|  |  |
| --- | --- |
| PT-FM44 |  Doc. FM44(23)008 |
| 73th Meeting of FM44Zagreb / Web Meeting, 9 – 11 May 2023 |
|  |
| Date issued:  | 5/2/2023 |
| Source:  | LoRa Alliance |
| Subject:  | SRD-satellite systems |
| Group membership required to read? (Y/N)N |
|  |
| Summary:  |
| The regulatory parameters for non-specific short range devices as defined in annex 1 of ERC Rec 70-03 allow the reception of transmissions even over hundreds of kilometres. This is due to the very high sensitivity of state-of-the-art receivers. Various proof-of-concepts have shown that even satellites can receive these transmissions. ECC acknowledged in Report 305 that emissions can “obviously equally be received by a terrestrial receiver [...] or by a space station in low earth orbit without the need for additional regulatory measures.”The LoRa Alliance has several members who want to deploy SRD-satellite systems in Europe and all over the globe. Commercial systems are ready to help close the connectivity gap in remote regions. The LoRa Alliance kindly asks FM44 to discuss the matter and to provide recommendation on how to implement changes, if deemed necessary. |
| Proposal: |
| The Lora Alliance invites FM44 toDiscuss the document belowProvide guidance on best way to handle SRD-satellite systems in CEPT text |

# LoRa Alliance Input contribution to FM44 meeting

There are at least four satellite operators from CEPT countries deploying satellites with LoRaWAN and some have already launched or plan to launch satellites for LoRaWAN IoT operating in the 862-870 MHz range. All of these operators receive transmissions from SRDs in the 862-870 MHz range, while some also transmit from satellites to SRDs in this range, e.g. for device configuration.

There is a huge interest by existing IoT deployments to also use satellite connections, particularly in remote regions. Satellites allow for these systems to close the connectivity gap, thus really reducing the digital divide. One satellite operator, member of the LoRa Alliance, has stated to already have 20+ active European commercial partners and use cases in the following application fields: agriculture, energy, environmental monitoring, green economy, safety/SAR…

The LoRa Alliance kindly invites FM44 to discuss the following views:

* SRDs are not a radiocommunication service and do not fall under one specific radiocommunication service. Therefore, a satellite or terrestrial allocation is not required to operate SRDs in the range 862-870 MHz, if the (sub-band) is listed in the country’s national SRD implementation.
* Satellite receivers can equally receive SRD transmissions as terrestrial receivers. No new studies are needed as SRD-to-satellite transmissions are fully in line with existing spectrum regulations under the respective limits of ERC Rec. 70-03 (output power, duty cycles, …).
* It is understood that while the SRDs are exempted from the individual licensing, other relevant national regulation in the field of electronic communications should be respected, when applicable, in the same way as for the operators of terrestrial SRD networks (examples: data processing, telecommunication services provider).
* Some satellite operators conduct satellite-to-SRD transmissions in the range 862-870 MHz under ITU-R RR Article 4.4 (authorized by national administration(s)). These operators do not claim for any sort of protection and operate such that impact on incumbent systems is minimized (no harmful interference!).
* It is often stated by regulators that commercial applications on non-protection, non-interference basis are not encouraged/ recommended (e.g. ECC Report 305: ITU-R RR Article 4.4 “may not provide sufficient guarantees to operate a commercial service”). The LoRa Alliance, consisting almost exclusively of members who offer commercial applications on non-interference basis, wants to re-confirm that commercial operations in the 862-870 MHz are viable as demonstrated with many other IoT applications in various SRD bands.
* If it is recommended in the ECC Report 305 to not provide a commercial service under ITU-R RR Article 4.4, an exception could be made for SRD use which has proven its ability to commercially operate on non-protection, non-interference basis.

The LoRa Alliance is of the view that the use of SRD bands via satellites shall be reflected in the relevant regulations, and is seeking guidance by FM44 on how to best describe regional and/or national regulations in Europe. We note that the recognition of SRD-to-satellite transmissions in standing regulations might be more straight-forward than adding satellite-to-SRD systems. Therefore, we see the recognition of SRD-to-satellite transmissions as a first step to help closing the connectivity gap. In the past, administrations have recommended various ways of recognition:

* Modify ERC Rec. 70-03
* Amend ECC Report 305 with an addendum or
* Draft a new ECC Report which updates parts of ECC Report 305
* Draft an independent Decision

However, there was no consensus on the best way forward. We therefore kindly ask FM44 for guidance.

Regarding Satellite-to-SRD transmissions, we recognize that administrations might need field trials and supporting studies to support harmonisation of operations that can already operate under ITU-R RR Article 4.4 or soon under change of SRD regulations for SRD as proposed in ACMA consultation in Australia. Additionally, administrations might see the need to define conditions under which such use could be supported. Various field trials have been conducted and studies have been completed, based on input parameters as used in ECC Report 261. The LoRa Alliance kindly asks FM44 to provide recommendations on how/where study results, field trials, and proposals for operational conditions shall be submitted.