Test_SGPIO0_15

Test SGPIO with CPLD passtrough

MCU Freq MHz	**204**			
GPIO	Expected Freq MHz	Scope Freq MHz B2AUX1 to 16	Voltage (measure with a low cost probe and 10cm wire female/female) B2AUX1 to 16	Measure / Problems
SGPIO00	102,00000	102,023	Vmax 3,92V, Vmin=-0,4V Vrms=2,27V Vpp=4,24V (max value overshoot)	-
SGPIO01	51,00000	51,0116	Vmax 4,64V, Vmin=-1,52V Vrms=2,78V Vpp=6,08V (max value overshoot)	-
SGPIO02	34,00000	34,0077	Vmax 4,96V, Vmin=-1,92V Vrms=2,80V Vpp=6,96V (max value overshoot)	-
SGPIO03	25,50000	25,5058	Vmax 5,04V, Vmin=-1,92V Vrms=2,72V Vpp=6,96V (max value overshoot)	-
SGPIO04	20,40000	20,4046	Vmax 4,96V, Vmin=-1,84V Vrms=2,65V Vpp=6,56V (max value overshoot)	-
SGPIO05	17,00000	17,0039	Vmax 4,80V, Vmin=-1,68V Vrms=2,50V Vpp=6,48V (max value overshoot)	-
SGPIO06	14,57143	14,5748	Vmax 4,80V, Vmin=-1,76V Vrms=2,47V Vpp=6,56V (max value overshoot)	-
SGPIO07	12,75000	0	Vmax 3,52V, Vmin=2,80V Vrms=3,17V Vpp=0,72V (max value overshoot)	LPC_OUT pin SGPIO7 OK : 12.7529MHz Vmax 4,00V, Vmin=-0,96V Vrms=2,35V Vpp=4,96V (max value overshoot) CPLD IN pin SGPIO7 OK : 12.7529MHz Vmax 4,08V, Vmin=-0,96V Vrms=2,35V Vpp=5,04V (max value overshoot) B2AUX8 OUT pin=KO 3,3V Continuous (instead of 12,75MHz 3,3V)
SGPIO08	11,33333	0	Vmax 3,60V, Vmin=2,80V Vrms=3,17V Vpp=0,72V (max value overshoot)	SGPIO8 LPC OUT KO : 0Hz Vmax 1,04V, Vmin=0,56V Vrms=0,858V Vpp=0,48V (max value overshoot) B2AUX9=KO 0,0V Continuous => Bus Contention because of CPLD ?
SGPIO09	10,20000	10,2023	Vmax 4,80V, Vmin=-1,60V Vrms=2,44V Vpp=6,56V (max value overshoot)	-
SGPIO10	9,27273	0	Vmax 3,52V, Vmin=2,80V Vrms=3,18V Vpp=0,72V (max value overshoot)	LPC OUT pin SGPIO10 OK : 9,27484MHz Vmax 4,08V, Vmin=-1,04V Vrms=2,32V Vpp=5,12V (max value overshoot) CPLD IN pin SGPIO10 OK : 9,27484MHz Vmax 4,08V, Vmin=-1,04V Vrms=2,33V Vpp=5,12V (max value overshoot) B2AUX11=KO +3,3V Continuous (instead of 9,27MHz 3,3V)
SGPIO11	8,50000	8,50193	Vmax 4,72V, Vmin=-1,76V Vrms=2,37V Vpp=6,48V (max value overshoot)	-
SGPIO12	7,84615	7,84794	Vmax 4,80V, Vmin=-1,76V Vrms=2,37V Vpp=6,40V (max value overshoot)	-
SGPIO13	7,28571	7,28737	Vmax 4,80V, Vmin=-1,68V Vrms=2,37V Vpp=6,48V (max value overshoot)	-
SGPIO14	6,80000	0	Vmax 3,36V, Vmin=3,16V Vrms=3,16V Vpp=0,48V (max value overshoot)	LPC OUT pin SGPIO14 OK : 6,80155MHz Vmax 3,92V, Vmin=-0,96V Vrms=2,3V Vpp=4,88V (max value overshoot) CPLD IN pin SGPIO14 OK : 6,80155MHz Vmax 4,08V, Vmin=-0,96V Vrms=2,3V Vpp=5,04V (max value overshoot) B2AUX15=KO +3,3V Continuous (instead of 6,8MHz 3,3V)
SGPIO15	6,37500	6,37645	Vmax 4,80V, Vmin=-1,68V Vrms=2,34V Vpp=6,48V (max value overshoot)	-

B1AUX(9)=1 (Connected to 1.8V) => SGPIO 0 to 15 output => B2AUX1 to 16

CPLD VHDL used : sgpio_if_passthrough.svf

LPC4330 code used : sgpio_passthrough.c executed from RAM