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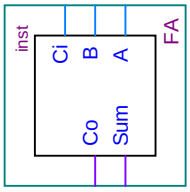
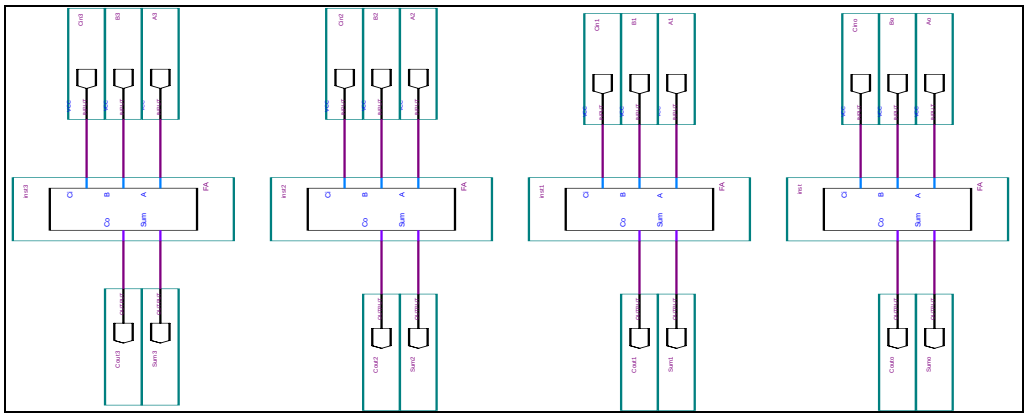
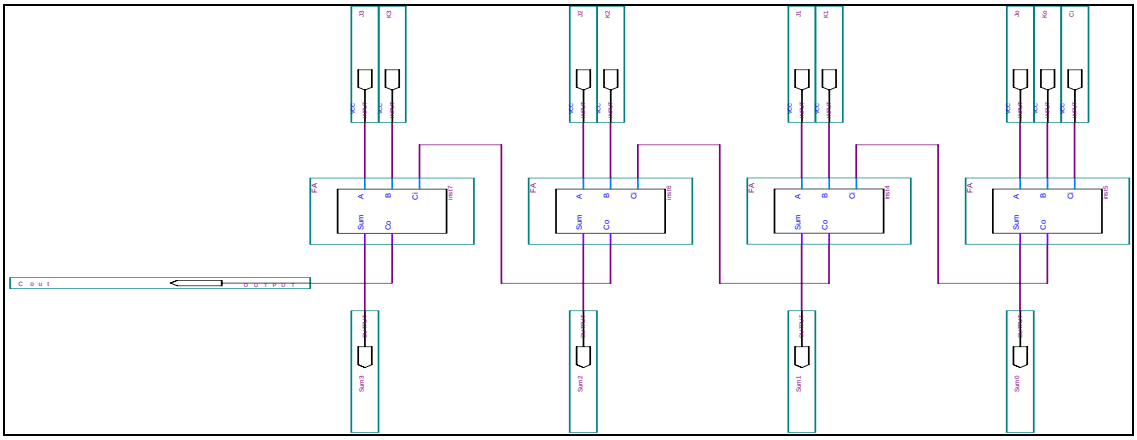
## Appendix A



