ITU - Telecommunication Standardization Sector Temporary Document RN-091

STUDY GROUP 15 Original: English

Red Bank, New Jersey, 21 - 25 May 2001

Question: 4/15

SOURCE[1]: VOCAL Technologies Ltd.

TITLE: G.gen.bis: G.dmt.bis: G.lite.bis: G.vdsl: About the use of a fix interleaver size in Turbo Coding for high order constellations.

ABSTRACT

This contribution discuss the use of a fix interleaver size with high order constellations. The constellation used to illustrate the results is a b=14 bits constellation with 12 information bits and 2 parity bits.

1. Introduction

This contribution discuss the use of a fix interleaver size with high order constellations. The constellation used to illustrate the results is a b=14 bits constellation with 12 information bits and 2 parity bits.

2. Simulation Results

Figure 1 shows the simulation results for a 14 bits constellation size with 12 information bits and 2 parity bits with an S-type interleaver size of 1088 bits and with a S-type interleaver size of 31200 bits using 8 iterations.

Form the figure it is clear that the 1088 bits interleaver size does not perform well with high order constellations.

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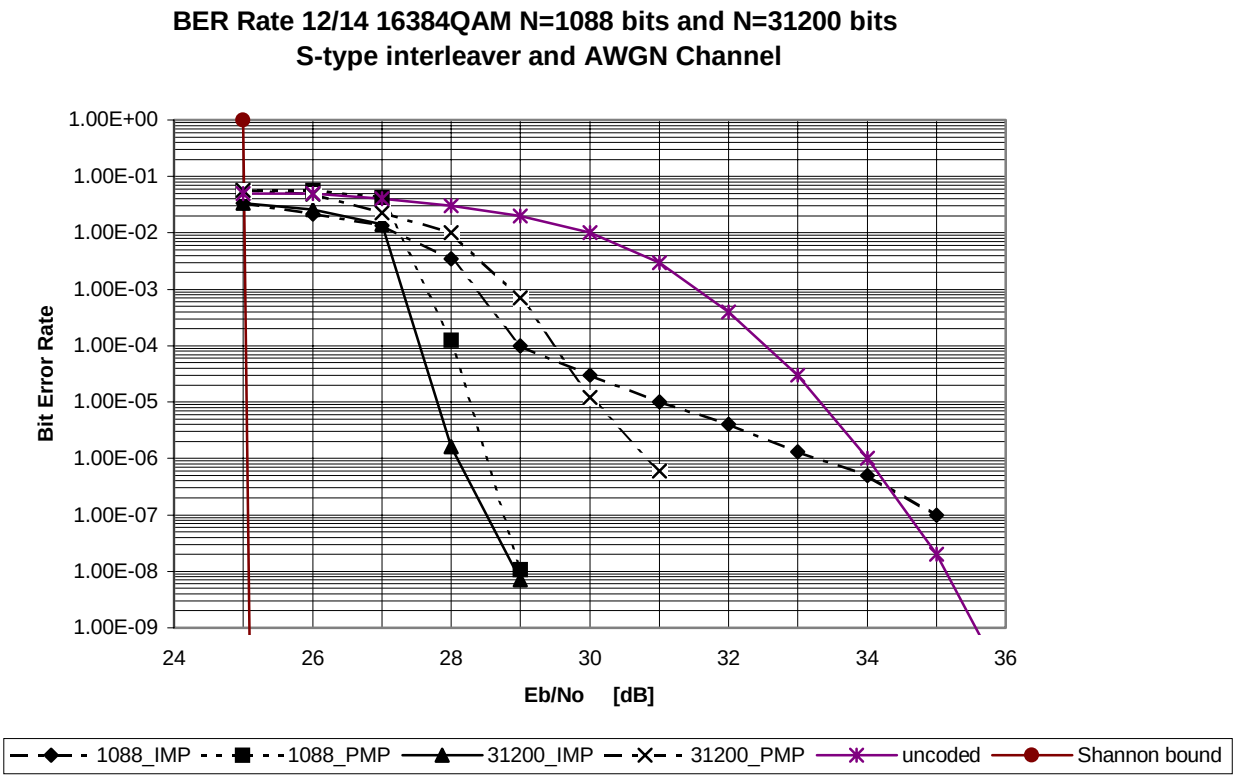

Figure 1. BER for rate 12/14 16384 QAM in AWGN channel

3. Summary:

This contribution discuss the problems that occur when a fix interleaver size of 1,088 is used with high order constellations. The constellation used to illustrate the results is a b=14 bits constellation with 12 information bits and 2 parity bits.

1. Agenda Item: G.992.1.bis issue 4.6 and G.992.2.bis issue 10.14. G.vdsl issue 11.17
2. Expectations: The committee accepts the use of an interleaver size for Turbo codes of an integral number of DMT symbols.