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| U.S. Radiocommunications Sector  Fact Sheet | |
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| Document Title: Continuation of previous US contribution to suppress or deprecate *Working Document Towards a Preliminary Draft New Recommendation [Report] ITU-R SM.[WPT-EMISSIONS]* to status of a Working Document Towards a Preliminary Draft New Report ITU-R SM.[WPT-EMISSIONS]. | |
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| **Purpose/Objective:** The purpose of this fact sheet is not to provide another redundant contribution on this topic to ITU-R WP1A but rather to propose continuation of the U.S. Delegation’s previous position on this document and to provide helpful information to the U.S. Delegates for the next meeting on this topic. It is anticipated that contributions from other Sector Members or Delegations might be made towards this document so the US delegation should have appropriate information on hand to determine appropriate positions and responses to those contributions. | |
| **Abstract:** The U.S. previously proposed to suppress this document or at most continue working on the document only as a Report. At the meeting it was determined to continue work on the document with consideration as a Report although no further substantive updates were made to the document.  In previous contributions on this document, including in Japan’s November 2020 contribution (duplicated from their own previous contribution), some members and delegations have suggested that limits be based on ITU-R Recommendation P.372 Man-Made Noise (MMN) levels. Fundamentally this suggestion is flawed due to the fact that levels in ITU-R P.372 are based on statistical median measurements of white-gaussian noise (WGN) only, with all single-carrier noise (SCN), and impact noise (IN) removed as indicated in ITU-R Recommendation SM.1753, which is the basis for the MMN levels. Furthermore, these P.372 measurements are taken over several seasons and across 24-hour periods to obtain the statistical results. Instead, ITU-R Recommendation SM.329 covers “Unwanted emissions in the spurious domain” and indicates methods of measurements which are more common to EMC measurement methods used widely to resolve SCN from radio systems – including short-range devices (SRDs) for which some administrations (though not necessarily the US – except when communication exists in-band) classify WPT. (Noting also that many administrations consider WPT as ISM). ITU-R P.372 MMN has the following distinct characteristics in the spurious bands of interest below 30 MHz:   * ITU-R P.372 represents ONLY WGN (not SCN) and ITU-R SM.1753 clearly indicates that both SCN and WGN are important. ITU-R SM.1753 also clearly states that “it is virtually impossible to find a location that is not at least temporarily dominated by noise or emissions from a single source…” and that “it may be unrealistic to exclude these components from radio noise measurements.” ITU-R SM.1753 also indicates that “ITU-R P.372 … specifically excludes emissions from single, identifiable sources.” ITU-R SM.1753 reiterates how important both the SCN and WGN are to radio by noting that, “radiocommunications have to cope with all unwanted signals, whether it is noise or interference, to function properly. For practical reasons it may therefore be desirable to measure the sum of both.” Particularly in the HF band, it also notes that, “In the HF frequency band, it is virtually impossible to find a frequency that is free of wanted emissions for the whole 24 h measurement period.” * The ITU-R P.372 values that are being used by IARU/EBU are based ONLY on man-made noise (MMN) which specifically removes any natural environmental effects. More particularly, ITU-R SM.1753 states that “Even on one frequency the radio noise level, especially when dominated by MMN, varies depending on time and location. In frequency bands below 30 MHz, noise levels mainly change over time due to propagation conditions.” * The ITU-R P.372 WGN MMN values below 30 MHz are based on median values of measurements which occurred in at least 10 locations over 24-hour periods and across multiple seasons. Specifically, in ITU-R SM.1753, it states that in addition to a standard measurement period of 24 hours, it is important “To take into account variation due to seasons, HF measurements may be repeated a number of times each year.” This is noteworthy considering that HF propagation conditions change frequently. * The ITU-R P.372 WGN MMN values are based on RMS measurements – not peak. The ITU-R P.372 values do not represent the only source of noise and clearly do not represent the dominant source of noise, which is SCN as also indicated in ITU-R SM.1753.   For the benefit of the U.S. Delegation, additional information is provided in the attached document. This information was agreed upon by the attending interested U.S. November 2020 delegates to WP1A. This information can be used by the U.S. Delegation to assist in discussions and to make any additional clarifications and decisions deemed necessary in the next meeting. | |