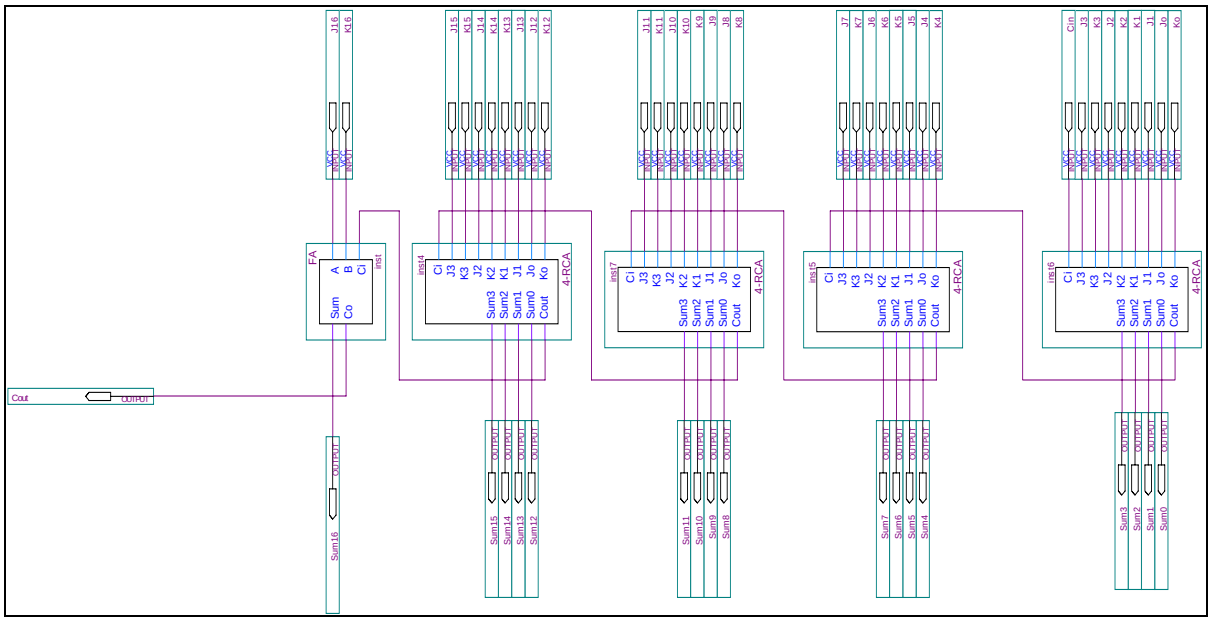

**Appendix A (i)** : FA block symbol



**Appendix A (ii)** : 4-bit CSA

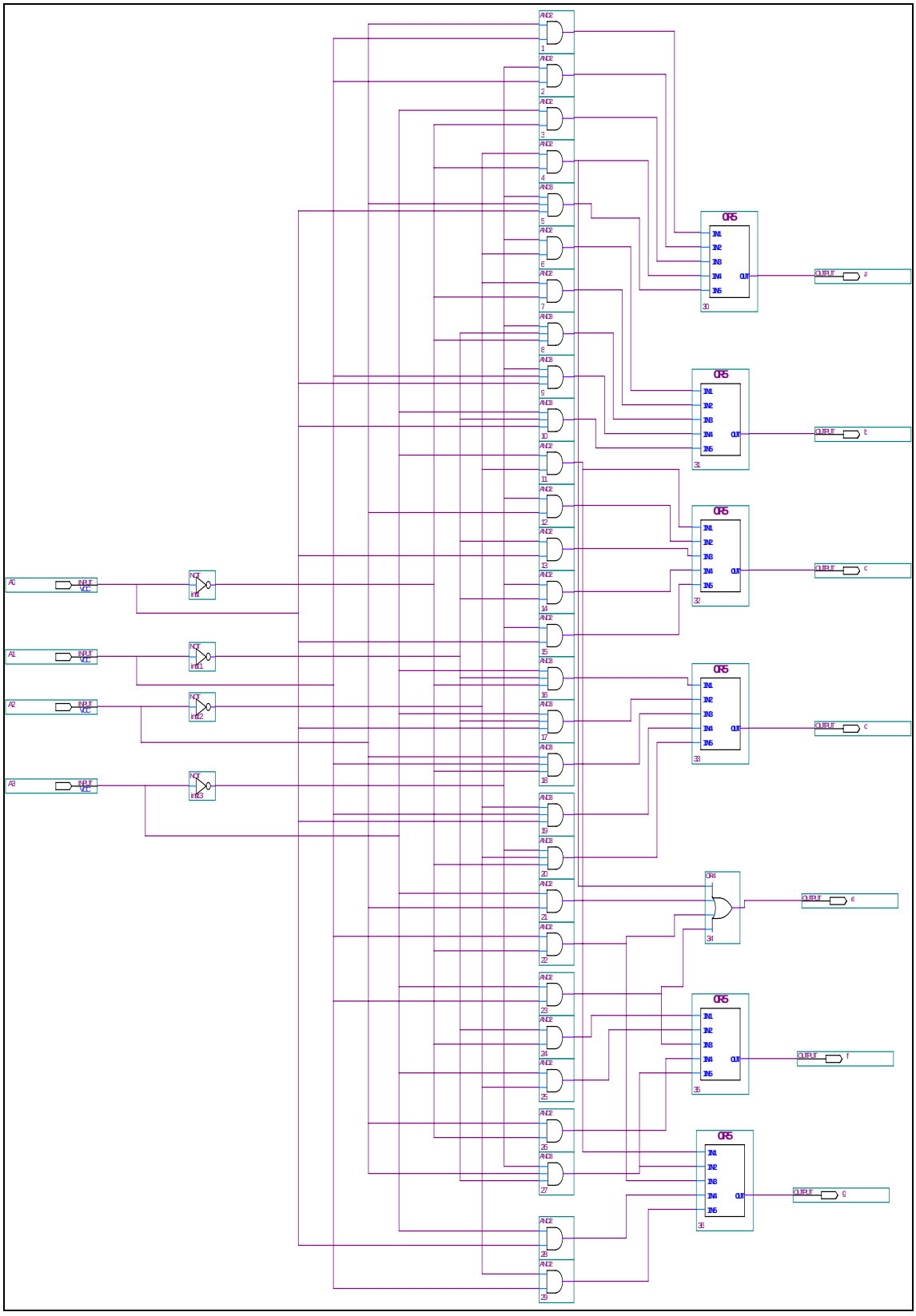


