Fraunhofer Institut Integrierte Schaltungen

DARS System

System Engineering

Simulation Plan
Work Package 21B

DARS-FHG-FSDC-721-140000

Edition 01   Revision 01

Author: E. Eberlein

Date: 9 November 1998

Name	Responsibility	Date	Signature
Prepared by E. Eberlein		09.11.98	
Approved by H. Heß	Configuration Manager		
Released by S. Meltzer	Project Manager		

Fraunhofer Institut
Integrierte Schaltungen

Revision Index

Ser/Rev	Date	Authorized by	Change Record	Author
01.01	09.11.98		Initial Version	ebl

1   Table of Contents

2   Scope

The method "split 3/8 convolutional code" was added to the simulation work package 21 (= diversity combining before/within Viterbi).

This document shall describe the additional work items related to this subject.

3   Related Documents

[RD1] DARS-FHG-FDDB-630-140000   Simulation Plan

[RD2] Simulation Work Package 21: Two TDM Diversity (STEL document, no document number available)

[RD3]   E. Eberlein: Memo "Diversity Combining within Viterbi", 26/10/98

4   Work package Description

It is proposed to perform the work in the following steps:

- Step 1: Theoretical analysis (e.g. literature search)

- Step 2: Validation at broadcast channel level using SV2 data

- Step 2B (if necessary): validation including full TDM
  If the weighting is based on the broadcast channel and/or level information (e.g. AGC values) only this step is not required. A simulation setup using

- Step 3: Validation with additional channel parameters using the multi-state satellite channel model.

After step 2 a first estimate of the gain for different SV2 scenarios shall be available. Step 2B and 3 may help for further optimization. Step 1 and 2 shall be finalized until beginning of December. The results of phase 2B and 3 shall be available for the CDR meeting.

4.1   Theoretical analysis (Step 1)

The proposed algorithms shall be analyzed in theory first. The analysis shall give the expected performance for different scenarios. If the performance can't be estimated in theory the critical parameters for the simulation shall be identified.

The following questions shall be addressed during the analysis:

- Puncturing pattern

- Gain for different scenarios:
  The gain can be estimated by comparing the method to the performance of a QPSK system with time interleaver and code rate 3/8 for a Rician channel.

- Overall gain
  (e.g. service availability for the scenario "Kurt-Schuhmacher Strasse" as function of the link margin -> the required link margin can be defined for a required service availability).

- Viterbi decoder implementation

  - Survivor length

  - metric calculation

- Channel state estimation

  - Required time resolution

  - Signal quality estimation algorithms based on:

    - QPSK scatter (at output of demod)

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.

fastcase®
Smarter legal research.