

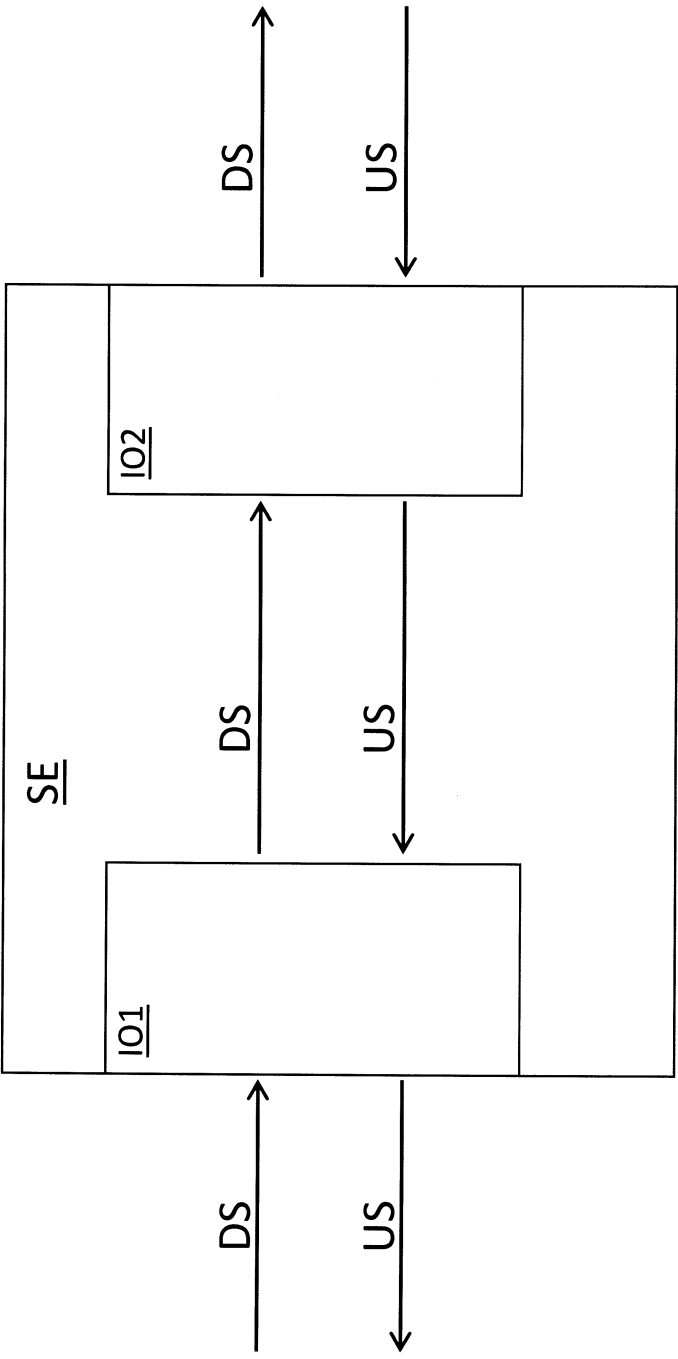


Fig. 1

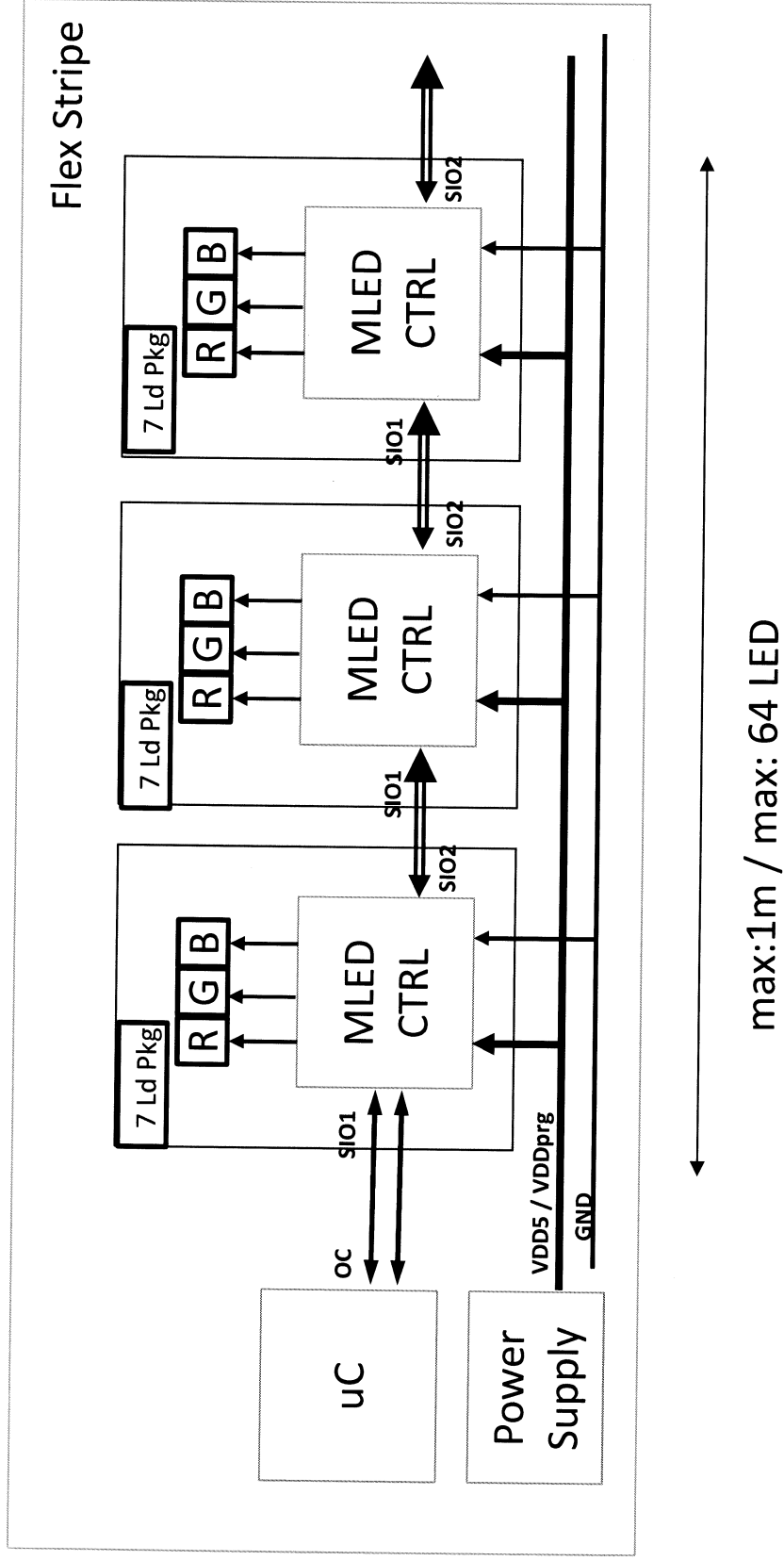


Fig. 3

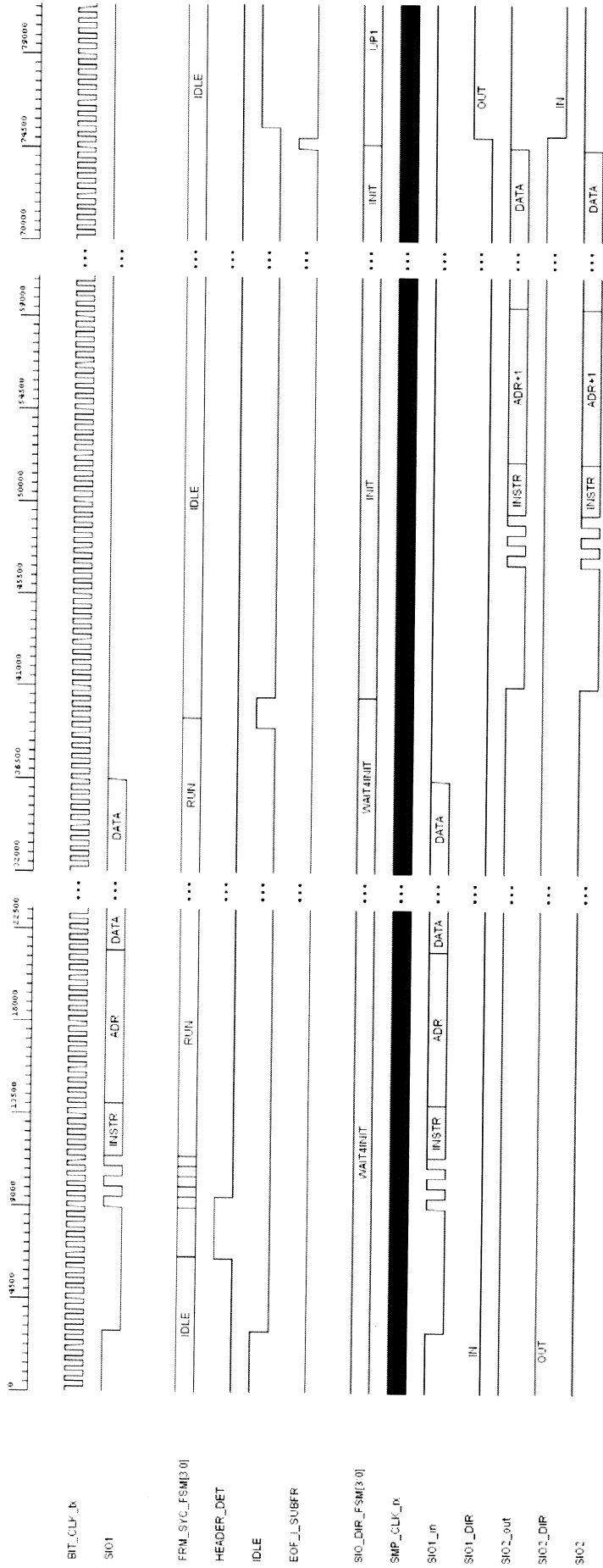


Fig. 4



Test Mode		0 0 : Broadcast 0 1 - 7 F : Device Addresses		Select Source and Trigger Measurement and store results in result map for subsequent read
Test Number	0 0 0 0 1 x x	0 0 0 0 : Measure all what could be measured 0 0 0 0 1 : Measure reference voltage 1 (5V Supply) 0 0 0 1 0 : Measure reference voltage 2 (Programming voltage pin) 0 0 0 1 1 : Measure RED LED Vf 0 0 1 0 0 : Measure Green LED Vf 0 0 1 0 1 : Measure Blue LED Vf 0 0 1 1 0 : Measure SMP CLK toggeling 0 0 1 1 1 : Measure Pulse CLK toggeling 0 0 1 0 0 : Measure BIAS voltage		