**Appendix A (iii)**: 4-bits RCA

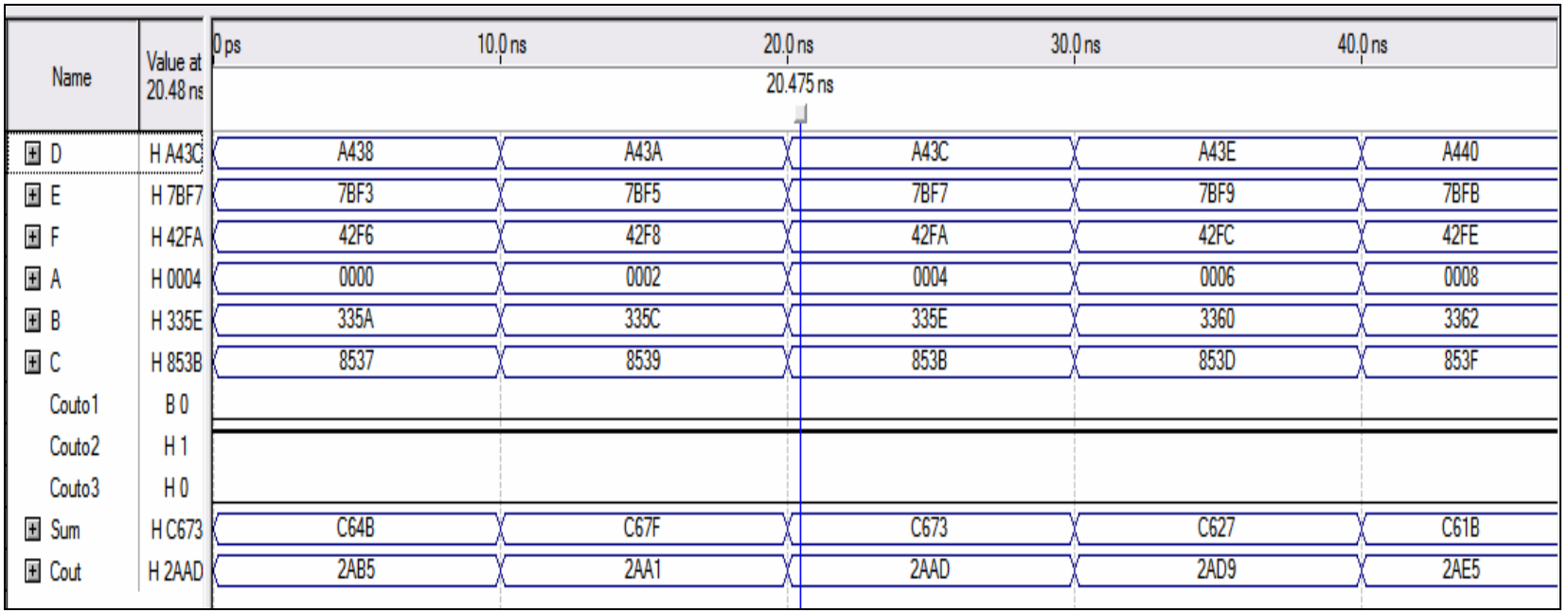



**Appendix A (iv)**: 17-bits RCA

