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Rohde & Schwarz response to the “Draft RSPG Opinion on the role of radio spectrum policy to help combat climate change”

Rohde & Schwarz welcomes the opportunity to provide its comments on the “Draft RSPG Opinion on the role of radio spectrum policy to help combat climate change” and invites RSPG to consider below proposal.

Rohde & Schwarz is a manufacturer for terrestrial broadcast solutions. One main activity is to create and supply equipment for efficient and reliable operation to distribute audio-visual content through radio frequency broadcasting.

Terrestrial broadcast technologies are highly efficient for audio-visual content distribution. With new technologies like 5G Broadcast energy efficient distribution can be enabled for mobile user.

This translates into less transmission power needed for a given level of quality, or into higher quality (e.g. 4K or UHD TV) for the same transmission power. In addition, investment in advances in transmitter efficiency is an opportunity to adopt higher yield RF transmitters, with corresponding savings in the energy required to operate them.

Especially if terrestrial broadcasting is compared to streaming via mobile communication networks the energy efficiency is considerably lower. 5G Broadcast is ready for deployment. The 3GPP specifications of 5G Broadcast can meet all key requirements for digital TV delivery. The system is designed for low deployment cost, high efficiency, quick time to market, reuse of broadcasting infrastructure (including high power high tower) and existing 3GPP receiver functions. 5G Broadcast is tailored for broadcasters and supports free-to-air services, receive only mode reception, downlink only distribution, and delivery in dedicated broadcast spectrum to replicate functionalities of existing digital TV services. The IP-based service layer allows deployments of apps and IP-centric service layers on top of 5G Broadcast and seamlessly integrate with unicast. 5G Broadcast is ready to deliver TV and other services to mobile and stationary receivers. Hence it offers a highly efficient way for audio-visual content distribution combining

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traditional broadcast deployments with mobility use cases. In summary it can be stated that digital terrestrial broadcast is the least electricity-intensive distribution platform that with 5G Broadcast technology can be expanded to the mobile end user.

In addition to audio-visual content distribution other use-cases can benefit from efficient and sustainable data distribution via broadcast in the future in order to further reduce the carbon footprint (e.g. mass software updates to IoT devices, map updates for autonomous cars)

Comment 1 to RSPG opinion

RSPG recognizes that the distribution of mass attractive content and data via broadcast is more energy efficient than individual streaming, hence has reduced carbon footprint.

An additional advantage is further the possibility for the implementation of a public warning system via 5G Broadcast. With the advent of the climate change natural disasters get more likely. It is of utmost importance to make warning systems as robust as possible in case of extreme weather conditions. As being part of the 3GPP standard 5G Broadcast can benefit from the PWS functionality that is available from the mobile system while the broadcast topology offers a superior architecture for a fail-safe deployment. It is easy to receive as it is free-to-air delivery (This automatically includes visiting users as not any subscription is needed to receive 5G Broadcast). A maximum of users can be reached as all various devices are addressed with this technology like mobile phones, TV sets, cars, public transport vehicles etc.

Either as a standalone system or as an enhancement to classical mobile cell broadcast the new terrestrial broadcast technology can take the reliability of public warning systems to a next level. Even after the warning as a pre-phase in a natural catastrophe terrestrial broadcast is a channel for public information in areas that suffer from damage of communication networks (e.g. rescue recommendations, maps, guidelines how to react). As an important advantage this information can be provided barrier free.

Comment 2 to RSPG opinion

RSPG considers that dedicated spectrum should be available for resilient, reliable and free-to-air warning broadcast systems in case of natural disaster that get more likely and severe because of climate change.

Best regards,

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