



International Amateur Radio Union Region 1

Comments on Public consultation on RSPG Work Programme for 2022 and beyond

The International Amateur Radio Union (IARU) is a Non-Governmental Organisation representing the interests of Radio Amateurs.

The amateur radio service is one of the oldest radio services recognised and regulated by the International Telecommunication Union (ITU) and pre-dates the regulation of radio communications. Having a strong Amateur Radio service has been recognised by Governments not only for the development of technical knowledge but as providing a network of radio stations which is geographically diverse and is able to assist in times of disaster.

As part of its commitment to amateur radio and to radio science IARU participates, as observers, in the work of standards bodies, the ITU, CEPT and EC working groups.

Amateur radio can provide an introduction to practical engineering, mathematics and physics to youth which directly contributes to a promotion in interest in careers in STEM. This is done, for example, through international youth workshops and through the ARISS (Amateur Radio on the International Space Station) programme.

IARU welcomes the comprehensive work programme to be undertaken by RSPG for the benefit of all users of the radio spectrum and would like to make some observations at this time.

WRC-23

IARU found the *JOINT EC-CEPT WORKSHOP ON WRC-23* held virtually in November 2021 to be useful in providing an overview of many of the Agenda Items (AIs) considered relevant. IARU has prioritised involvement in AI 9.1b where it has a clear and direct interest. In addition IARU participates in several other AIs (mainly for the Mobile and Science sectors) which are directly or indirectly of concern to the amateur and amateur satellite services. We look forward to further engagement where appropriate.

Mobile technology evolution – experiences and strategies / Strategy on the future use of the frequency band 470-694 MHz beyond 2030 in the EU

Mobile communications infrastructure and wireless broadband as wideband applications have a need for contiguous allocations of spectrum. In comparison, amateur radio and much scientific research is a relatively narrow bandwidth activity. Existing 2G and 3G and other UHF bands are relatively narrow and unsuitable for the latest bandwidths being sought for mobile broadband. Therefore consideration might be made to release and re-allocation of some of this spectrum, when available, to develop and foster non-IMT narrow band applications.

Digital Decade 2030

We consider that the proposed remit for RSPG for Digital Decade 2030 is overly concerned with 5G spectrum and roll-out. As 6G is not yet defined let alone ready to roll out, given the timescale envisaged a more balanced approach is advocated that recognises advances in fibre, RLANs and satellite networks/constellations

The development of 6G and possible implications for spectrum needs

As RSPG's own document indicates the timing for 6G extends well beyond the proposed programme. Therefore given the long timescale, we would be concerned that there could be an overly premature assessment of 6G spectrum needs which has implications for amateur and amateur satellite service allocations

Role of Radio Spectrum Policy to help Climate Change

Radio Spectrum is a finite and irreplaceable resource. IARU has previously responded on this matter regarding a number of aspects.

Firstly our experience supports the view that the power efficiency of commercial equipment is an important parameter. It needs to be recognised that modern OFDM waveforms require high linearity and signal-to-noise ratios, resulting in commercial power amplifiers have to be hugely de-rated and operating at very low power efficiency and excessive dissipation.

It is also our opinion that spectrum is steadily being degraded by inadequate limits on spurious emissions from both radio and non-radio devices, with insufficient market surveillance to ensure adherence to those standards that do exist.

In the end the combination of poor power efficiency and RF environmental pollution will cause a rise in the noise floor which will make spectrum less useable or require the use of higher transmit power levels to maintain effective utility, which is far from "green". Indeed environmental pollution may well be replaced by spectrum pollution.

IARU has deep-rooted concerns in this area. For this reason we are strongly engaged, in particular, in the on-going debate and discussions regarding wireless power transfer for electric vehicles [WPT(EV)] in all relevant fora.

Conclusion/Comments

IARU-R1, as a spectrum stakeholder, thanks you for the opportunities to comment afforded by RSPG and is happy to participate and contribute to spectrum discussions within RSPG.

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