



**Digital cellular telecommunications system (Phase 2+) (GSM);  
Universal Mobile Telecommunications System (UMTS);  
LTE;  
Recommended infrastructure measures to overcome specific  
Mobile Station (MS) and User Equipment (UE) faults  
(3GPP TR 29.994 version 14.0.0 Release 14)**



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Reference

RTR/TSGC-0129994ve00

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Keywords

GSM,LTE,UMTS

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# Foreword

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## 1 Scope

The present document clarifies recommended measures which may be adopted by 3GPP infrastructure utilising GSM or GERAN as access network to enable inter-working to be obtained between network and various User Equipment (UE) implementations of the 3GPP specification. The objective is to obtain compatibility without changing the consolidated set of specifications. The present document describes the recommended changes to the infrastructure to cater for specific faults within some types of UE.

The lifetime of the herein described measures together with their potential impact on optimal network performance is out of the scope of the present document.

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## 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

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- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 04.08 (Phase 1): "Mobile radio interface layer 3 specification Part 1: Generic".
- [3] 3GPP TS 04.08 (Phase 2): "Mobile radio interface layer 3 specification".
- [4] 3GPP TS 04.08 (Phase 2+): "Mobile radio interface layer 3 specification".
- [5] 3GPP TS 05.05 (Phase 2): "Radio Performance Aspects".
- [6] 3GPP TS 05.05 (Phase 2+): "Radio Performance Aspects".
- [7] 3GPP TS 24.007: "Mobile radio interface signalling layer 3 General aspects".
- [8] 3GPP TS 24.008: "Mobile radio interface layer 3 specification Core Network Protocols-Stage 3".
- [9] 3GPP TS 23.107: "Quality of Service, Concept and Architecture".
- [10] 3GPP TS 44.018: "Mobile radio interface layer 3 specification, Radio Resource Control (RRC) protocol".

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## 3 Abbreviations

Abbreviations used in the present document are listed in 3GPP TR 21.905 [1].

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## 4 General

In the implementation of the standard it has been found that some aspects of the specifications have been misinterpreted by some MS manufacturers. These MSs require specific implementations of the Phase 1 standard in the infrastructure, to provide completely compatible interworking.

It has been assumed throughout this TR that Phase 2 and later infrastructure will interwork with Phase 1 MSs in the same way as Phase 1 infrastructure.