Calibration Mode	0 0 0 1 0 x x	0 - b b b : LED Select: 001b-red; 010-green; 100-blue 1 0 b b b : LED Select: 001b-red; 010-green; 100-blue - b .. b : 10 Bit constant current value of selected LED 1 1 b b b : LED Select: 001b-red; 010-green; 100-blue - b .. b : 7 Bit increment for constant current value of selected LED		Set On Current (No Store to OTP) Set&Store On Current Set&Store Increment for Temp Comp
RGB Mode	0 0 1 0 0 x x	x x x x x x : Set the RGB value of the selected device(s)		Set RGB Value
Read Request	0 1 0 0 - -	0 0 1 0 1 0 1 1 0 0 0 1 0 1 1 1 1 0 0 1 1 0 1 1 1 1 0	Read temperature values of all devices Read status values of all devices (dev adr, uv,...) Diagnostic Read (<i>Values needs to be measured before w. Test Mode</i>) Read reference voltage 1 Read reference voltage 2 Read BIAS voltage Read red led Vf (9bit) Read green led Vf (9bit) Read blue led Vf (9bit)	Read Temp Read Status Read Test Results Read Re. Volt1 Read Ref. Volt2 Read BIAS Read Red LED El.Par Read Green LED El.Par Read Blue LED El.Par
only allowed on last subframe position				
No Operation	0 0 0 0 0 x x	x x x x x x : Nop to complete D_MASTERFRAME or to fill-up befor read request		NOP Dummy This is not IDLE!

