

Fec test report:

Date: 2021-09-28 13:13:57

Tester name: lc

Test#1 Monitoring values

Passed

0	FEC label	030	OK
1	FEC DC2438 ID	a90000024dc44626	OK
2	FEC_T (to 35°C)	23.938	OK
3	FEC_Vdd (3.2V to 3.4V)	3.270	OK
4	FEC_I (1.2A to 1.6A)	1.396	OK
5	FEC_Vad (1.9V to 2.0V)	1.940	OK

Test#2 Slow control registers:

Passed

Test#3 Pedestal run:

Failed

Mean in range (245.0:255.0), 3.3 < rms < 8.0 (fpn 4.0)

0	After chip #0	Mean OK	STDDEV OK	OK
1	After chip #1	Mean OK	STDDEV OK	OK
2	After chip #2	Mean OK	STDDEV OK	OK
3	After chip #3	Mean OK	STDDEV OK	OK
4	After chip #4	Mean FAILED	STDDEV FAILED	FAIL
5	After chip #5	Mean OK	STDDEV OK	OK
6	After chip #6	Mean OK	STDDEV OK	OK
7	After chip #7	Mean OK	STDDEV OK	OK

Test#4 AD9637 test patterns

Passed

0	ADC channel #0	P#1 (Midscale short 2048)	MAX 2048 MIN 2048	OK
1	ADC channel #1	P#2 (+Full-scale short 4095)	MAX 4095 MIN 4095	OK
2	ADC channel #2	P#4 (Checkerboard 1365 to 2730 toggle)	MAX 2730 MIN 1365	OK
3	ADC channel #3	P#7 (One/zero-word toggle)	MAX 4095 MIN 0	OK
4	ADC channel #4	P#1 (Midscale short 2048)	MAX 2048 MIN 2048	OK
5	ADC channel #5	P#2 (+Full-scale short 4095)	MAX 4095 MIN 4095	OK
6	ADC channel #6	P#4 (Checkerboard 1365 to 2730 toggle)	MAX 2730 MIN 1365	OK
7	ADC channel #7	P#7 (One/zero-word toggle)	MAX 4095 MIN 0	OK

Test#5 Pulser run

Failed

0	After chip #0	DAC: 483 G(120) ADC(2850 to 3200)	ADC AMPL: 3020	OK
1	After chip #1	DAC: 483 G(120) ADC(2850 to 3200)	ADC AMPL: 2975	OK
2	After chip #2	DAC: 483 G(120) ADC(2850 to 3200)	ADC AMPL: 3059	OK
3	After chip #3	DAC: 483 G(120) ADC(2850 to 3200)	ADC AMPL: 3059	OK
4	After chip #4	DAC: 483 G(120) ADC(2850 to 3200)	ADC AMPL: 1452	FAIL
5	After chip #5	DAC: 483 G(120) ADC(2850 to 3200)	ADC AMPL: 3022	OK
6	After chip #6	DAC: 483 G(120) ADC(2850 to 3200)	ADC AMPL: 3080	OK
7	After chip #7	DAC: 483 G(120) ADC(2850 to 3200)	ADC AMPL: 2972	OK

FEC test final result:

Failed

Monitoring test			
NO	Command	Error	Response
0	fe fec_enable 1	0	0 Tdc(2) Fem(00) Reg(1) <- 0x40000
1	fe 0 moni T 0	0	0 Tdc(2) Fem(00) FEC_T: 23.938 degC
2	fe 0 moni V 0	0	0 Tdc(2) Fem(00) FEC_Vdd: 3.270 V
3	fe 0 pulser 0 model T2K2	0	0 Tdc(2) Fem(00) pulser_DAC <- 3 (T2K2)
4	fe 0 pulser 0 base 0x3FFF	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
5	fe 0 pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
6	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
7	fe 0 moni I 0	0	0 Tdc(2) Fem(00) FEC_I: 0.698 A
8	fe 0 moni S 0	0	0 Tdc(2) Fem(00) FEC_Serial: a90000024dc44626

Slow control registers test			
NO	Command	Error	Response
0	fe 0 mode after	0	0 Tdc(2) Fem(00) Reg(0) <- 0x400
1	fe fec_enable 1	0	0 Tdc(2) Fem(00) Reg(1) <- 0x40000
2	fe fec_enable	0	0 Tdc(2) Fem(00) Reg(1) = 0x12048000 (302284800) FEC_Enable: 1
3	fe 0 after 0 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(0) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
4	fe 0 after 1 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(1) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
5	fe 0 after 2 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(2) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
6	fe 0 after 3 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(3) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
7	fe 0 after 4 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(4) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
8	fe 0 after 5 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(5) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
9	fe 0 after 6 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(6) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
10	fe 0 after 7 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(7) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
11	fe 0 after 0 wrchk 3 0x0 0x0101 0x0101	0	0 Tdc(2) Fem(00) After(0) Reg(3) <- 0x0 0x0101 0x0101 (1 chip verified)
12	fe 0 after 1 wrchk 3 0x0 0x0202 0x0202	0	0 Tdc(2) Fem(00) After(1) Reg(3) <- 0x0 0x0202 0x0202 (1 chip verified)
13	fe 0 after 2 wrchk 3 0x0 0x0303 0x0303	0	0 Tdc(2) Fem(00) After(2) Reg(3) <- 0x0 0x0303 0x0303 (1 chip verified)
14	fe 0 after 3 wrchk 3 0x0 0x0404 0x0404	0	0 Tdc(2) Fem(00) After(3) Reg(3) <- 0x0 0x0404 0x0404 (1 chip verified)
15	fe 0 after 4 wrchk 3 0x0 0x0505 0x0505	0	0 Tdc(2) Fem(00) After(4) Reg(3) <- 0x0 0x0505 0x0505 (1 chip verified)
16	fe 0 after 5 wrchk 3 0x0 0x0606 0x0606	0	0 Tdc(2) Fem(00) After(5) Reg(3) <- 0x0 0x0606 0x0606 (1 chip verified)
17	fe 0 after 6 wrchk 3 0x0 0x0707 0x0707	0	0 Tdc(2) Fem(00) After(6) Reg(3) <- 0x0 0x0707 0x0707 (1 chip verified)
18	fe 0 after 7 wrchk 3 0x0 0x0808 0x0808	0	0 Tdc(2) Fem(00) After(7) Reg(3) <- 0x0 0x0808 0x0808 (1 chip verified)
19	fe 0 after 0 read 3	0	0 Tdc(2) Fem(00) After(0) Reg(3): 0x0 0x101 0x101
20	fe 0 after 1 read 3	0	0 Tdc(2) Fem(00) After(1) Reg(3): 0x0 0x202 0x202
21	fe 0 after 2 read 3	0	0 Tdc(2) Fem(00) After(2) Reg(3): 0x0 0x303 0x303
22	fe 0 after 3 read 3	0	0 Tdc(2) Fem(00) After(3) Reg(3): 0x0 0x404 0x404
23	fe 0 after 4 read 3	0	0 Tdc(2) Fem(00) After(4) Reg(3): 0x0 0x505 0x505
24	fe 0 after 5 read 3	0	0 Tdc(2) Fem(00) After(5) Reg(3): 0x0 0x606 0x606
25	fe 0 after 6 read 3	0	0 Tdc(2) Fem(00) After(6) Reg(3): 0x0 0x707 0x707
26	fe 0 after 7 read 3	0	0 Tdc(2) Fem(00) After(7) Reg(3): 0x0 0x808 0x808
27	fe 0 after 0 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(0) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
28	fe 0 after 1 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(1) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
29	fe 0 after 2 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(2) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
30	fe 0 after 3 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(3) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
31	fe 0 after 4 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(4) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
32	fe 0 after 5 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(5) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
33	fe 0 after 6 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(6) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)
34	fe 0 after 7 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(7) Reg(3) <- 0x0 0x0 0x0 (1 chip verified)