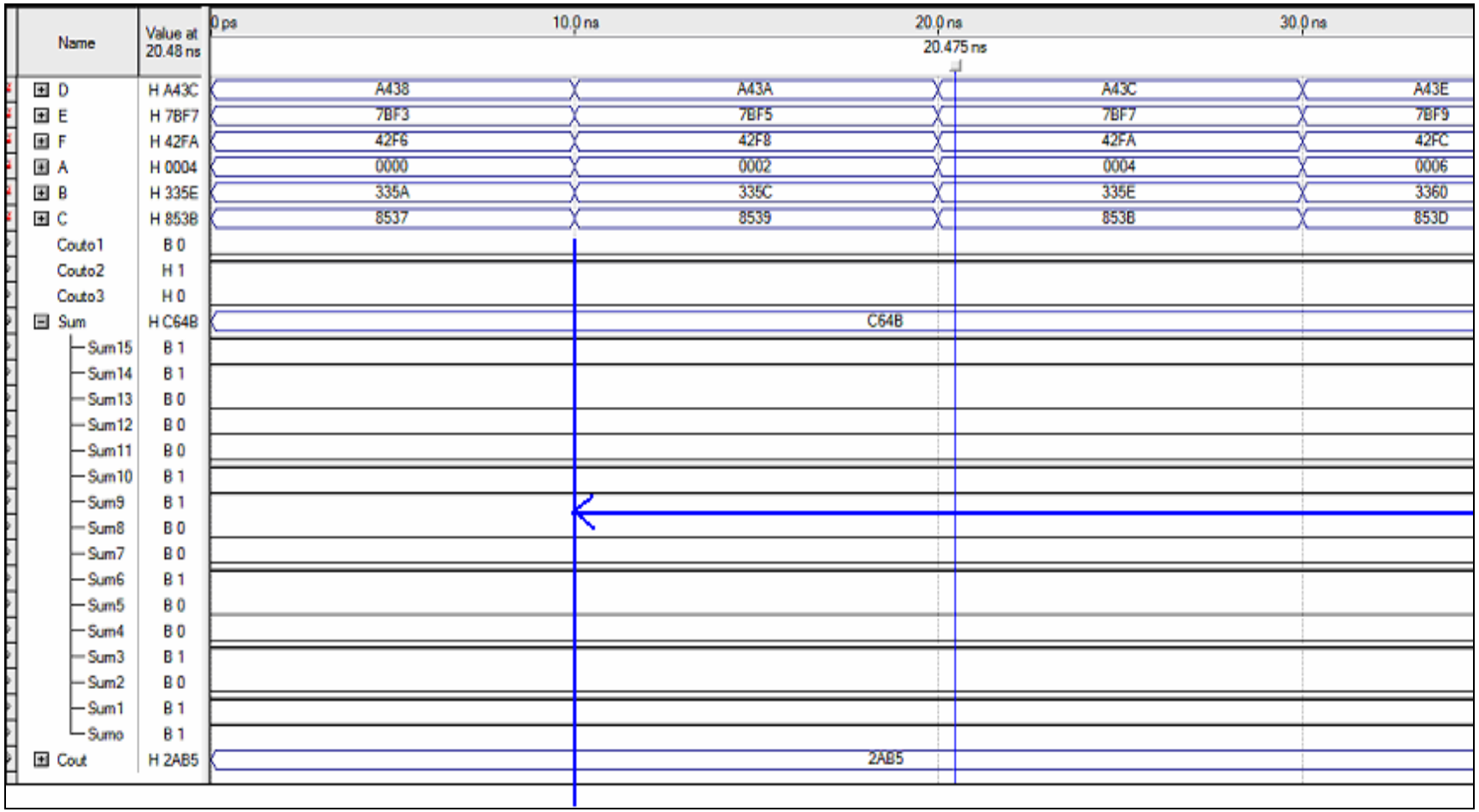
# APPENDIX B



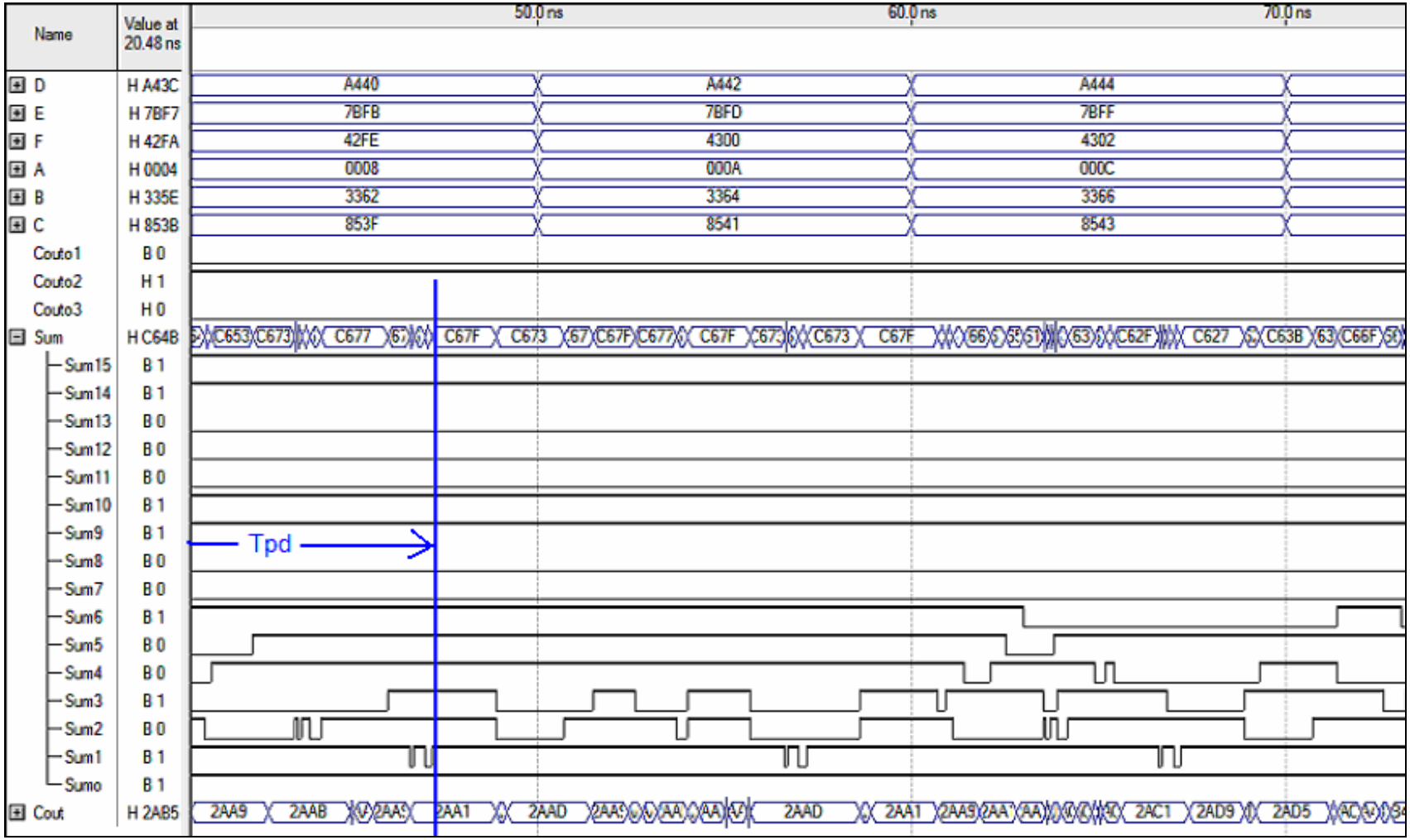
**Appendix B(i)** : Binary to Seven Segment Decoder



