Joint TSG-S4#10 - SMG11#15 Meeting
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S4/SMG11 Tdoc (00)0169

Source:	**NTT DoCoMo**
Title:	**Radio Channel Simulator for 3GPP AMR Characterisation**
Document for:	**Information and discussion**
Agenda Item:	**13.3**

Introduction

Development of Technical Report of AMR characterisation (TR 26.075) is now ongoing. The main purpose of this task is to evaluate how AMR performs over 3G RAN. S4 has tried to get realistic error patterns of 3G radio channel, but not yet. Meanwhile, NTT DoCoMo is developing its own radio channel simulator for the internal evaluation purpose, and it could be applicable for 3GPP AMR characterisation as well. For the acceleration of AMR characterisation, NTT DoCoMo is considering to take part in channel error insertion for 3GPP AMR characterisation using our radio channel simulator voluntarily.

Radio channel simulator overview

Figure 1 shows that overview of our possible radio channel simulator. It consists of I/O interface, channel encoder, radio channel simulator, and channel decoder. I/O interface receives or outputs AMR bitstream including rate information, i.e TX_TYPE/RX_TYPE and Mode Indication, that conforms to AMR c-code format defined in TS 26.073 and convert or revert it to/from appropriate internal format according to TS 26.101 and TS 26.102. This means that error pattern generated depends on input AMR bitstream. Channel encoder and channel decoder works according to 3G tool box concept. Channel simulator simulates all the other factors related to radio channel such as modulation and demodulation, fading, propagation model, interference, power control, etc.

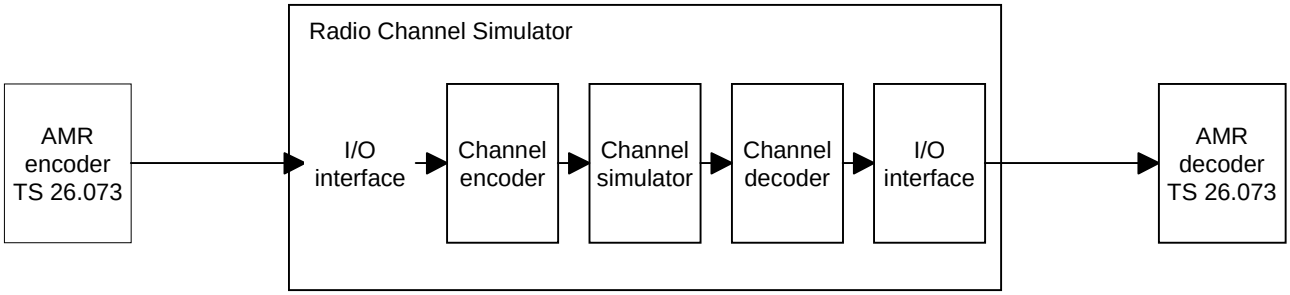

Figure 1: Overview of radio channel simulator for AMR

Parameters and conditions

S4/SMG11 Tdoc 474/99 is a good start point to define parameters and conditions. NTT DoCoMo is now checking whether these parameters and conditions can be implemented into our radio channel simulator. They will be presented hopefully before the next S4 meeting.

Schedule

Our radio channel simulator will be developed by June. NTT DoCoMo would have the option to take a part of error insertion task for 3G AMR characterisation, if it would be suitable for AMR characterisation test schedule developed by SQ subgroup.