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**3GPP TSG-RAN4 Meeting #35**  
**Athens, Greece, 9<sup>th</sup> – 13<sup>th</sup> of May**

**Tdoc R4-050554**

**Title:** LS Typical Limiting interference parameters for terrestrial UMTS systems  
**Response to:** LS (R4-050072/ M-04-021) on considerations to avoid interference for terrestrial networks for onboard GSM networks

**Source:** RAN4  
**To:** ETSI MSG  
**Cc:** RAN, GERAN

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**Attachments:** None

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**1. Overall Description:**

Following the request "LS on considerations to avoid interference for terrestrial networks for onboard GSM networks" (R4-050072 / M-04-021) 3GPP RAN WG4 has continued its first analysis related to use of GSM on board of aircraft.

TSG RAN WG4 has now agreed the following typical parameters to indicate the limiting interference for a terrestrial UMTS WCDMA system:

Terrestrial system	UMTS Node B Rx	UMTS UE Rx
kTB/Hz (dBm)	-174	-174
Noise factor (dB)	4	7
N/Hz (dBm)	-170	-167
Channel size WCDMA (3.84 MHz) dBm	-104	-101
Channel size WCDMA (1.28 MHz) dBm	-109	-106

It should be noted this reflects the current state of art of technology, and may develop over time.

However, TSG RAN WG4 cannot provide further input on the impact of the GSM onboard service onto terrestrial UMTS systems without the benefit of extensive modelling of the aircraft environment. In particular it should also be noted that RAN WG4 do not have an agreed value of the acceptable interference margin to terrestrial UMTS networks. However any interference caused by GSM on aircraft would be just one component of the overall external system interference caused to UMTS networks.

It is noted that the CEPT group WG SE7 has begun to study the compatibility of the onboard GSM service onto terrestrial (UMTS) networks in their respective frequency bands. Given that CEPT WG SE7 will be carrying out the relevant modelling of the components of the system, it is proposed that the above figures be taken into account in that work.

TSG RAN WG4 request to be able to review the results of such modelling studies in order to conclude this work. In addition, RAN WG4 would see benefits in getting information on the full system, including the operation within the aircraft.

RAN WG4 highlights that given that the current regulatory discussions are based on a European framework (CEPT), further analysis may be required once regions outside Europe become involved.

**Action:**

To MSG: To note the information and forward to the relevant CEPT WG SE7 group as proposed values for the limiting interference parameters for UMTS systems.

To CEPT WG SE7: RAN WG4 kindly requests to be able to review the results of the compatibility study of onboard GSM service on terrestrial networks.

**Date of Next TSG-RAN4 Meetings:**

RAN WG4 #36            29<sup>th</sup> August – 2<sup>nd</sup> September 2005,            London

RAN WG4 #37            7<sup>th</sup>- 11<sup>th</sup> November 2005,            ASIA