|  |  |
| --- | --- |
| CPG |  Doc. CPG15(14)INFO07 |
| CPG15-4 |  |
| Riga, Latvia, 25th - 28th March 2014 |  |
|  |  |
| Date issued:  | 21th March 2014 |
| Source:  | GSMA |
| Subject:  | Compatibility/sharing studies between IMT and radar in 1300-1400 and 2700-2900 MHz |
| Group membership required to read? (Y/N)  N |
|  |
| Summary:  |
| This document provides a brief summary of results from compatibility/sharing studies that have been conducted in JTG 4-5-6-7 between IMT and radars in the bands 1300-1400 and 2700-2900 MHz, which show that it is feasible to operate IMT with frequency separation to radars under certain conditions. |
| Proposal: |
| This document is for information to CPG when considering the bands 1350-1400 and 2700-2900 MHz in relation to WRC-15 agenda item 1.1. GSMA supports these bands for IMT identification by WRC-15. |
| Background: |
| Studies have been conducted in JTG 4-5-6-7 into compatibility/sharing between IMT and radars in the bands 1300-1400 and 2700-2900 MHz. |

This document provides a brief summary of results from compatibility/sharing studies between IMT and radars that have been performed in JTG 4-5-6-7 for the bands 1300-1400 and 2700-2900 MHz. The studies are contained in two Working Documents towards PDNRs that are to be attached to the Chairman’s Report from the 5th JTG 4-5-6-7 meeting in February 2014.

One conclusion arrived at during the 5th JTG meeting is that the studies for 1300-1400 and 2700-2900 MHz are very similar and have very similar outcomes. The results summarised below therefore apply in similar ways to both of these bands. For the purposes of this document, the focus within 1300-1400 MHz is on 1350-1400 MHz.

The outcome of one study looking at co-channel operation of IMT with radar is that this is not feasible and will require very large co-ordination distances under the assumptions used in that study. Several other studies also concluded that co-channel operation in the same geographical area is not possible, but came up with smaller separation distances. It is not surprising that IMT and radar cannot share the same frequencies in the same geographical area without a separation distance between them, and that co-ordination will be required in such circumstances.

Some of the studies have looked at both co-channel operation and operation with a frequency separation. These studies show that, under the assumptions used, operation of IMT is possible with a combination of frequency and physical separation.

For IMT uplink, some studies have shown that sharing with radar would be feasible with a reasonable frequency separation (in the order of 10 MHz) and a small exclusion zone (a couple of km, or less if the spurious emissions from IMT UEs are lower than the generic standard). IMT downlink operation will require some sort of mitigation (e.g. additional filtering in IMT base stations and/or radars), in addition to frequency separation and some physical separation. The overall conclusion is that it is feasible to operate IMT with frequency separation to radars under certain conditions.

In some countries, the bands are not used at all or there is a very limited usage, hence it would be easy to implement IMT in these bands. In other countries, it would be necessary to undertake some re-planning of radars in order to use spectrum more efficiently and accomodate IMT in these bands. The recent ’remediation’ programme in the UK has shown that such an exercise is possible. Re-planning is very much facilitated in cases where the number of radar stations is low. There may also be a need for cross-border co-ordination in some cases.

Based on the studies it can be concluded that a co-primary allocation to the mobile service and identification for IMT would enable spectrum efficent usage of these bands in many countries without limiting the usage of other services in neigbouring countries. GSMA therefore supports further consideration of the bands 1350-1400 and 2700-2900 MHz for IMT identification by WRC-15.