ADC pattern test			
NO	Command	Error	Response
0	fe 0 mode after	0	0 Tdc(2) Fem(00) Reg(0) <- 0x400
1	fe 0 test_mode	0	0 Tdc(2) Fem(00) Reg(5) = 0x3042000 (50601984) Test_Mode: 0
2	be 0 state eb	0	0 Tdc(2) Reg(27) = 0x2020003 (Event_Builder: COLLECTING_SOE WAIT_FEM_PKT Current
3	be 0 state tg	0	0 Tdc(2) Reg(27) = 0x2020003 (Trigger_Generator: WAITING_TRIG)
4	be 0 state pm	0	0 Tdc(2) Reg(27) = 0x2020003 (Packet_Mover: WAIT_PKT_FIFO_NE)
5	fe 0 state	0	0 Tdc(2) Fem(00) State = 0x3 (Aligned_SCA_Write)
6	daq 0xFFFF F	0	0 Tdc(2): daq paused
7	fe 0 emit_hit_cnt 0	0	0 Tdc(2) Fem(00) Reg(0) <- 0x0
8	fe 0 emit_empty_ch 0	0	0 Tdc(2) Fem(00) Reg(5) <- 0x0
9	fe 0 emit_lst_cell_rd 0	0	0 Tdc(2) Fem(00) Reg(5) <- 0x0
10	fe 0 keep_rst 0	0	0 Tdc(2) Fem(00) Reg(0) <- 0x0
11	fe 0 skip_rst 2	0	0 Tdc(2) Fem(00) Reg(0) <- 0x40000
12	fe adc 0 model AD9637	0	0 Tdc(2) Fem(00) ADC_model <- 3 (AD9637)
13	fe adc 0 write 0x14 0x00	0	0 Tdc(2) Fem(00) Front-End ADC Reg(20) <- 0x0 (0)
14	fe adc 0 write 0x4 0x00	0	0 Tdc(2) Fem(00) Front-End ADC Reg(04) <- 0x0 (0)
15	fe adc 0 write 0x5 0x01	0	0 Tdc(2) Fem(00) Front-End ADC Reg(05) <- 0x1 (1)
16	fe adc 0 write 0xD 0x01	0	0 Tdc(2) Fem(00) Front-End ADC Reg(13) <- 0x1 (1)
17	fe adc 0 write 0x4 0x00	0	0 Tdc(2) Fem(00) Front-End ADC Reg(04) <- 0x0 (0)
18	fe adc 0 write 0x5 0x02	0	0 Tdc(2) Fem(00) Front-End ADC Reg(05) <- 0x2 (2)
19	fe adc 0 write 0xD 0x02	0	0 Tdc(2) Fem(00) Front-End ADC Reg(13) <- 0x2 (2)
20	fe adc 0 write 0x4 0x00	0	0 Tdc(2) Fem(00) Front-End ADC Reg(04) <- 0x0 (0)

21	fe adc 0 write 0x5 0x04	0	0 Tdc(2) Fem(00) Front-End ADC Reg(05) <- 0x4 (4)
22	fe adc 0 write 0xD 0x04	0	0 Tdc(2) Fem(00) Front-End ADC Reg(13) <- 0x4 (4)
23	fe adc 0 write 0x4 0x00	0	0 Tdc(2) Fem(00) Front-End ADC Reg(04) <- 0x0 (0)
24	fe adc 0 write 0x5 0x08	0	0 Tdc(2) Fem(00) Front-End ADC Reg(05) <- 0x8 (8)
25	fe adc 0 write 0xD 0x07	0	0 Tdc(2) Fem(00) Front-End ADC Reg(13) <- 0x7 (7)
26	fe adc 0 write 0x4 0x01	0	0 Tdc(2) Fem(00) Front-End ADC Reg(04) <- 0x1 (1)
27	fe adc 0 write 0x5 0x00	0	0 Tdc(2) Fem(00) Front-End ADC Reg(05) <- 0x0 (0)
28	fe adc 0 write 0xD 0x01	0	0 Tdc(2) Fem(00) Front-End ADC Reg(13) <- 0x1 (1)
29	fe adc 0 write 0x4 0x02	0	0 Tdc(2) Fem(00) Front-End ADC Reg(04) <- 0x2 (2)
30	fe adc 0 write 0x5 0x00	0	0 Tdc(2) Fem(00) Front-End ADC Reg(05) <- 0x0 (0)
31	fe adc 0 write 0xD 0x02	0	0 Tdc(2) Fem(00) Front-End ADC Reg(13) <- 0x2 (2)
32	fe adc 0 write 0x4 0x04	0	0 Tdc(2) Fem(00) Front-End ADC Reg(04) <- 0x4 (4)
33	fe adc 0 write 0x5 0x00	0	0 Tdc(2) Fem(00) Front-End ADC Reg(05) <- 0x0 (0)
34	fe adc 0 write 0xD 0x04	0	0 Tdc(2) Fem(00) Front-End ADC Reg(13) <- 0x4 (4)
35	fe adc 0 write 0x4 0x08	0	0 Tdc(2) Fem(00) Front-End ADC Reg(04) <- 0x8 (8)
36	fe adc 0 write 0x5 0x00	0	0 Tdc(2) Fem(00) Front-End ADC Reg(05) <- 0x0 (0)
37	fe adc 0 write 0xD 0x07	0	0 Tdc(2) Fem(00) Front-End ADC Reg(13) <- 0x7 (7)
38	fe 0 subtract_ped 0	0	0 Tdc(2) Fem(00) Reg(0) <- 0x0
39	fe 0 zero_suppress 0	0	0 Tdc(2) Fem(00) Reg(0) <- 0x0
40	fe 0 zs_pre_post 4 8	0	0 Tdc(2) Fem(00) Reg(5) <- 0xc4
41	be 0 eb keep_fem_soe 0	0	0 Tdc(2) Reg(0) <- 0x0
42	be 0 eb check_ev_nb 1	0	0 Tdc(2) Reg(0) <- 0x800000
43	be 0 eb check_ev_ts 1	0	0 Tdc(2) Reg(0) <- 0x1000000
44	be 0 eb ts_tolerance 0	0	0 Tdc(2) Reg(0) = 0x1a40000 (27525120) Time_Stamp_Tolerance +/-: 0
45	be 0 event_limit 0x0	0	0 Tdc(2) Reg(6) <- 0x0
46	be 0 trig_rate 0 50	0	0 Tdc(2) Reg(6) <- 0x32
47	be 0 restart	0	0 Tdc(2) Reg(5) <- restart done
48	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
49	be 0 trig_ena 1	0	0 Tdc(2) Reg(6) <- 0x1000
50	be 0 trig_ena 0	0	0 Tdc(2) Reg(6) <- 0x0
51	be 0 state eb	0	0 Tdc(2) Reg(27) = 0x48020003 (Event_Builder: COLLECTING_SOE WAIT_FEM_PKT Current)
52	be 0 state tg	0	0 Tdc(2) Reg(27) = 0x48020003 (Trigger_Generator: FEM_BUSY NO_BUSY_MISS)
53	be 0 state pm	0	0 Tdc(2) Reg(27) = 0x48020003 (Packet_Mover: WAIT_PKT_FIFO_NE)
54	fe 0 state	0	0 Tdc(2) Fem(00) State = 0x11 (Aligned Dev_Ready)
55	fe adc 0 write 0x4 0x0F	0	0 Tdc(2) Fem(00) Front-End ADC Reg(04) <- 0xf (15)
56	fe adc 0 write 0x5 0x0F	0	0 Tdc(2) Fem(00) Front-End ADC Reg(05) <- 0xf (15)
57	fe adc 0 write 0xD 0x00	0	0 Tdc(2) Fem(00) Front-End ADC Reg(13) <- 0x0 (0)