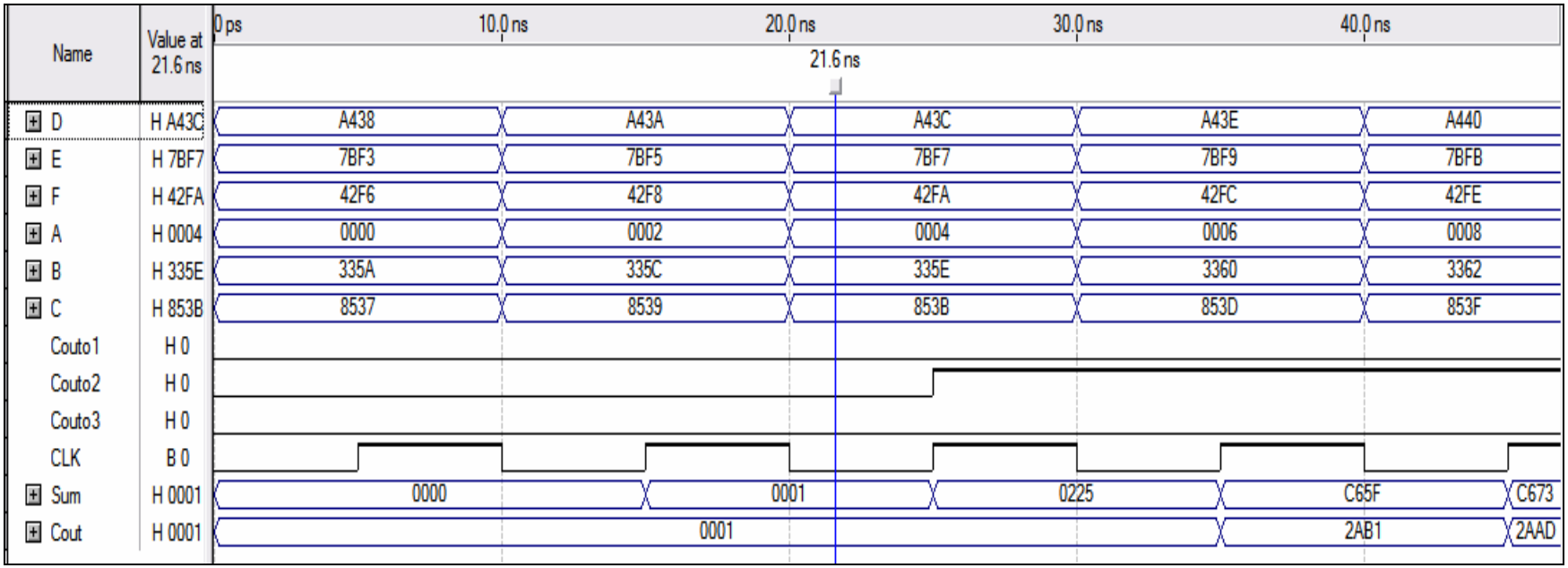

**Appendix C(i)** : The functional simulation mode of three levels six operands 16-bits CSA design



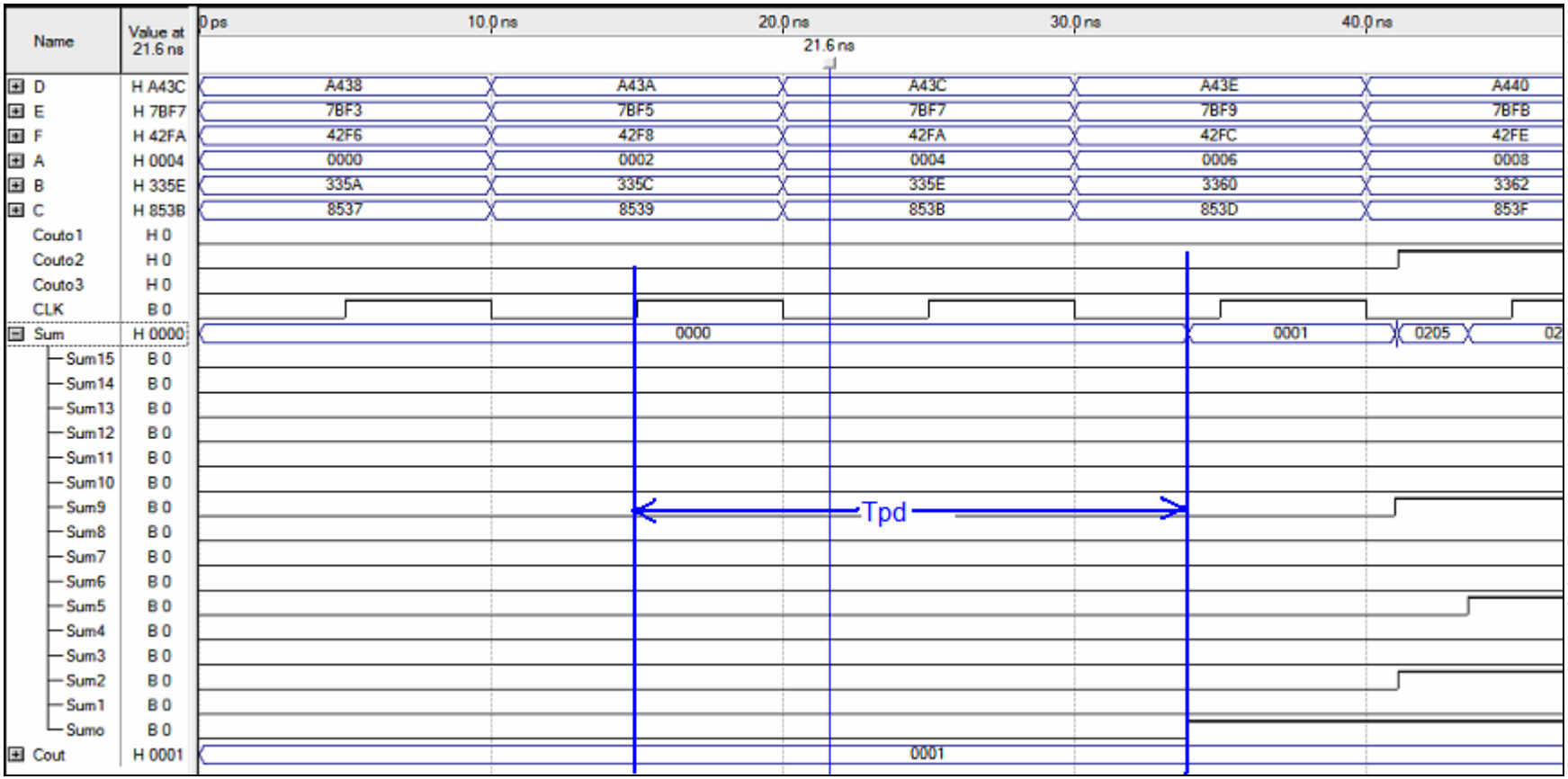

**Appendix C(ii)** : The timing simulation mode of three levels six operands 16-bits CSA design



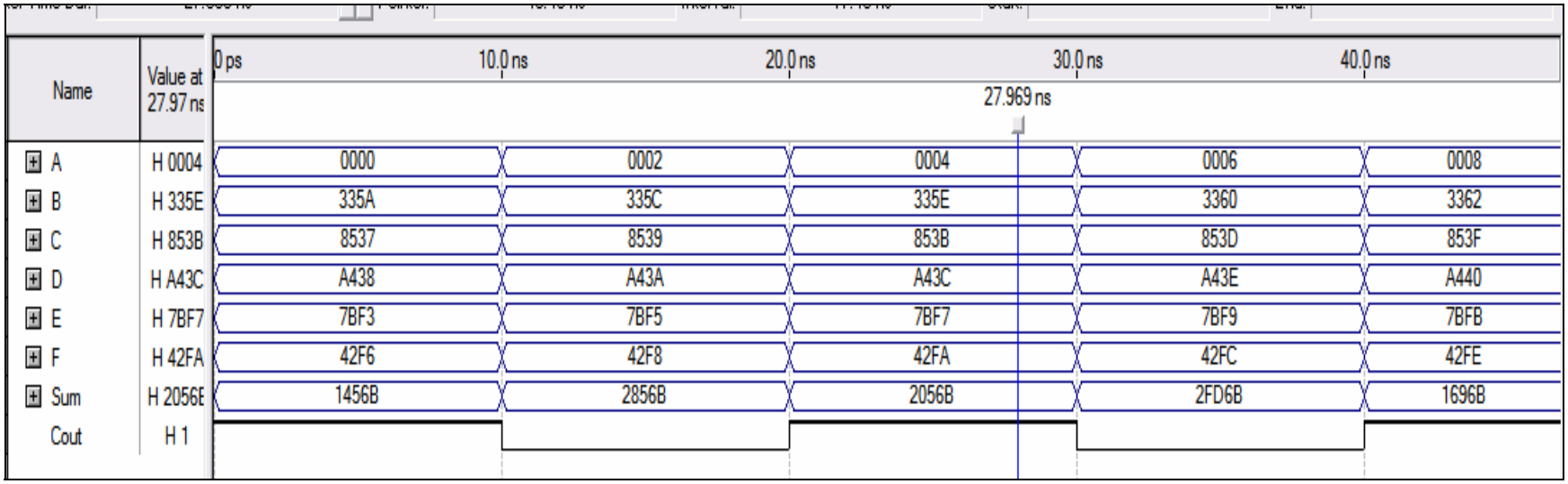

**Appendix C(iii)** : The continued timing simulation mode of three levels six operands 16-bits CSA design



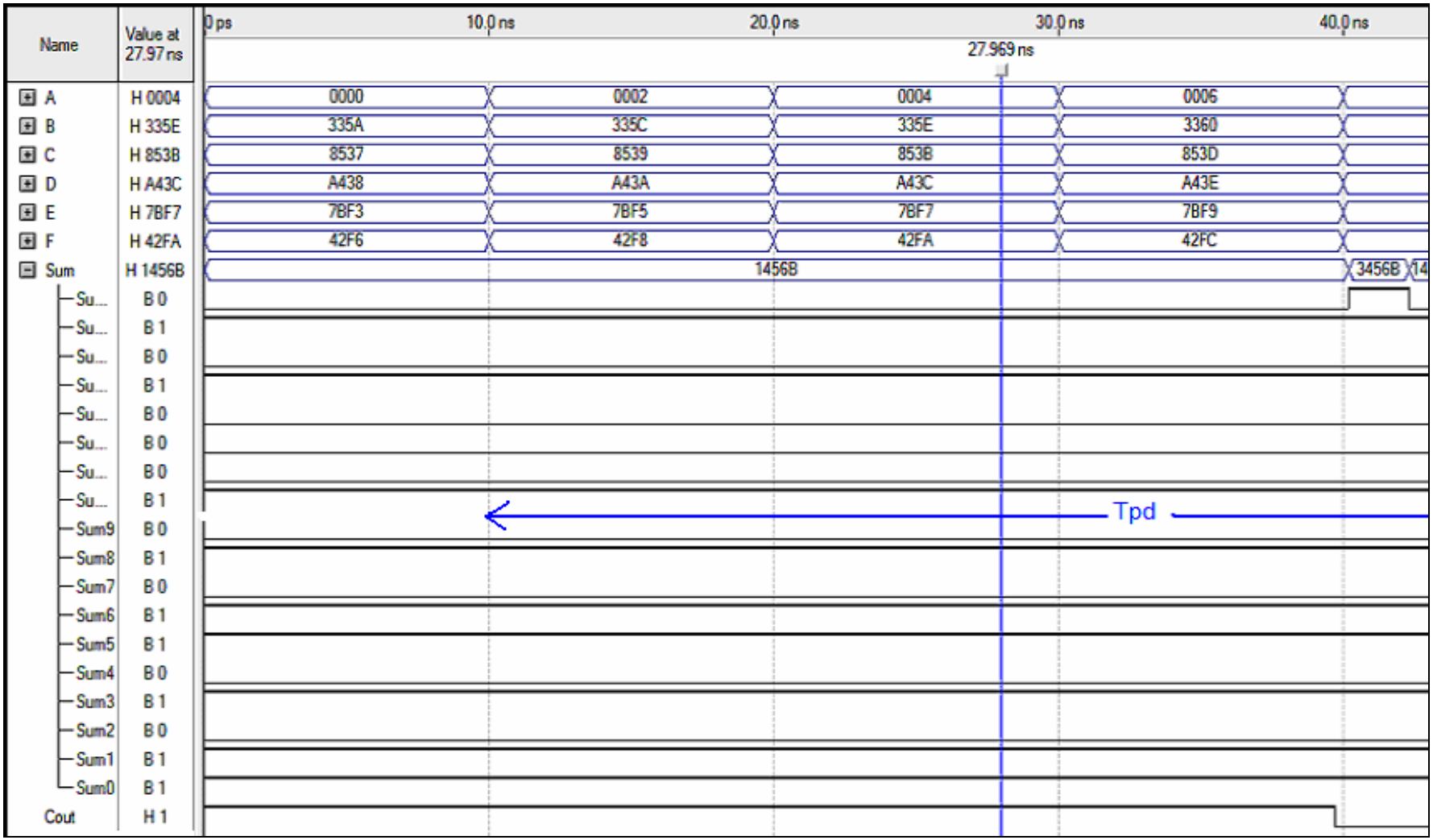

**Appendix C(iv)** : The functional simulation mode of modified of three levels six operands 16-bits CSA design



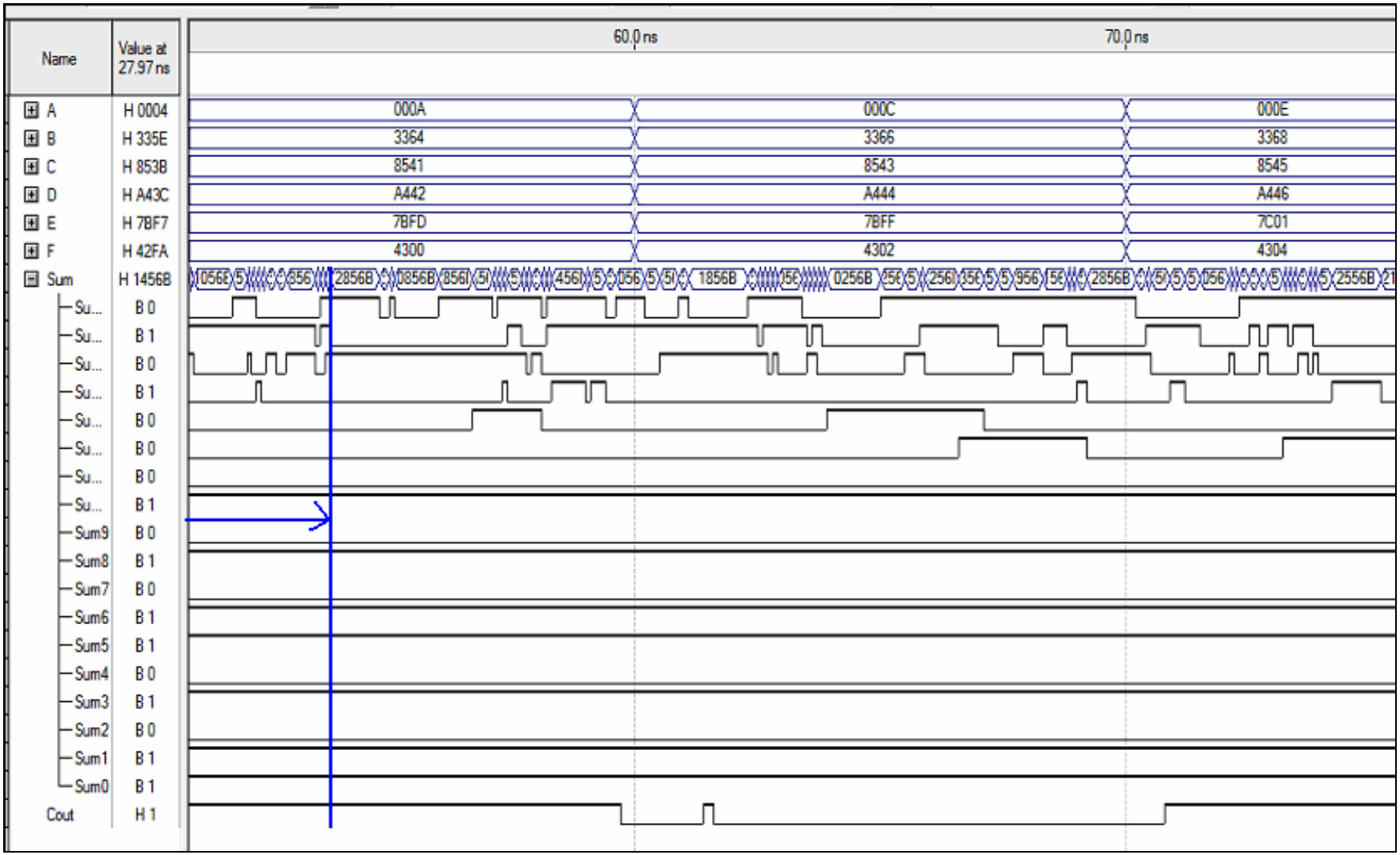

**Appendix C(vi)** : The timing simulation mode of modified three levels six operands 16-bits CSA design



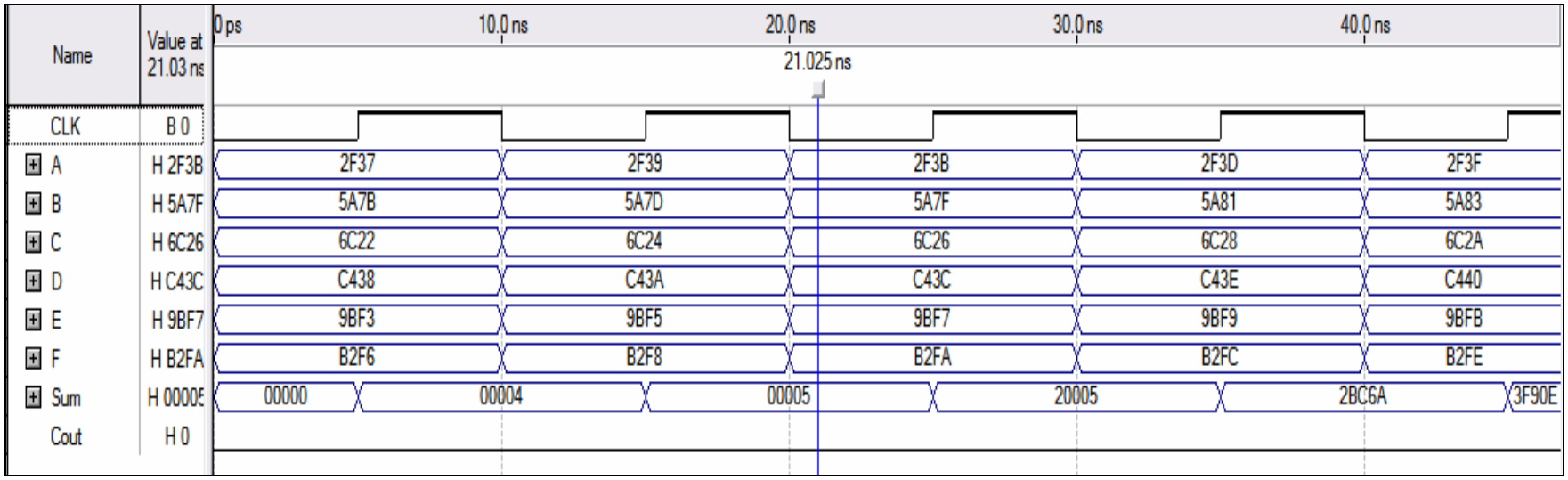

