anti-social use of mobile phones is based on a lack of realisation that other people are disturbed by their use. Announcements before films in cinemas are widely used around the world, notices, posters and verbal announcements are used in many places and finally it is always possible for the manager of a public building to ask individuals to switch their mobiles off.

One respondent suggested the deployment of micro cells (for the purposes of limited management of calls it might be more appropriate to refer to them as pico cells) by the operators which would then be able to control mobiles in the coverage area of the cell, might be a possibility. This suggestion is interesting because theoretically the operator

REPORT

Report on mobile phone Jammers

could provide service through this cell, but at pre-arranged times, prevent calls being made or received through the cell. It would of course require all operators to deploy equivalent arrangements, and it would be a very expensive solution. The question of operators providing emergency call coverage in the “quiet” zones would still be an issue but it may be possible to find a solution that allows emergency calls but no other types. The TRA suggests that organisations that are concerned about inappropriate usage of mobile phones in their area contact the mobile phone operators in the first instance and discuss possible solutions to their problem. The TRA is more likely to consider an application for the deployment of a Jammer if all other possibilities have been explored and exhausted first.

REPORT

Report on mobile phone Jammers

3 Conclusion

After consideration of the comments received as a result of the consultation, the TRA is minded to generally prohibit the use of mobile phone Jammers except where it can be demonstrated to the satisfaction of the TRA that it is absolutely necessary to deploy a mobile phone Jammer and that it will be deployed for the minimum practicable period. This position is in line with that taken in almost all developed countries. In those instances where the TRA does allow mobile phone Jammers to be used, each use will be the subject of a new approval. The default position will be always to prohibit the use of Jammers.

Parallel with this report, in which the Authority revisits its proposals for mobile phone Jammers in the light of comments received from the public consultation, the Authority has issued a draft regulation. There will be two weeks allowed for comments on this draft regulation before issuing the final Regulation.