Вариант 71

$C=(A\pm 1)_{mod15}$ Число входных/выходных переменных: 5/5

Разрядность операндов: 4/-

y	a_1	a_2	a_3	a_4	v	c_1	c_2	c_3	c_4
0	0	0	0	0	0	0	0	0	1
0	0	0	0	1	0	0	0	1	0
0	0	0	1	0	0	0	0	1	1
0	0	0	1	1	0	0	1	0	0
0	0	1	0	0	0	0	1	0	1
0	0	1	0	1	0	0	1	1	0
0	0	1	1	0	0	0	1	1	1
0	0	1	1	1	0	1	0	0	0
0	1	0	0	0	0	1	0	0	1
0	1	0	0	1	0	1	0	1	0
0	1	0	1	0	0	1	0	1	1
0	1	0	1	1	0	1	1	0	0
0	1	1	0	0	0	1	1	0	1
0	1	1	0	1	0	1	1	1	0
0	1	1	1	0	1	0	0	0	0
0	1	1	1	1	d	d	d	d	d
1	0	0	0	0	1	1	1	1	0
1	0	0	0	1	0	0	0	0	0
1	0	0	1	0	0	0	0	0	1
1	0	0	1	1	0	0	0	1	0
1	0	1	0	0	0	0	0	1	1
1	0	1	0	1	0	0	1	0	0
1	0	1	1	0	0	0	1	0	1
1	0	1	1	1	0	0	1	1	0
1	1	0	0	0	0	0	1	1	1
1	1	0	0	1	0	1	0	0	0
1	1	0	1	0	0	1	0	0	1
1	1	0	1	1	0	1	0	1	0
1	1	1	0	0	0	1	0	1	1
1	1	1	0	1	0	1	1	0	0
1	1	1	1	0	0	1	1	0	1
1	1	1	1	1	d	d	d	d	d

V

y=0	a_1a_2				
a_3a_4		00	01	11	10
	00				
	01				
	11			d	
	10			1	

y=1	a_1a_2				
a_3a_4		00	01	11	10
	00	1			
	01				
	11			d	
	10				

C_1

y=0	a_1a_2				
a_3a_4		00	01	11	10
	00			1	1
	01			1	1
	11		1	d	1
	10				1

y=1	a_1a_2				
a_3a_4		00	01	11	10
	00	1		1	
	01			1	1
	11			d	1
	10			1	1

C_2

y=0	a_1a_2				
a_3a_4		00	01	11	10
	00		1	1	
	01		1	1	
	11	1		d	1
	10		1		

y=1	a_1a_2				
a_3a_4		00	01	11	10
	00	1			1
	01		1	1	
	11		1	d	
	10		1	1	

C_3

y=0	a_1a_2				
a_3a_4		00	01	11	10
	00				
	01	1	1	1	1
	11			d	
	10	1	1		1

y=1	a_1a_2				
a_3a_4		00	01	11	10
	00	1	1	1	1
	01				
	11	1	1	d	1
	10				

C_4

y=0	a_1a_2				
a_3a_4		00	01	11	10
	00	1	1	1	1
	01				
	11			d	
	10	1	1		1

y=1	a_1a_2				
a_3a_4		00	01	11	10
	00		1	1	1
	01				
	11			d	
	10	1	1	1	1

$$\begin{cases} v = \bar{y}a1a2a3 \vee y\overline{a1a2a3a4}(Sq = 11) \\ c1 = \bar{y}a1\overline{a2} \vee a1a2\overline{a3} \vee \bar{y}a2a3a4 \vee y\overline{a1a2a3a4} \vee ya1a3 \vee ya1a4\ (Sq = 33) \\ c2 = \bar{y}a2\overline{a3} \vee \overline{ya2}a3a4 \vee \overline{ya1}a2\overline{a4} \vee \overline{ya2a3a4} \vee ya2a4 \vee ya2a3(Sq = 27) \\ c3 = \overline{ya3}a4 \vee \bar{y}\overline{a2}a3\overline{a4} \vee \bar{y}\overline{a1}a3\overline{a4} \vee y\overline{a3a4} \vee ya3a4(Sq = 22) \\ c4 = \overline{ya3a4} \vee \overline{ya2a4} \vee ya3\overline{a4} \vee ya1\overline{a4} \vee \overline{a1}a2\overline{a4}(Sq = 20) \end{cases}$$