**Appendix C(vi)** : The functional simulation mode waveform of three levels of six operands 16-bits CSA with RCA



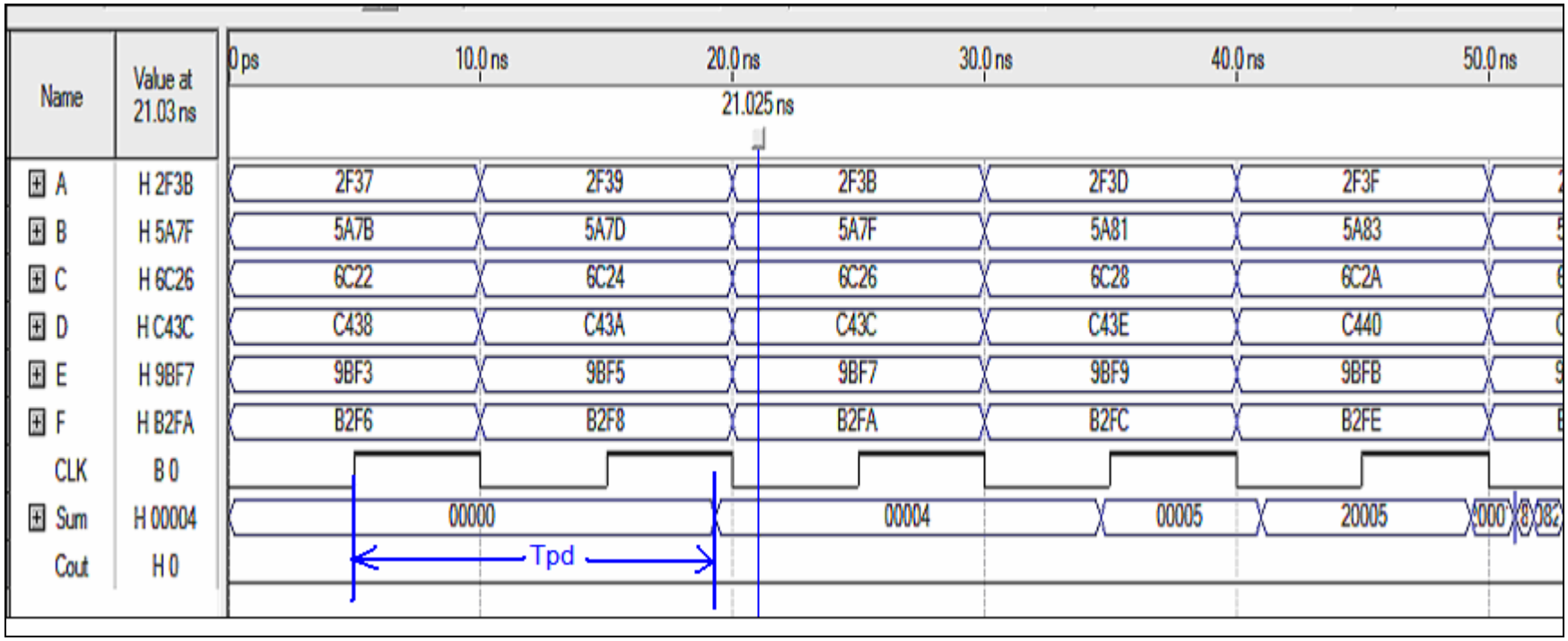

**Appendix C(vii)** : The timing simulation mode waveform of three levels of six operands 16-bits CSA with RCA




**Appendix C(viii)** : The continued timing simulation mode waveform of three levels of six operands 16-bits CSA with RCA




**Appendix C(ix)** : The functional simulation mode of modified three levels six operands 16-bits CSA with RCA design




**Appendix C(x)** : The timing simulation mode of modified of three levels six operands 16-bits CSA with RCA design

ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

# NTE3078 & NTE3079
# 0.56” Single Digit Numeric Display
# Seven Segment, RHDP

**Description:**

The NTE3078 (Common Anode) and NTE3079 (Common