TIA TELECOMMUNICATIONS SYSTEMS BULLETIN

WIRELESS COMMUNICATIONS SYSTEMS PERFORMANCE IN NOISE AND INTERFERENCE-LIMITED SITUATIONS

Part 1: Recommended Methods for Technology Independent Performance Modeling

TSB-88.1-D-1 **October 2013**

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Foreword

(This foreword is not part of this addendum)

Subcommittee TR-8.18 of TIA Committee TR-8 prepared and approved this Addendum.

Changes in technology, refarming existing frequency bands, proposed band reorganizations and new allocations, plus increased reporting of interference have increasingly occurred. These events necessitate keeping the TSB-88 documents current to assure the documents provide the most appropriate methodology of modeling the various interference mechanisms to support frequency coordinators in determining the best assignments to be made for the available pool of frequencies and mixtures of technology.

Additionally, inclusion word for word, of information contained in documents referenced in TSB-88 complicates keeping the TSB-88 documents current. Changes in the wording of cited references often lead to confusing conflicts between the specific reference and TSB-88 which continue to exist until such time as TSB-88 can be revised. This problem is specifically highlighted by conflicts in the wording used in Annex E of TSB-88.1-D and the most current wording used in the specific references.

To eliminate current conflicts TR-8.18 has adopted this addendum, which simply replaces Annex E in TSB-88.1-D with the revised Annex E contained in this document.

Patent Identification

The reader's attention is called to the possibility that compliance with this document may require the use of one or more inventions covered by patent rights. By publication of this document no position is taken with respect to the validity of those claims or any patent rights in connection therewith. The patent holders so far identified have, we believe, filed statements of willingness to grant licenses under those rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such licenses.

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1. Addendum Introduction

The purpose of this addendum is to replace Annex E in **TSB-88.1-D** with a new Annex E, to eliminate inconsistencies and the resultant confusion that exists between the wording used in Annex E and the actual wording contained in the latest versions of the referenced documents cited in Annex E of **TSB-88.1-D**.

2. Addendum Scope

This addendum simply replaces Annex E of **TSB-88.1-D** *in toto*. No other changes in TSB-88.1-D are contained in this addendum or intended to be effectuated by this addendum.

3. Specific Change to TSB-88.1-D

This addendum requires the deletion of Annex E in TSB-88.1-D and replacement of that Annex*, in toto*, with the information indented below.

Annex E. Emission Designators (Informative)

E.1 General

The purpose of this Bulletin is to provide a method for examining potential frequency selections to minimize the potential interference between disparate modulations utilizing disparate channel bandwidths during frequency coordination. The use of the emission designator is essential to identifying the modulations being used and their associated receiver parameters. Annex A contains the recommended emission designators for each documented modulation. Manufacturers publish their emission designators on specification sheets. Today's radios are often capable of multiple waveforms (modulations) and it is common for a licensee to use a single worst case (widest) modulation to cover all cases on their license with a single emission designator. In doing this, the essential information for determining the actual modulation may be lost making the coordination process less efficient.

The FCC, NTIA and ITU provide rules and methodology for determining the appropriate emission designator and references are listed below. The latest versions for each of the documents listed in E.2 should be verified when consulting the cited reference.

E.2 Emission Designator References

E.2.1 FCC (Title 47, Code of Federal Regulations - Telecommunications)

47 CFR §2.201 *Emission, modulation, and transmission characteristics*

47 CFR §2.202 *Bandwidths*

47 CFR §2.1049 *Occupied bandwidth measurement*

47 CFR §90.207 *Types of emissions*

47 CFR §90.209 *Bandwidth limitations*

47 CFR §90.210 *Emission masks*

47 CFR §90.213 *Frequency stability*

47 CFR §90.233 *Base/mobile non-voice operations*

E.2.2 NTIA (Manual of Regulations and Procedures for Federal Radio Frequency Management)

§5.1.5 *Terminology*

§6.3 *Emission Designators*

§9.8.1 -16. *EMS—Emission Designator*

Annex J, *Guidance for Determination of Necessary Bandwidth*

E.2.3 ITU-R Spectrum Management [SM]

Rec. ITU-R SM.328 *Spectra and bandwidth of emissions*

Rec. ITU-R SM.853 *Necessary bandwidth*

Rec. ITU-R SM.1138 *Determination of necessary bandwidths including examples for their calculation and associated examples for the designation of emissions.*

ITU-R Radio Regulations*, Volume 2, Radio Regulations Appendices, Appendix 1(REV.WRC-12), Classification of emissions and necessary bandwidths*

E.3 Additional Discussion

For additional discussion on emission designators, see §5.6.5.1.

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