Pulser test			
NO	Command	Error	Response
0	daq 0xFFFF F	0	0 Tdc(2): daq paused
1	fe 0 after 0:7 wrchk 3 0x0 0x0 0x0	0	0 Tdc(2) Fem(00) After(0:7) Reg(3) <- 0x0 0x0 0x0 (8 chip verified)
2	fe 0 after 0:7 wrchk 4 0x0 0x0 0x0	0	0 Tdc(2) Fem(00) After(0:7) Reg(4) <- 0x0 0x0 0x0 (8 chip verified)
3	fe 0 emit_hit_cnt 0	0	0 Tdc(2) Fem(00) Reg(0) <- 0x0
4	fe 0 emit_empty_ch 0	0	0 Tdc(2) Fem(00) Reg(5) <- 0x0
5	fe 0 emit_lst_cell_rd 0	0	0 Tdc(2) Fem(00) Reg(5) <- 0x0
6	fe 0 keep_rst 0	0	0 Tdc(2) Fem(00) Reg(0) <- 0x0
7	fe 0 skip_rst 2	0	0 Tdc(2) Fem(00) Reg(0) <- 0x40000
8	fe 0 test_enable 0	0	0 Tdc(2) Fem(00) Reg(5) <- 0x0
9	fe 0 test_mode 1	0	0 Tdc(2) Fem(00) Reg(5) <- 0x400
10	fe 0 tdata A 0x1FF	0	0 Tdc(2) Fem(00) TestData: linear ramp from 0 to 510
11	fe 0 test_zbt 0	0	0 Tdc(2) Fem(00) Reg(5) <- 0x0
12	fe 0 asic_mask 0x0	0	0 Tdc(2) Fem(00) Reg(9) <- 0x0
13	fe 0 asic_mask	0	0 Tdc(2) Fem(00) Reg(9) = 0x80 (128) Asic_Mask: 0x0
14	fe 0 pulser 0 enable 0	0	0 Tdc(2) Fem(00) Reg(3) <- 0x0
15	fe 0 pulser 0 ft_enable 0	0	0 Tdc(2) Fem(00) Reg(3) <- 0x0
16	fe 0 pulser 0 model T2K2	0	0 Tdc(2) Fem(00) pulser_DAC <- 3 (T2K2)
17	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
18	fe 0 pulser 0 ampl 16383	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3fff
19	fe 0 pulser 0 delay 3000	0	0 Tdc(2) Fem(00) Reg(3) <- 0xbb8
20	fe pulser load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
21	fe 0 pulser 0 enable 1	0	0 Tdc(2) Fem(00) Reg(3) <- 0x10000
22	be 0 eb keep_fem_soe 0	0	0 Tdc(2) Reg(0) <- 0x0
23	be 0 eb check_ev_nb 1	0	0 Tdc(2) Reg(0) <- 0x800000
24	be 0 eb check_ev_ts 1	0	0 Tdc(2) Reg(0) <- 0x1000000
25	be 0 eb ts_tolerance 0	0	0 Tdc(2) Reg(0) = 0x1a40000 (27525120) Time_Stamp_Tolerance +/-: 0
26	be 0 event_limit 0x0	0	0 Tdc(2) Reg(6) <- 0x0
27	be 0 trig_rate 0 50	0	0 Tdc(2) Reg(6) <- 0x32
28	be 0 trig_delay 0 0	0	0 Tdc(2) Reg(8) <- 0x0
29	be 0 trig_delay 1 0	0	0 Tdc(2) Reg(8) <- 0x0
30	be 0 trig_delay 2 0	0	0 Tdc(2) Reg(9) <- 0x0
31	be 0 trig_delay 3 0	0	0 Tdc(2) Reg(9) <- 0x0
32	be 0 ss_trig_delay 0x4	0	0 Tdc(2) Reg(14) <- 0x4
33	be 0 ss_trig_ena 1	0	0 Tdc(2) Reg(6) <- 0x10000
34	be 0 restart	0	0 Tdc(2) Reg(5) <- restart done
35	be 0 restart	0	0 Tdc(2) Reg(5) <- restart done
36	be 0 isobus 0x0C	0	0 Tdc(2) Reg(5) <- 0x0000000c (CLR_EVCNT CLR_TSTAMP auto-clear)