Fig. 5



Fig. 6

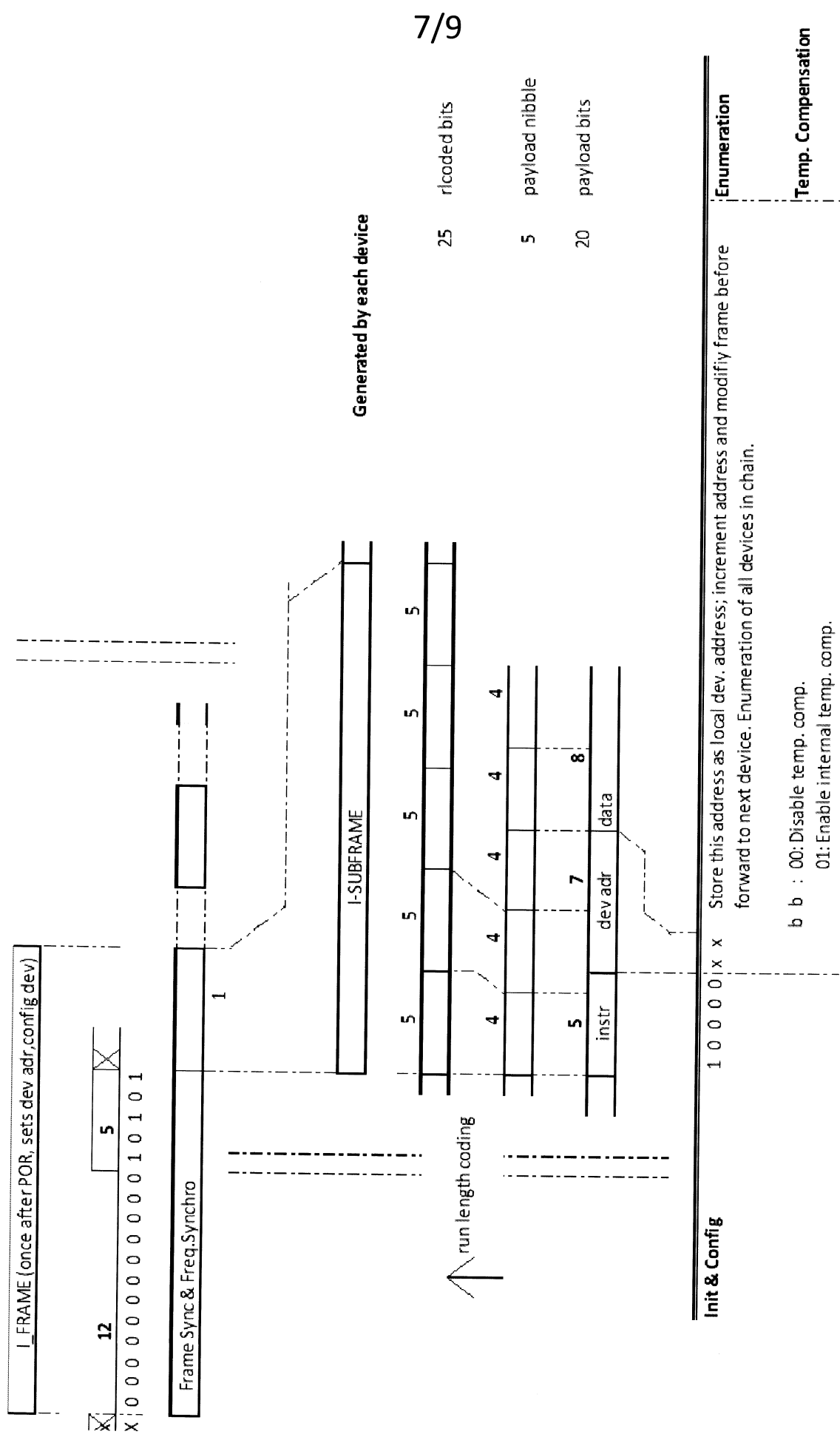


Fig. 7

MLED SIO RL Code	
0000	00100
0001	01001
0010	10100
0011	01010
0100	10001
0101	01011
0110	01110
0111	11001
1000	10010
1001	10011
1010	10110
1011	01101
1100	11010
1101	11011
1110	11100
1111	11101
Quiet	00000
Idle	11111
Start D_Frame	10101

* Any sequence with more than 5x1 is idle

Fig. 8

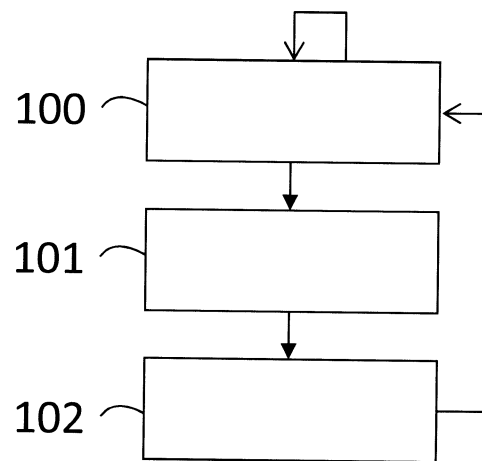


Fig. 9