## ERTMS/ETCS – Class 1

# Trainborne FFFIS for RADIO IN-FILL

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| Company | Technical Approval | Management approval |
|---|---|---|
| ADTRANZ | | |
| ALCATEL | | |
| ALSTOM | | |
| ANSALDO SIGNAL | | |
| INVENSYS RAIL | | |
| SIEMENS | | |

# 1. MODIFICATION HISTORY

| Issue Number<br>Date | Section Number | Modification / Description | Author |
|---|---|---|---|
| 0.0.1<br>15-Sep-99 | All | Creation | R. Bertolini, M. Ferrettino |
| 1.0.0<br>13-Oct-99 | All | Final issue | R. Bertolini, M. Ferrettino |
| 1.1.0<br>21-Jan-00 | All | Updating to SRS 2.0.0 | M. Ferrettino |
| 2.0.0<br>30-March-00 | 3.3 | Final issue to ECSAG | U.D. (ed) |

# 2. TABLE OF CONTENTS

# 3. GENERAL

## 3.1 Scope

3.1.1.1 The scope of this document is to specify the Radio Communication System airgap interface details required for the UNISIG Class 1 ERTMS system definition.

3.1.1.2 This document covers mainly the signalling part of the communication protocols related to the data bearer service management and the details of the physical interfaces on the train/track radio airgap.

3.1.1.3 This FFFIS is strictly dependent on the UNISIG EURORADIO FFFIS for class 1 [7].

3.1.1.4 For this reason the document has the same structure of the document above. Each chapter of this FFFIS contains only the reference to EURORADIO FFFIS and the possible specific characteristics (differences ) for radio in-fill application.

## 3.2 Introduction

3.2.1.1 See [7].

## 3.3 References

[1] ERTMS/ETCS Class 1 “SRS Chapter 2 Basic System Description” – issue 2.0.0 – 22.12.00

[2] ERTMS/ETCS Class 1 “SRS Chapter 3 Principles” – issue 2.0.0 – 22.12.00

[3] ERTMS/ETCS Class 1 “SRS Chapter 7 ERTMS/ETCS language” – issue 2.0.0 – 22.12.00

[4] ERTMS/ETCS Class 1 “SRS Chapter 8 Messages” – issue 2.0.0 – 22.12.00

[5] ERTMS/ETCS Class 1 “EURORADIO FIS” – issue 2.0.0 – 30.03.00

[6] ERTMS/ETCS Class 1 “Key Management FIS” – issue 2.0.0 – 30.03.00

[7] ERTMS/ETCS Class 1 “EURORADIO FFFIS” – issue 2.0.0 – 30.03.00

[9] ERTMS/ETCS Class 1 “Radio In-fill FFFS” – issue 2.0.0 – 30.03.00

[8] ERTMS/ETCS Class 1 “Radio In-fill for Track / Train FIS ” – issue 2.0.0 – 30.03.00

# 4. RADIO AIRGAP FFFIS

## 4.1 Data bearer service definition

4.1.1.1 See [7].

4.1.1.2 All the references to RBC shall be changed to Radio In-fill Unit.

## 4.2 Data transfer physical layer

4.2.1.1 See [7].

4.2.1.2 All the references to RBC shall be changed to Radio In-fill Unit.

## 4.3 Communication signalling and network interworking

4.3.1.1 See [7].

4.3.1.2 All the references to RBC shall be changed to Radio In-fill Unit.

# 5. ISDN FIXED NETWORK INTERFACE - OPTIONAL

5.1.1.1 See [7].

5.1.1.2 All the references to RBC shall be changed to Radio In-fill Unit.

# 6. EVC MT2 MOBILE INTERFACE – OPTIONAL

6.1.1.1 See [7].

6.1.1.2 All the references to RBC shall be changed to Radio In-fill Unit.