Adaptive Threshold Based Sampling

Xilinx Spartan-7 XC7S25-1FTGB196C (s7-Mini FPGA Board)

Type	Name	Func	Description
Button	S2	reset	reset
Button	S3	trigger_start_sampling	manual sampling trigger (optional, instead of AWG trigger)
Switch	S1_1	trigger_start_mode	'1' Start sampling on trigger - '0' Start sampling directly
Switch	S1_2	adaptive_mode	'1' ATBS - '0' TBS
Switch	S1_3	control_mode	'1' UART - '0' Switches
Switch	S1_4	select_tbs_delta_steps	'1' "virtual" DAC resolution - '0' full DAC resolution
UART	-	trigger_start_mode	'1' Start sampling on trigger - '0' Start sampling directly
UART	-	adaptive_mode	'3' ATBS - '2' TBS
UART	-	signal_select_in	'5' BNC - '4' ECG
UART	-	enable	'7' Enable - '6' Disable
UART	-	select_tbs_delta_steps	'9' "virtual" DAC resolution - '8' full DAC resolution
UART	-	update config.	'U'
UART	-	start sampling	'S' (enter 2x)
UART	-	reset	'R'
UART	-	analog trigger settings	'T' and 'a' to 'f'
UART	-	SC NOC generator settings	'C' and 'a' to 'c'
UART	-	UART baudrate	'B' and 'a' to 'd'
UART	-	TBS virtual delta steps	'V' and 'a' to 'e'
UART	-	ATBS win_length / time_win	'W' and 'a' to 'f'
UART	-	ATBS deltasteps_max	'D' and 'a' to 'e'

Type	Name	Func	Description
LED	D1	idle	'1'... Lights up, if Main FSM is in idle state!
LED	D2	overflow	'1'... Lights up, if FIFO is full!
LED	D3	underflow	'1'... Lights up, if FIFO is empty!
LED	D4	ecg	'1'... Lights up, if ECG electrodes are connected!