S_q =113

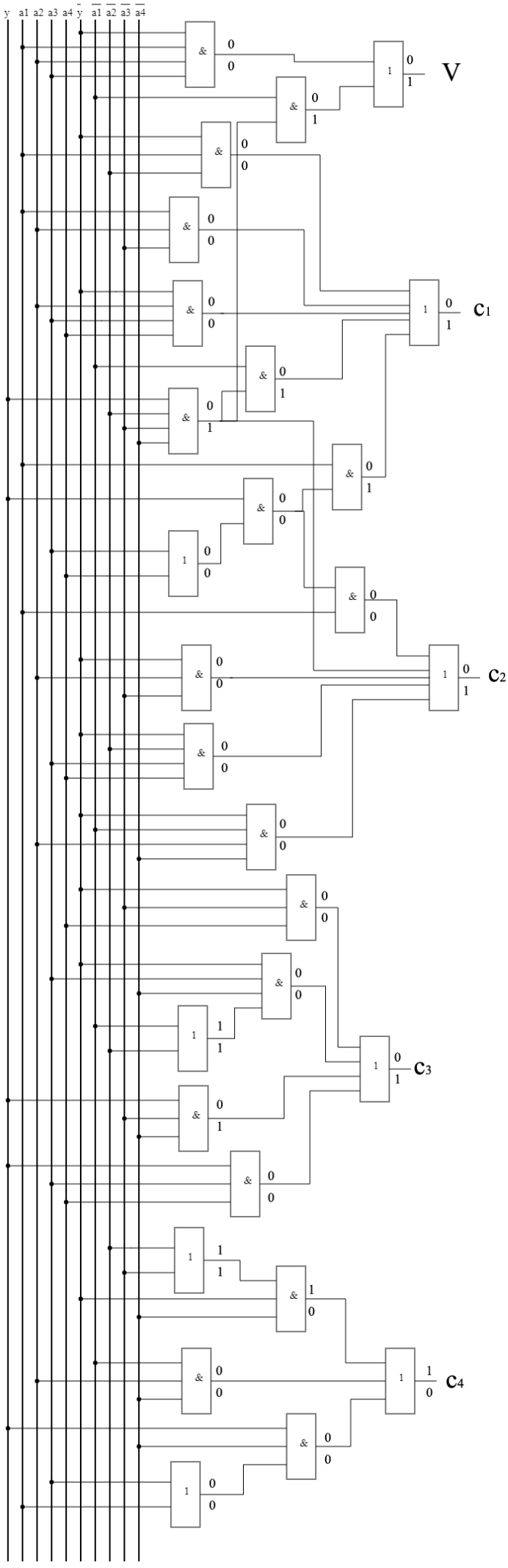
$$\begin{cases} v = \bar{y}a1a2a3 \vee \varphi_2\overline{a1}(Sq = 8) \\ c1 = \bar{y}a1\overline{a2} \vee a1a2\overline{a3} \vee \bar{y}a2a3a4 \vee \varphi_2\overline{a1} \vee a1\varphi_1\ (Sq = 19) \\ c2 = \bar{y}a2\overline{a3} \vee \overline{ya2}a3a4 \vee \overline{ya1}a2\overline{a4} \vee \varphi_2 \vee a2\varphi_1(Sq = 18) \\ c3 = \overline{ya3}a4 \vee \bar{y}a3\overline{a4}(\overline{a2} \vee \overline{a1}) \vee y\overline{a3a4} \vee ya3a4(Sq = 19) \\ c4 = \overline{ya4}(\overline{a3} \vee \overline{a2}) \vee y\overline{a4}(a3 \vee a1) \vee \overline{a1}a2\overline{a4}(Sq = 16) \\ \varphi_1 = y(a3 \vee a4)(Sq = 4) \\ \varphi_2 = y\overline{a2a3a4}(Sq = 4) \end{cases}$$

S_q =88

T_v=3τ, T_{c1}=4τ, T_{c2}=4τ, T_{c3}=3τ, T_{c4}=3τ , T= max (T_v, T_{c1}, T_{c2}, T_{c3}, T_{c4})= 4τ.

F(00000) = 00001

F(10000) = 11110


y a1 a2 a3 a4 ȳ ā1 ā2 ā3 ā4
V
C1
C2
C3
C4