37	fe 0 after 0:7 wrchk 3 0x0 0x0000 0x0000	0	0 Tdcm(2) Fem(00) After(0:7) Reg(3) <- 0x0 0x0 0x0 (8 chip verified)
38	fe 0 after 0:7 wrchk 4 0x0 0x0000 0x0000	0	0 Tdcm(2) Fem(00) After(0:7) Reg(4) <- 0x0 0x0 0x0 (8 chip verified)
39	fe 0 asic_mask 0xfffe	0	0 Tdcm(2) Fem(00) Reg(9) <- 0xfffe0000
40	fe 0 after 0 test_mode 0x1	0	0 Tdcm(2) Fem(00) After(0) Reg(1) <- Test_mode=calibration
41	fe 0 after 0 wrchk 3 0x0 0x1000 0x0	0	0 Tdcm(2) Fem(00) After(0) Reg(3) <- 0x0 0x1000 0x0 (1 chip verified)
42	fe 0 after 0 wrchk 4 0x0 0x0 0x0	0	0 Tdcm(2) Fem(00) After(0) Reg(4) <- 0x0 0x0 0x0 (1 chip verified)
43	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
44	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
45	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
46	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
47	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
48	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
49	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
50	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
51	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
52	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
53	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
54	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
55	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.950 V
56	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
57	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
58	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
59	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
60	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
61	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
62	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
63	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
64	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
65	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
66	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
67	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
68	fe 0 asic_mask 0x0	0	0 Tdcm(2) Fem(00) Reg(9) <- 0x0
69	fe 0 after 0:7 wrchk 3 0x0 0x0000 0x0000	0	0 Tdcm(2) Fem(00) After(0:7) Reg(3) <- 0x0 0x0 0x0 (8 chip verified)
70	fe 0 after 0:7 wrchk 4 0x0 0x0000 0x0000	0	0 Tdcm(2) Fem(00) After(0:7) Reg(4) <- 0x0 0x0 0x0 (8 chip verified)
71	fe 0 asic_mask 0xfffd	0	0 Tdcm(2) Fem(00) Reg(9) <- 0xfffd0000
72	fe 0 after 1 test_mode 0x1	0	0 Tdcm(2) Fem(00) After(1) Reg(1) <- Test_mode=calibration
73	fe 0 after 1 wrchk 3 0x0 0x1000 0x0	0	0 Tdcm(2) Fem(00) After(1) Reg(3) <- 0x0 0x1000 0x0 (1 chip verified)
74	fe 0 after 1 wrchk 4 0x0 0x0 0x0	0	0 Tdcm(2) Fem(00) After(1) Reg(4) <- 0x0 0x0 0x0 (1 chip verified)
75	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
76	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
77	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
78	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
79	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
80	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
81	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
82	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
83	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
84	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
85	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
86	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
87	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
88	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
89	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
90	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
91	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
92	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
93	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
94	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
95	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
96	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
97	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.950 V
98	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
99	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
100	fe 0 asic_mask 0x0	0	0 Tdcm(2) Fem(00) Reg(9) <- 0x0
101	fe 0 after 0:7 wrchk 3 0x0 0x0000 0x0000	0	0 Tdcm(2) Fem(00) After(0:7) Reg(3) <- 0x0 0x0 0x0 (8 chip verified)
102	fe 0 after 0:7 wrchk 4 0x0 0x0000 0x0000	0	0 Tdcm(2) Fem(00) After(0:7) Reg(4) <- 0x0 0x0 0x0 (8 chip verified)
103	fe 0 asic_mask 0xfffb	0	0 Tdcm(2) Fem(00) Reg(9) <- 0xfffb0000
104	fe 0 after 2 test_mode 0x1	0	0 Tdcm(2) Fem(00) After(2) Reg(1) <- Test_mode=calibration
105	fe 0 after 2 wrchk 3 0x0 0x1000 0x0	0	0 Tdcm(2) Fem(00) After(2) Reg(3) <- 0x0 0x1000 0x0 (1 chip verified)
106	fe 0 after 2 wrchk 4 0x0 0x0 0x0	0	0 Tdcm(2) Fem(00) After(2) Reg(4) <- 0x0 0x0 0x0 (1 chip verified)
107	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
108	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
109	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
110	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
111	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
112	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
113	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
114	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V

115	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
116	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
117	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
118	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
119	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
120	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
121	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
122	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
123	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
124	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
125	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
126	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
127	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
128	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
129	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
130	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
131	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
132	fe 0 asic_mask 0x0	0	0 Tdcm(2) Fem(00) Reg(9) <- 0x0
133	fe 0 after 0:7 wrchk 3 0x0 0x0000 0x0000	0	0 Tdcm(2) Fem(00) After(0:7) Reg(3) <- 0x0 0x0 0x0 (8 chip verified)
134	fe 0 after 0:7 wrchk 4 0x0 0x0000 0x0000	0	0 Tdcm(2) Fem(00) After(0:7) Reg(4) <- 0x0 0x0 0x0 (8 chip verified)
135	fe 0 asic_mask 0xffff	0	0 Tdcm(2) Fem(00) Reg(9) <- 0xffff70000
136	fe 0 after 3 test_mode 0x1	0	0 Tdcm(2) Fem(00) After(3) Reg(1) <- Test_mode=calibration
137	fe 0 after 3 wrchk 3 0x0 0x1000 0x0	0	0 Tdcm(2) Fem(00) After(3) Reg(3) <- 0x0 0x1000 0x0 (1 chip verified)
138	fe 0 after 3 wrchk 4 0x0 0x0 0x0	0	0 Tdcm(2) Fem(00) After(3) Reg(4) <- 0x0 0x0 0x0 (1 chip verified)
139	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
140	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
141	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
142	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
143	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
144	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
145	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
146	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.950 V
147	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
148	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
149	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
150	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
151	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
152	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
153	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
154	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
155	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
156	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.950 V
157	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
158	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
159	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
160	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
161	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
162	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
163	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
164	fe 0 asic_mask 0x0	0	0 Tdcm(2) Fem(00) Reg(9) <- 0x0
165	fe 0 after 0:7 wrchk 3 0x0 0x0000 0x0000	0	0 Tdcm(2) Fem(00) After(0:7) Reg(3) <- 0x0 0x0 0x0 (8 chip verified)
166	fe 0 after 0:7 wrchk 4 0x0 0x0000 0x0000	0	0 Tdcm(2) Fem(00) After(0:7) Reg(4) <- 0x0 0x0 0x0 (8 chip verified)
167	fe 0 asic_mask 0xffef	0	0 Tdcm(2) Fem(00) Reg(9) <- 0xffef0000
168	fe 0 after 4 test_mode 0x1	0	0 Tdcm(2) Fem(00) After(4) Reg(1) <- Test_mode=calibration
169	fe 0 after 4 wrchk 3 0x0 0x1000 0x0	0	0 Tdcm(2) Fem(00) After(4) Reg(3) <- 0x0 0x1000 0x0 (1 chip verified)
170	fe 0 after 4 wrchk 4 0x0 0x0 0x0	0	0 Tdcm(2) Fem(00) After(4) Reg(4) <- 0x0 0x0 0x0 (1 chip verified)
171	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
172	fe pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0