Cathode) are 0.56 inch (14.2mm) height single digit displays utilizing LED chips which are made from GaAsP on a GaAs substrate.

**Features:**

- 0.56 Inch (14.2mm) Digit Height
- Low Power Requirement
- Excellent Characters Appearance
- Catagorized for Luminous Intensity
- IC Compatible
- Easy Mounting on PC Board or Socket

**Absolute Maximum Ratings:** ($T_A$ = +25°C unless otherwise specified)

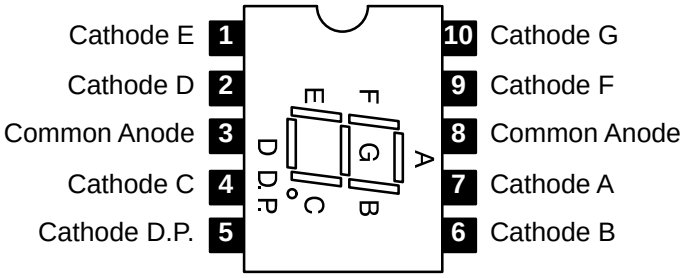
Power Dissipation (Per Segment), $P_T$ . . . . . 55mW
Peak Forward Current (Per Segment, 1/10 Duty Cycle, 0.1ms Pulse Width), $I_F$peak . . . . . 160mA
Continuous Forward Current (Per Segment), $I_F$ . . . . . 25mA
Derate Linearly from 25°C (Per Segment) . . . . . 0.30mA/°C
Reverse Voltage (Per Segment), $V_R$ . . . . . 5V
Operating Temperature Range, $T_{opr}$ . . . . . –25° to +85°C
Storage Temperature Range, $T_{stg}$ . . . . . –25° to +85°C
Lead Temperatue (During Solder, 1/16” Below Seating Plane, 3sec max), $T_L$ . . . . . +260°C

**Electrical/Optical Characteristics:** ($T_A$ = +25°C unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Average Luminous Intensity | $I_v$ | $I_F$ = 10mA | 200 | 500 | – | µcd |
| Peak Emission Wavelength | $\lambda_P$ | $I_F$ = 20mA | – | 655 | – | nm |
| Spectral Line Half–Width | $\Delta\lambda$ | $I_F$ = 20mA | – | 24 | – | nm |
| Forward Voltage, Any Segment or D.P. | $V_F$ | $I_F$ = 20mA | – | 1.7 | 2.0 | V |
| Reverse Current, Any Segment or D.P. | $I_R$ | $V_R$ = 5V | – | – | 100 | µA |
| Luminous Intensity Matching Ratio | $I_{v-m}$ | $I_F$ = 20mA | – | – | 2:1 | |

**Pin Connection Diagram**

**NTE3078**




**NTE3079**