



## Response to Ofcom Consultation: **Authorisation of terrestrial mobile networks complementary to 2 GHz mobile satellite systems**

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As the current PMSE band manager JFMG would like to thank Ofcom for the opportunity to contribute to the decisions to be taken in respect of spectrum vital to the programme-making industry. We are uniquely placed in our ability to comment on the consultation questions as we can identify the likely impact of the additional proposed services on the availability of spectrum for PMSE use.

### **1. Company profile**

JFMG Ltd is the dedicated band manager for programme-making, entertainment, special events and related activities. It is a privately owned company created specifically to ensure continued and equitable spectrum access to all areas of the programme-making industry.

JFMG successfully coordinates the use of spectrum, issues licences and collects licence fees on behalf of Ofcom, and have done so since 1997. The spectrum we manage ranges from 47MHz to 48GHz and requires expert knowledge of the bands, their uses and restrictions. JFMG's own bespoke tools uniquely enable us to coordinate this spectrum, ensuring both protection for broadcasting and effective access for programme-makers.

In the UK, the professional use of radio for programme-making and entertainment purposes is referred to as Programme-Making and Special Events (PMSE). PMSE applications include:-

- Broadcast television studio production
- Broadcast television and radio coverage of news, sport or other public events including state occasions
- Theatre and touring shows (e.g. Doctor Dolittle, Cirque du Soleil)
- Music and other entertainment productions (e.g. Live8, Mandela, Glastonbury, T in the Park)
- Motor sport communications and remote monitoring (e.g. F1GP, Moto GP)
- Conferences, and corporate presentations and events
- Movie film productions

As the dedicated band manager JFMG Ltd facilitates the successful running of these events. JFMG also provide on-site consultancy services and are dedicated to leading the industry through the transitional period ahead.

### **2. Consultation Questions**

*Question 1: Do you agree with our proposals for the detailed terms and conditions of the CGC Licence set out in this document or have any other comments on the issues raised in this document?*

It is agreed that the introduction of a Complementary Ground Component (CGC) in the spectrum range 2170 – 2200MHz will impact severely on PMSE immediately above 2200MHz. Ofcom understand the importance that programme makers place on bands below 3GHz for Wireless Camera operations and have already acted to additionally make the

range 2290-2300MHz available to PMSE on a more permanent basis. This is very welcome as replacement spectrum for the range 2200-2210MHz and appears to maintain the quantity of spectrum for the PMSE industry. Our concern however is that, based on the out-of-band emission limits proposed for CGC services, further PMSE operations in spectrum above 2210MHz will also be compromised.

The particular characteristics of spectrum bands 2025-2110MHz and 2200-2300MHz are vital for particular PMSE applications. The unpredictable nature of newsgathering and certain types of Outside Broadcast rely on the favourable propagation characteristics in these bands for reliable Wireless Camera links. Already five 10MHz channels in 2200-2300MHz are in constant daily use for newsgathering, leaving five 10MHz channels available for temporary use.

Whilst more spectrum is available for Wireless Cameras in higher bands and can be used satisfactorily for some applications, a further reduction in the spectrum availability in the band 2210 – 2300MHz would severely affect routine programme making. At the recent Bond film premiere in the Leicester Square in addition to ongoing news assignments a further eight 10MHz Wireless Camera channels were licensed. This included all of the remaining five 10MHz channels in the band 2200 - 2300MHz. Given the challenging environment no other PMSE spectrum would have been suitable at this event.

Already PMSE has seen the impact of UMTS base stations immediately above 2110MHz on the band 2025 – 2110MHz. It denies use of one and sometimes two 10MHz channels at the top of the band. As a consequence the PMSE industry engaged with Ofcom at the start of the 2.6GHz spectrum award process to avoid a similar impact at new spectrum boundaries. A very constructive dialogue with the award team resulted in agreement on out-of-band emission limits substantially less than those now proposed for CGC services. As a consequence this minimises the impact of new services on adjacent PMSE use.

We ask Ofcom to meet with the PMSE industry to revisit the technical licence conditions as they apply to CGC out-of-band emissions to minimise the impact on PMSE spectrum.

*Question 2: Do you agree with our proposed approach for including the conditions imposed by Decision No 626/2008/EC in the CGC Licence?*

Whilst the Decision indicates that the full band 2170-2200MHz shall be made available to Mobile Satellite Services (MSS) we understand that the Decision does not mandate specific technical band edge conditions. Ofcom are therefore in a position to set the technical conditions in the CGC licences and take account of their impact on adjacent PMSE use.

It may be difficult to make the full 30MHz band available to the MSS and CGC operators whilst completely satisfying the needs of the PMSE industry but we ask that Ofcom consider closely the technical licence conditions to achieve the best outcome for both parties.

*Question 3: Do you believe that the technical parameters used to define transmission rights should be based on spectrum usage rights or spectrum masks?*

Spectrum Masks are preferred.

*Question 4: Do you agree with our proposed SUR parameters for CGC?*

The SUR parameters for the out-of-band emissions of CGC services are the most critical to PMSE and as set out above we ask that Ofcom engage with the PMSE industry to further refine these parameters.

*Question 5: Do you agree with the spectrum masks parameters proposed?*

The proposed spectrum masks are not given for out-of-band emissions from CGC base stations above 2210MHz and the impact on PMSE remains unclear. The consultation document has based its analysis on current 3G specifications and the 3GPP mask which limits out-of-band emissions to +4dBm/MHz. This limit was used as the basis for the 2.6GHz award but the award team were able to reduce this limit to -38dBm/MHz without compromising new services and giving greater protection to PMSE assignments in the range 2025-2110MHz.

We ask that a similar limit of -38dBm/MHz is applied to out-of-band emissions from CGC base stations.

*Question 6: Do you agree with the proposed changes to the other standard technical licence terms and conditions?*

Yes

*Question 7: We have assumed that the CGC base station and user terminal characteristics will be similar to those for equivalent 3GPP equipment. Specifically, we have assumed a maximum transmitted power of 31 dBm/5 MHz for CGC handsets, and a maximum transmitted power of 61 dBm/5 MHz for the CGC base stations. Do you agree these are reasonable assumptions?*

No comment

*Question 8: We have based our analysis of compatibility between CGC and other radio systems on studies of analogous scenarios conducted for the 2.6 GHz award – do you agree with this assumption?*

The 2.6GHz award team engaged positively and revisited points raised by the PMSE industry. We look forward to engaging in the same way with the CGC award team.

*Question 9: Do you have any comments on the assumptions of the deployed network modelled for the SUR parameters?*

No Comment