193	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
194	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c
195	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
196	fe 0 asic_mask 0x0	0	0 Tdc(2) Fem(00) Reg(9) <- 0x0
197	fe 0 after 0:7 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(0:7) Reg(3) <- 0x0 0x0 0x0 (8 chip verified)
198	fe 0 after 0:7 wrchk 4 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(0:7) Reg(4) <- 0x0 0x0 0x0 (8 chip verified)
199	fe 0 asic_mask 0xffdf	0	0 Tdc(2) Fem(00) Reg(9) <- 0xffdf0000
200	fe 0 after 5 test_mode 0x1	0	0 Tdc(2) Fem(00) After(5) Reg(1) <- Test_mode=calibration
201	fe 0 after 5 wrchk 3 0x0 0x1000 0x0	0	0 Tdc(2) Fem(00) After(5) Reg(3) <- 0x0 0x1000 0x0 (1 chip verified)
202	fe 0 after 5 wrchk 4 0x0 0x0 0x0	0	0 Tdc(2) Fem(00) After(5) Reg(4) <- 0x0 0x0 0x0 (1 chip verified)
203	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
204	fe pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
205	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
206	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c
207	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
208	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
209	fe pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
210	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
211	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c
212	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
213	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
214	fe pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
215	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.950 V
216	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c
217	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
218	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
219	fe pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
220	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
221	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c
222	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
223	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
224	fe pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
225	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
226	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c
227	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
228	fe 0 asic_mask 0x0	0	0 Tdc(2) Fem(00) Reg(9) <- 0x0
229	fe 0 after 0:7 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(0:7) Reg(3) <- 0x0 0x0 0x0 (8 chip verified)
230	fe 0 after 0:7 wrchk 4 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(0:7) Reg(4) <- 0x0 0x0 0x0 (8 chip verified)
231	fe 0 asic_mask 0xffbf	0	0 Tdc(2) Fem(00) Reg(9) <- 0xffbf0000
232	fe 0 after 6 test_mode 0x1	0	0 Tdc(2) Fem(00) After(6) Reg(1) <- Test_mode=calibration
233	fe 0 after 6 wrchk 3 0x0 0x1000 0x0	0	0 Tdc(2) Fem(00) After(6) Reg(3) <- 0x0 0x1000 0x0 (1 chip verified)
234	fe 0 after 6 wrchk 4 0x0 0x0 0x0	0	0 Tdc(2) Fem(00) After(6) Reg(4) <- 0x0 0x0 0x0 (1 chip verified)
235	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
236	fe pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
237	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
238	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c
239	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
240	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
241	fe pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
242	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
243	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c
244	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
245	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
246	fe pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
247	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
248	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c
249	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
250	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
251	fe pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
252	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
253	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c
254	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
255	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
256	fe pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
257	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
258	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c
259	be 0 isobus 0x60	0	0 Tdc(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
260	fe 0 asic_mask 0x0	0	0 Tdc(2) Fem(00) Reg(9) <- 0x0
261	fe 0 after 0:7 wrchk 3 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(0:7) Reg(3) <- 0x0 0x0 0x0 (8 chip verified)
262	fe 0 after 0:7 wrchk 4 0x0 0x0000 0x0000	0	0 Tdc(2) Fem(00) After(0:7) Reg(4) <- 0x0 0x0 0x0 (8 chip verified)
263	fe 0 asic_mask 0xff7f	0	0 Tdc(2) Fem(00) Reg(9) <- 0xff7f0000
264	fe 0 after 7 test_mode 0x1	0	0 Tdc(2) Fem(00) After(7) Reg(1) <- Test_mode=calibration
265	fe 0 after 7 wrchk 3 0x0 0x1000 0x0	0	0 Tdc(2) Fem(00) After(7) Reg(3) <- 0x0 0x1000 0x0 (1 chip verified)
266	fe 0 after 7 wrchk 4 0x0 0x0 0x0	0	0 Tdc(2) Fem(00) After(7) Reg(4) <- 0x0 0x0 0x0 (1 chip verified)
267	fe 0 pulser 0 base 16383	0	0 Tdc(2) Fem(00) Pulser_Base <- 0x3fff
268	fe pulser 0 load	0	0 Tdc(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
269	fe 0 moni A 0	0	0 Tdc(2) Fem(00) FEC_Vad: 1.940 V
270	fe 0 pulser 0 ampl 15900	0	0 Tdc(2) Fem(00) Pulser_Amplitude <- 0x3e1c

271	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
272	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
273	fe 0 pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
274	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.950 V
275	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
276	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
277	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
278	fe 0 pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
279	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
280	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
281	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
282	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
283	fe 0 pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
284	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
285	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
286	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
287	fe 0 pulser 0 base 16383	0	0 Tdcm(2) Fem(00) Pulser_Base <- 0x3fff
288	fe 0 pulser 0 load	0	0 Tdcm(2) Fem(00) Reg(1) <- 0x0 GEN_GO pulsed
289	fe 0 moni A 0	0	0 Tdcm(2) Fem(00) FEC_Vad: 1.940 V
290	fe 0 pulser 0 ampl 15900	0	0 Tdcm(2) Fem(00) Pulser_Amplitude <- 0x3e1c
291	be 0 isobus 0x60	0	0 Tdcm(2) Reg(5) <- 0x00000060 (WCK_SYNCH SCA_START auto-clear)
292	fe 0 asic_mask 0x0	0	0 Tdcm(2) Fem(00) Reg(9) <- 0x0
293	be 0 trig_ena 0	0	0 Tdcm(2) Reg(6) <- 0x0

