Golomb

Golomb Compresser Design and Testing

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***Abstract*—This paper trying to describe how to design a Golomb compressor and test it.**

Golomb

I. Introduction

At first we: (1) describe operation then (2) test the circuit.

II. Operation

Golomb is a method for compressing the test vectors for decrease the size of test vectors to have lower memory usage. The main algorithm is based on number of zeroes. Our algorithm need an input for group size then calculates the zeroes and code the vectors. For 4 size of group as example the table of coding is shown in Fig.1.

Group	Run_length	Group Prefix	Tail	Codeword
G_0	0	0	00	000
	1		01	001
	2		10	010
	3		11	011
G_1	4	10	00	1000
	5		01	1001
	6		10	1010
	7		11	1011
G_2	8	110	00	11000
	9		01	11001
	10		10	11010
	11		11	11011
⋮	⋮	⋮	⋮	⋮

Fig.1 Golomb table for 4 group size

III. Testbench

After design our circuit we apply random vectors and check the output. The results are shown in Fig.2.

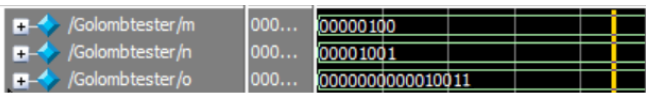

Fig.2 Golomb output

References

[1] Doctor Zain.Navabi Test and Testability Design book