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Electromagnetic compatibility and Radio spectrum Matters (ERM); System Reference document (SRdoc); Technical characteristics and spectrum requirements of wideband SRDs with advanced spectrum sharing capability for operation in the UHF 870 - 876 MHz and 915 - 921 MHz frequency bands

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Contents

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Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document includes necessary information to support the co-operation under the MoU between ETSI and the Electronic Communications Committee (ECC) of the European Conference of Postal and Telecommunications Administrations (CEPT).

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Introduction

Wideband SRDs are a subset of the broader SRD family that can enable further market growth for divers applications including Internet of Things, Machine-to-Machine communications, smart home/building automation and 'wearables'. This can be achieved in particular through advanced characteristics of these devices such as higher data rates, improved power usage, and efficient spectrum utilization. Therefore, Wideband SRD's are expected to grow rapidly over the foreseeable future for mass market applications. Based on these expected growth rates and currently limited available frequency bands, there is an essential need for additional spectrum for Wideband SRDs to accommodate the anticipated market growth. The present document requests modifications to the regulatory rules of the UHF 870 - 876 MHz and 915 - 921 MHz frequency bands to enable the operation of Wideband SRDs with advanced spectrum sharing capabilities in these bands.

1 Scope

The present document applies to the potential future usage of Wideband SRDs with advanced spectrum sharing capabilities in the UHF 870 - 876 MHz and 915 - 921 MHz frequency bands. In particular, it:

- Gives an SRD market overview and explains the development and emergence of new Wideband SRD technologies.
- Describes technical characteristics of Wideband SRDs, including advanced spectrum sharing capabilities, as they relate to the usage of the UHF 870 - 876 MHz and 915 - 921 MHz spectrum.
- Details the requested regulatory changes to allow for efficient use of Wideband SRDs.

The present document is intended to include all necessary information required by the Electronic Communications Committee (ECC) under the MoU between ETSI and the ECC.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

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2.1 Normative references

The following referenced documents are necessary for the application of the present document.

Not applicable.

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] CEPT ECC ERC Recommendation 70-03: "Relating to the Use of Short Range Devices (SRD)", 07 February 2014.

[i.2] ABI Research, "Short Range Wireless and Cellular ICs Enabling the Connected World of Tomorrow", July 2013 (PT-1027).

[i.3] ABI Research Report "Home Automation Systems", May 5, 2014 (MD-HAS-1047).

[i.4] IHS, "Wearable Technology - World", October 2013.

[i.5] IEEE P802.11ah / Draft 2.0 June 2014. "Part II: Wireless LAN Medium Access Control (MAC) and Physical (PHY) Layer Specifications. Amendment 6: Sub 1 GHz License Exempt Operation".

[i.6] ETSI EN 300 220-1 (V2.4.1) (2012-01): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW; Part 1: Technical characteristics and test methods".