Pedestal data before centermean

CHIP 0			CHIP 1			CHIP 2			CHIP 3			CHIP 4			CHIP 5			CHIP 6			CHIP 7		
CH	M	STD	CH	M	STD	CH	M	STD	CH	M	STD	CH	M	STD	CH	M	STD	CH	M	STD	CH	M	STD
0 r	0.0	0.0	0 r	0.0	0.0	0 r	0.0	0.0	0 r	0.0	0.0	0 r	511.0	0.0	0 r	0.0	0.0	0 r	0.0	0.0	0 r	0.0	0.0
1 r	511.0	0.0	1 r	511.0	0.0	1 r	511.0	0.0	1 r	511.0	0.0	1 r	511.0	0.0	1 r	511.0	0.0	1 r	511.0	0.0	1 r	511.0	0.0
2 r	351.2	0.7	2 r	369.1	0.7	2 r	321.2	0.7	2 r	343.4	0.7	2 r	511.0	0.0	2 r	277.9	0.7	2 r	349.2	0.7	2 r	349.1	0.7
3	264.4	5.2	3	319.4	4.7	3	247.8	4.8	3	292.3	5.4	3	511.0	0.0	3	262.8	5.4	3	314.3	5.1	3	311.5	4.9
4	293.4	4.6	4	201.4	4.0	4	243.8	4.4	4	258.0	4.5	4	511.0	0.0	4	275.1	5.0	4	258.8	5.0	4	234.7	5.1
5	245.4	4.9	5	233.9	4.4	5	255.1	4.6	5	303.8	5.1	5	511.0	0.0	5	252.6	5.1	5	312.1	4.9	5	309.7	4.8
6	228.6	4.6	6	211.7	4.2	6	276.9	4.5	6	321.9	4.8	6	511.0	0.0	6	301.9	5.1	6	310.5	4.8	6	244.3	5.0
7	333.4	4.9	7	210.9	4.5	7	284.9	4.6	7	259.3	5.2	7	511.0	0.0	7	259.3	4.8	7	285.1	4.8	7	243.9	4.8
8	276.6	4.2	8	293.2	4.3	8	236.9	4.3	8	261.9	4.7	8	511.0	0.0	8	215.2	5.0	8	296.9	4.5	8	229.8	4.6
9	304.1	5.0	9	332.3	4.6	9	195.8	4.6	9	251.8	4.7	9	511.0	0.0	9	164.6	5.0	9	280.5	4.8	9	282.0	4.8
10	262.3	4.4	10	218.1	4.1	10	247.4	4.4	10	264.6	4.5	10	511.0	0.0	10	171.9	5.0	10	262.0	4.6	10	252.9	4.9
11	286.4	4.6	11	259.5	4.5	11	298.9	4.5	11	207.8	4.7	11	511.0	0.0	11	192.2	4.7	11	377.7	4.7	11	301.4	4.8
12	286.4	4.5	12	276.1	4.3	12	295.7	4.4	12	218.3	4.5	12	511.0	0.0	12	192.8	4.7	12	259.8	4.7	12	274.7	4.8
13	221.0	4.6	13	266.4	4.4	13	292.8	4.6	13	299.2	4.7	13	511.0	0.0	13	243.0	4.9	13	318.6	4.6	13	237.5	4.7
14	253.1	4.3	14	292.3	4.2	14	284.3	4.2	14	166.3	4.7	14	511.0	0.0	14	201.2	4.7	14	339.7	4.7	14	303.4	5.0
15 f	251.1	1.5	15 f	346.5	1.6	15 f	319.9	1.6	15 f	259.1	1.6	15 f	511.0	0.0	15 f	202.2	1.7	15 f	361.1	1.6	15 f	295.8	1.7
16	308.5	4.6	16	361.8	4.3	16	305.2	4.7	16	271.0	4.8	16	511.0	0.0	16	187.7	4.6	16	278.0	4.6	16	172.2	4.7
17	262.1	4.3	17	219.3	4.0	17	277.8	4.3	17	296.0	4.4	17	511.0	0.0	17	177.6	4.9	17	282.7	4.7	17	300.5	4.8
18	235.1	4.7	18	218.6	4.3	18	245.5	4.6	18	258.5	4.7	18	511.0	0.0	18	211.4	5.0	18	266.3	4.7	18	270.1	4.7
19	294.9	4.3	19	262.5	4.0	19	312.8	4.3	19	298.3	4.3	19	511.0	0.0	19	171.4	4.8	19	249.5	4.8	19	319.3	4.7
20	313.4	4.8	20	333.3	4.4	20	203.4	4.4	20	294.6	4.5	20	511.0	0.0	20	225.9	4.7	20	405.9	5.0	20	330.7	4.6
21	345.2	4.5	21	346.1	4.0	21	202.2	4.2	21	222.3	4.4	21	511.0	0.0	21	221.1	4.9	21	252.8	4.5	21	330.6	4.7
22	281.2	4.8	22	250.7	4.2	22	229.0	4.5	22	248.7	4.5	22	511.0	0.0	22	188.8	4.8	22	303.5	4.8	22	272.5	4.8
23	278.8	4.4	23	176.3	4.1	23	233.2	4.4	23	235.5	4.3	23	511.0	0.0	23	246.2	4.9	23	318.4	4.3	23	270.7	4.6
24	322.6	4.5	24	287.3	4.3	24	220.7	4.3	24	303.6	4.4	24	511.0	0.0	24	280.0	4.8	24	253.2	4.5	24	294.1	4.6
25	354.2	4.3	25	252.5	4.1	25	153.4	4.2	25	256.6	4.4	25	511.0	0.0	25	283.5	4.8	25	272.0	4.6	25	299.1	4.7
26	296.6	4.5	26	298.0	4.3	26	270.1	4.4	26	199.7	4.5	26	511.0	0.0	26	245.8	4.7	26	253.6	4.5	26	229.2	4.6
27	297.1	4.3	27	309.5	3.9	27	242.0	4.2	27	210.8	4.4	27	511.0	0.0	27	231.6	5.0	27	270.5	4.7	27	263.4	4.7
28 f	318.1	1.6	28 f	235.3	1.7	28 f	279.3	1.6	28 f	239.9	1.6	28 f	511.0	0.0	28 f	233.9	1.8	28 f	257.6	1.8	28 f	274.5	1.7
