Coexistence of new services in the 700 MHz band with digital terrestrial television

The DTG Submission 13.07.2017

The DTG welcomes the opportunity to respond to this consultation. DTG has played a central role in recent DTT coexistence studies for Ofcom during the 800MHz clearance and the introduction of the TVWS framework. In addition, the D-Book has led improvements in receiver performance to adjacent channel interference and the outputs of this contributed to recent RED work on developing ETSI EN 303 340 for broadcast receivers.

The DTG also hosts an RF group which is made up of industry experts from broadcasters, equipment manufacturers, DUK and Ofcom.

DTG also publishes the R-Book which is a reference manual for the DTT and Satellite installations industries and provides information on LTE interference mitigation, amplifier de-rating and aerial group information, all of which are referenced in this consultation.

Question 1 Do you agree with our conclusions that a) the risk of interference from mobile handsets to DTT will be minimal and b) the risk of interference from mobile base stations in 700 MHz to DTT will be broadly similar to the risk for 800 MHz, with some tens of thousands of households potentially affected?

DTG agrees that there will be some interference mitigation at 700MHz due to the increased frequency separation between DTT and LTE in comparison to 800MHz, as well as the relatively low levels of power received at rooftop antennas from mobile handsets. However, diagnosing LTE interference from handsets may be more difficult than that of base stations as it will most likely be transient so this needs to be incorporated in any advice on managing the effects of interference.

DTG understands Ofcom's assessment of the number of cases of LTE interference due to 700MHz base stations. However, the coexistence testing wasn't comprehensive: 3 receivers is not a representative sample and further testing would clarify the assessment.

Finally, assumptions on improvements in receiver performance due to RED should not be too heavily relied upon. Currently there is no statutory instrument for RED in the UK and it is not possible to estimate the impact of RED on receiver performance at this stage.

Question 2 Do you have any comments on our analysis of coexistence risks related to set-top aerials, direct signal ingress to receivers, impact of DTT on mobile services and interference to cable TV?

As there are no details of the testing that was carried out on direct ingress to receivers, it is not easy to say whether the analysis of coexistence risks is correct. The details of the testing should be provided for review. In addition, this should be reviewed in conjunction with representatives of the DTT and satellite installation industries to ensure that any recommendations from the testing in terms of installations are captured and there is a coordinated Ofcom and industry message being provided to the installation trade.

Do you agree with our conclusions that DTT receiver filters will be the most effective mitigation technique for the 700 MHz band and that group K aerials will also help to mitigate against 700 MHz coexistence issues?

Due to the fact Group K aerials operate between channels 21 and 48, in theory they may provide some mitigation against 700MHz coexistence issues. However, the current advice from Ofcom and DUK is to fit Group-T aerials during the clearance programme. In addition, due to the interim multiplexes using channels 55 and 56 with a possible extension beyond 2020, it could not be relied upon that households will have fitted group K aerials in any significant numbers by 2020.

DTG agree with filtering deployed as part of a well-managed support programme as a valid mitigation technique.