29	254.8	4.5	29	365.5	4.4	29	273.4	4.6	29	311.6	4.4	29	511.0	0.0	29	239.2	4.5	29	315.6	4.3	29	259.2	4.5
30	314.0	4.3	30	304.5	4.2	30	293.9	4.3	30	225.0	4.6	30	511.0	0.0	30	203.6	4.6	30	361.1	4.5	30	243.1	4.7
31	323.3	4.5	31	246.2	4.4	31	209.8	4.4	31	370.6	4.5	31	511.0	0.0	31	198.9	4.8	31	374.4	4.5	31	277.6	4.7
32	283.4	4.5	32	279.7	4.1	32	303.2	4.3	32	308.4	4.2	32	511.0	0.0	32	261.9	4.8	32	226.5	4.8	32	218.8	4.9
33	321.3	4.6	33	281.7	4.1	33	259.1	4.3	33	225.9	4.5	33	511.0	0.0	33	234.7	4.8	33	294.6	4.5	33	271.9	4.5
34	286.4	4.2	34	239.5	3.9	34	205.6	4.2	34	275.1	4.4	34	511.0	0.0	34	263.1	4.9	34	295.6	4.5	34	281.4	4.8
35	350.7	4.6	35	269.8	4.4	35	238.1	4.3	35	306.4	4.5	35	511.0	0.0	35	281.5	4.8	35	254.9	4.6	35	227.7	4.5
36	286.7	4.4	36	233.8	4.1	36	185.8	3.9	36	163.9	4.6	36	511.0	0.0	36	164.8	4.9	36	350.7	4.8	36	272.2	4.9
37	330.3	4.5	37	256.0	4.2	37	276.1	4.3	37	294.2	4.5	37	511.0	0.0	37	221.0	4.9	37	363.6	4.6	37	289.8	4.8
38	319.6	4.4	38	214.8	4.2	38	199.5	4.2	38	290.0	4.4	38	511.0	0.0	38	232.1	5.0	38	413.3	4.6	38	282.2	4.8
39	315.6	4.4	39	239.1	4.2	39	280.4	4.5	39	285.8	4.7	39	511.0	0.0	39	280.0	5.1	39	265.9	4.7	39	331.1	5.4
40	237.6	4.4	40	280.6	3.9	40	184.4	4.1	40	288.1	4.3	40	511.0	0.0	40	316.2	4.8	40	284.7	4.5	40	282.5	4.7
41	339.0	4.4	41	291.1	4.1	41	260.5	4.0	41	308.5	3.9	41	511.0	0.0	41	224.7	4.3	41	389.4	4.1	41	286.1	4.3
42	254.9	4.3	42	209.3	4.1	42	263.9	4.3	42	336.2	4.1	42	511.0	0.0	42	270.6	4.4	42	317.8	4.3	42	349.6	4.3
43	349.0	4.0	43	297.8	3.8	43	208.7	4.2	43	271.5	4.1	43	511.0	0.0	43	324.4	4.5	43	314.7	4.3	43	311.1	4.3
44	287.1	4.6	44	278.5	4.1	44	210.9	4.2	44	202.9	4.0	44	511.0	0.0	44	166.2	4.3	44	198.8	4.2	44	182.6	4.4
45	209.9	4.5	45	323.7	3.8	45	194.4	4.3	45	213.2	3.9	45	511.0	0.0	45	248.4	4.3	45	388.6	4.3	45	307.4	4.5
46	319.3	4.5	46	287.6	4.1	46	243.0	4.1	46	248.8	4.1	46	511.0	0.0	46	234.2	4.3	46	251.9	4.2	46	207.9	4.4
47	312.0	4.4	47	333.1	3.8	47	327.5	4.2	47	284.0	4.0	47	511.0	0.0	47	226.3	4.6	47	326.9	4.3	47	218.6	4.2
48	286.5	4.5	48	330.9	3.9	48	240.4	4.0	48	283.3	4.2	48	511.0	0.0	48	241.8	4.4	48	235.0	4.3	48	207.9	4.7
49	337.0	4.2	49	274.0	3.8	49	235.1	3.9	49	245.0	4.0	49	511.0	0.0	49	315.0	4.5	49	306.8	4.1	49	233.7	4.3
50	278.5	4.7	50	290.4	4.0	50	314.3	4.2	50	310.4	4.2	50	511.0	0.0	50	206.1	4.4	50	302.8	4.3	50	401.0	4.5
51	320.7	4.3	51	218.0	3.6	51	326.2	4.0	51	272.8	4.1	51	511.0	0.0	51	280.0	4.4	51	281.8	4.0	51	206.6	4.5
52	272.9	4.3	52	283.0	4.0	52	300.9	4.0	52	226.6	4.2	52	511.0	0.0	52	346.8	4.4	52	309.5	4.1	52	324.0	4.3
53 f	363.4	1.6	53 f	266.9	1.4	53 f	285.4	1.6	53 f	276.7	1.8	53 f	511.0	0.0	53 f	211.2	1.6	53 f	315.1	1.6	53 f	304.5	1.5
54	285.2	4.0	54	207.2	3.9	54	207.2	3.9	54	280.1	4.2	54	511.0	0.0	54	175.3	4.4	54	195.2	4.2	54	195.5	4.5
55	281.2	4.6	55	280.2	4.0	55	281.8	4.2	55	261.8	4.1	55	511.0	0.0	55	215.3	4.6	55	241.9	4.5	55	312.8	4.6
56	309.1	4.2	56	320.2	3.8	56	186.3	4.2	56	250.3	3.9	56	511.0	0.0	56	251.8	4.4	56	256.1	4.2	56	231.5	4.5
57	242.3	4.5	57	293.1	4.0	57	336.4	4.3	57	336.4	4.1	57	511.0	0.0	57	237.5	4.6	57	319.7	4.3	57	298.2	4.8
58	296.7	4.2	58	295.9	3.8	58	192.9	4.4	58	259.2	3.7	58	511.0	0									

Pedestal after centermean.

CHIP 0			CHIP 1			CHIP 2			CHIP 3			CHIP 4			CHIP 5			CHIP 6			CHIP 7		
CH	M	STD	CH	M	STD	CH	M	STD	CH	M	STD	CH	M	STD	CH	M	STD	CH	M	STD	CH	M	STD
0 r	250.0	0.0	0 r	250.0	0.0	0 r	250.0	0.0	0 r	250.0	0.0	0 r	511.0	0.0	0 r	250.0	0.0	0 r	250.0	0.0	0 r	250.0	0.0
1 r	283.4	11.9	1 r	446.5	7.8	1 r	407.9	8.7	1 r	397.3	8.4	1 r	511.0	0.0	1 r	376.6	9.5	1 r	435.1	9.1	1 r	374.2	10.6
2 r	250.3	0.7	2 r	250.1	0.7	2 r	250.3	0.7	2 r	250.4	0.7	2 r	511.0	0.0	2 r	250.3	0.7	2 r	250.2	0.7	2 r	250.2	0.7
3	250.2	5.2	3	250.5	4.7	3	250.9	4.9	3	252.1	5.0	3	511.0	0.0	3	250.9	5.3	3	250.8	5.0	3	249.8	5.3
4	250.6	4.2	4	250.0	4.2	4	248.5	4.3	4	249.6	4.5	4	511.0	0.0	4	248.8	5.0	4	250.0	4.8	4	251.2	5.0
5	251.9	5.2	5	252.5	4.5	5	249.4	4.8	5	250.0	4.9	5	511.0	0.0	5	249.2	5.0	5	249.3	5.0	5	249.4	4.7
6	250.0	4.3	6	249.5	4.3	6	249.5	4.4	6	249.4	4.6	6	511.0	0.0	6	250.0	4.8	6	250.0	4.5	6	252.1	4.8
7	250.7	4.9	7	250.8	4.3	7	250.5	4.7	7	250.8	5.0	7	511.0	0.0	7	250.2	4.9	7	250.5	4.6	7	250.3	4.7
8	249.0	4.5	8	250.8	4.1	8	249.6	4.3	8	250.3	4.5	8	511.0	0.0	8	249.8	5.2	8	249.8	4.5	8	250.8	4.7
9	249.4	4.7	9	251.0	4.4	9	249.2	4.7	9	249.2	4.8	9	511.0	0.0	9	248.8	5.0	9	250.9	4.5	9	250.2	4.8
10	249.4	4.2	10	251.2	4.0	10	249.3	4.2	10	248.3	4.5	10	511.0	0.0	10	250.2	4.8	10	251.1	4.7	10	250.8	4.8
11	250.8	4.7	11	249.5	4.3	11	250.6	4.5	11	249.4	4.6	11	511.0	0.0	11	251.7	4.8	11	249.3	4.7	11	249.4	4.7
12	250.7	4.4	12	251.4	4.0	12	250.2	4.3	12	250.9	4.5	12	511.0	0.0	12	250.1	4.8	12	250.3	4.8	12	249.4	4.9
13	249.6	4.8	13	250.6	4.2	13	250.0	4.6	13	250.3	4.9	13	511.0	0.0	13	250.7	4.9	13	250.3	4.5	13	250.9	4.6
14	249.8	4.2	14	250.2	4.2	14	251.2	4.3	14	249.9	4.3	14	511.0	0.0	14	250.9	4.7	14	249.4	4.5	14	250.4	4.9
15 f	249.6	1.6	15 f	249.8	1.6	15 f	249.4	1.6	15 f	250.4	1.5	15 f	511.0	0.0	15 f	251.0	1.6	15 f	250.4	1.7	15 f	250.3	1.7
16	251.0	4.4	16	249.2	4.3	16	251.4	4.5	16	249.3	4.5	16	511.0	0.0	16	250.4	5.1	16	249.5	4.7	16	249.1	4.8
17	250.9	4.2	17	250.4	4.0	17	249.9	4.1	17	249.8	4.3	17	511.0	0.0	17	250.2	4.9	17	250.9	4.6	17	249.8	4.7
18	249.3	4.5	18	250.5	4.3	18	250.0	4.3	18	248.8	4.4	18	511.0	0.0	18	250.6	4.6	18	249.0	4.4	18	252.1	4.6
19	250.5	4.1	19	249.6	4.0	19	249.4	4.3	19	250.0	4.3	19	511.0	0.0	19	251.1	4.9	19	249.2	4.6	19	249.5	4.8
20	251.1	4.6	20	250.0	4.3	20	249.1	4.4	20	249.2	4.5	20	511.0	0.0	20	250.2	5.1	20	249.8	4.7	20	251.4	4.8
21	249.1	4.4	21	250.3	4.1	21	251.1	4.4	21	249.4	4.4	21	511.0	0.0	21	252.3	4.7	21	249.4	4.7	21	249.6	4.8
22	250.1	4.4	22	250.6	4.2	22	251.5	4.3	22	248.7	4.4	22	511.0	0.0	22	251.3	4.7	22	250.0	4.5	22	250.0	4.8
23	249.5	4.4	23	248.5	4.1	23	250.1	4.3	23	249.9	4.4	23	511.0	0.0	23	250.4	4.6	23	249.0	4.5	23	249.5	4.7
24	250.7	4.5	24	250.2	4.2	24	249.6	4.5	24	250.7	4.4	24	511.0	0.0	24	251.4	4.9	24	250.2	4.3	24	251.2	4.6
25	250.8	4.2	25	250.4	4.2	25	250.5	4.3	25	249.3	4.3	25	511.0	0.0	25	252.5	4.6	25	249.6	4.4	25	250.1	4.8
26	249.9	4.5	26	250.3	4.3	26	249.8	4.3	26	249.8	4.5	26	511.0	0.0	26	251.1	4.9	26	248.9	4.5	26	248.7	4.5
27	252.2	4.0	27	248.3	4.0	27	250.0	4.3	27	250.2	4.3	27	511.0	0.0	27	250.8	5.1	27	250.3	4.6	27	250.9	4.8
28 f	250.8	1.6	28 f	250.5	1.7	28 f	250.4	1.6	28 f	250.2	1.6	28 f	511.0	0.0	28 f	250.3	1.7	28 f	248.9	1.7	28 f	250.1	1.8
29	250.3	4.6	29	248.6	4.2	29	250.6	4.5	29	250.1	4.6	29	511.0	0.0	29	251.1	5.0	29	250.5	4.4	29	249.7	4.6
30	250.6	4.2	30	250.7	4.0	30	249.2	4.2	30	250.7	4.4	30	511.0	0.0	30	250.0	4.7	30	249.0	4.6	30	250.8	4.7
31	251.5	4.3	31	251.2	4.2	31	247.6	4.3	31	248.5	4.4	31	511.0	0.0	31	249.3	4.9	31	251.0	4.6	31	248.9	4.7
32	250.4	4.2	32	248.8	4.0	32	249.9	4.1	32	250.0	4.4	32	511.0	0.0	32	250.6	4.9	32	248.8	4.5	32	250.3	5.0
33	251.5	4.8	33	250.7	4.1	33	249.9	4.3	33	248.7	4.2	33	511.0	0.0	33	250.3	4.4	33	249.5	4.6	33	250.4	4.6
34	249.1	4.4	34	250.2	3.9	34	248.9	4.3	34	249.3	4.2	34	511.0	0.0	34	249.9	4.8	34	248.4	4.5	34	250.4	4.7
35	248.4	4.8	35	250.7	4.4	35	251.7	4.2	35	251.0	4.2	35	511.0	0.0	35	249.7	4.6	35	249.3	4.8	35	248.9	4.9
36	250.2	4.3	36	249.6	4.2	36	249.8	4.1	36	249.7	4.1	36	511.0	0.0	36	249.7	5.0	36	249.4	4.8	36	251.1	5.1
37	251.0	4.4	37	249.6	4.4	37	249.8	4.2	37	249.2	4.3	37	511.0	0.0	37	251.4	4.6	37	248.7	4.6	37	250.2	4.8
38	249.7	4.2	38	249.0	3.8	38	249.3	4.1	38	249.7	4.4	38	511.0	0.0	38	250.8	4.8	38	249.9	4.7	38	250.5	4.8
39	250.3	4.6	39	249.1	4.4	39	252.6	4.5	39	248.7	4.5	39	511.0	0.0	39	250.5	5.2	39	250.1	4.9	39	249.4	5.1
40	251.4	4.4	40	248.4	3.8	40	249.9	4.0	40	251.1	4.4	40	511.0	0.0	40	250.1	4.6	40	249.5	4.6	40	250.1	4.7
41	250.2	4.2	41	250.2	3.9	41	248.9	3.9	41	249.3	4.1	41	511.0	0.0	41	250.4	4.4	41	249.4	4.1	41	250.4	4.5
42	251.3	4.4	42	249.6	4.0	42	250.0	4.2	42	250.7	4.2	42	511.0	0.0	42	249.6	4.8	42	250.2	4.3	42	249.5	4.5
43	249.4	4.0	43	249.7	3.8	43	250.0	4.0	43	250.6	4.2	43	511.0	0.0	43	252.1	4.3	43	249.0	4.0	43	250.6	4.5
44	250.9	4.5	44	249.9	4.0	44	250.4	4.1	44	252.0	4.1	44	511.0	0.0	44	250.1	4.5	44	249.6	4.2	44	250.3	4.3
45	249.6	4.3	45	248.4	4.0	45	251.3	4.2	45	249.9	3.9	45	511.0	0.0	45	250.8	4.2	45	248.9	4.4	45	251.4	4.4
46	249.4	4.5	46	249.8	4.0	46	251.9	4.2	46	250.3	4.3	46	511.0	0.0	46	250.4	4.5	46	248.9	4.1	46	250.0	4.4
47	250.2	4.1	47	250.2	3.5	47	249.9	4.3	47	249.9	4.1	47	511.0	0.0	47	252.0	4.8	47	250.6	4.3	47	249.7	4.6
48	249.3	4.5	48	249.0	4.1	48	251.2	4.1	48	250.9	4.2	48	511.0	0.0	48	249.5	4.5	48	250.9	4.4	48	250.3	4.5
49	248.6	4.3	49	250.0	3.9	49	251.5	4.0	49	249.6	4.1	49	511.0	0.0	49	248.7	4.5	49	249.7	4.1	49	249.4	4.5
50	250.3	4.6	50	251.5	4.2	50	250.9	4.2	50	250.1	4.2	50	511.0	0.0	50	249.4	4.4	50	249.8	4.2	50	250.9	4.8
51	250.0	4.3	51	249.7	3.9	51	250.9	4.1	51	248.9	3.9	51	511.0	0.0	51	249.6	4.5	51	250.4	4.1	51	252.2	4.4
52	251.4	4.5	52	250.1	4.0	52	249.6	4.3	52	249.6	4.3	52	511.0	0.0	52	250.6	4.6	52	248.3	4.5	52	249.3	4.7
53 f	250.4	1.6	53 f	250.2	1.6	53 f	250.7	1.6	53 f	249.5	1.6	53 f	511.0	0.0	53 f	251.0	1.7	53 f	250.3	1.6	53 f	250.3	1.5
54	251.4	4.3	54	249.6	4.0	54	248.9	4.2	54	249.7	3.8	54	511.0	0.0	54	251.5	4.5	54	249.7	4.2	54	251.2	4.5
55	249.7	4.5	55	249.8	4.2	55	248.5	4.3	55	249.8	4.2	55	511.0	0.0	55	250.5	4.7	55	249.7	4.5	55	249.2	4.6
56	249.5	4.4	56	250.5	3.9	56	249.8	4.3	56	250.2	3.9	56	511.0	0.0	56	249.5	4.5	56	249.8	4.3	56	248.3	4.4
57	249.5	4.7	57	251.1	4.1	57	250.4	4.5	57	250.9	4.2	57	511.0	0.0	57	251.0	4.6	57	249.3	4.4	57	250.3	4.5
58	249.4	4.3	58	250.0	3.8	58	249.2	4.0	58	250.2	4.1	5											