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Oscilloscope, Power supply, Signal generator, Multimeter

When performing measurements on an oscilloscope capture the oscilloscope must be set so that a stable trigger is achieved. Average over the largest possible number of measurements, and limit the bandwidth to eliminate noise. Stop acquisition when taking measurements, so that all measurements are of the same waveform.

A test result page is provided on the end of this document. Fill in the result of each test and print out the page for each board.

If the board has no resonator populated, a 460.8kHz clock signal must be applied to the clock input connector.

When connector pin numberings are supplies, look for a square pad. This is pin 1. The connector pin numbering follows the numbering in figure 1

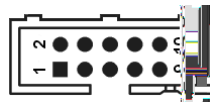


Figure 1: Connector pin numbering

Perform a brief visual inspection of the board

Check if the board is properly etched

Check solder connections (loose pins, tombstoning, etc)

Components that should not be populated: IDC3, J1, J2, components on the bottom of the board (a single resistor is populated on the bottom of the first run, this should not generate a fail). All other components should be present.

Power the board by applying VDD (nominal 3V3) and GND to the test bench.

Measure the current consumption of the board by attaching a multimeter in series with the power supply

Measure AREF (). Use a GND pin on IDC3 pin8 for the negative measure point.

Measure nRTS (on the test bench).

Place a jumper on the pins of the test bench

Connect an oscilloscope to of the test bench. An image similar to figure 1 should be visible.

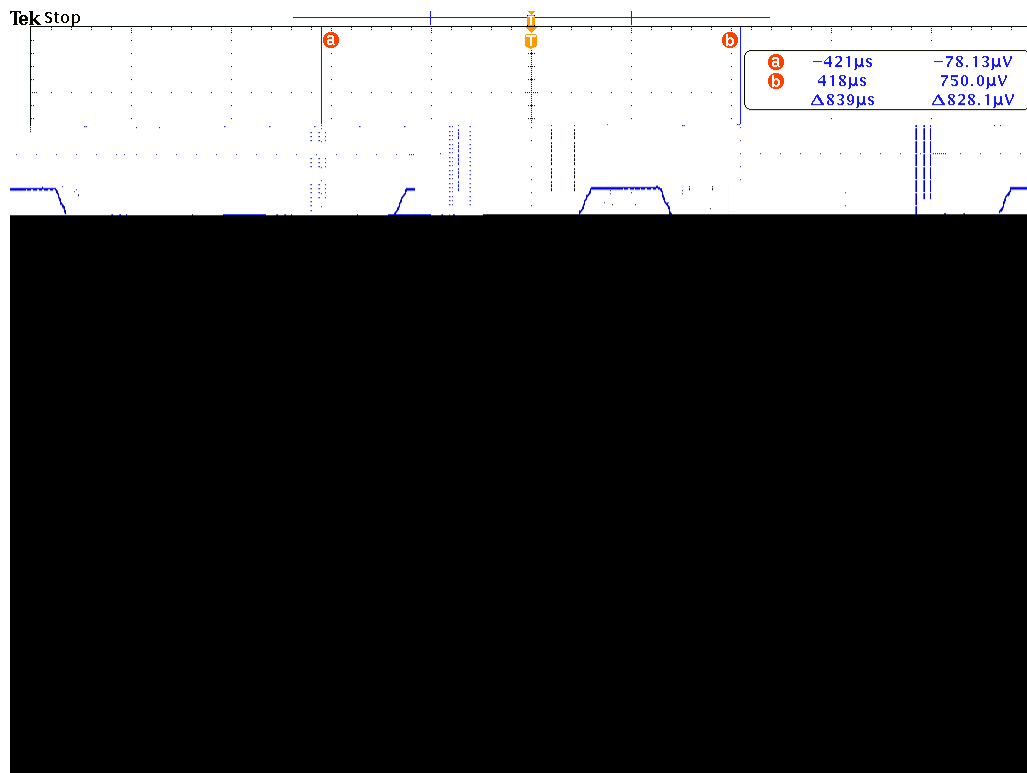


Figure 2: Output waveform (mark)

Measure peak-to-peak amplitude of the waveform

Measure the cycle time of the waveform. Measure between two points with the greatest slope so as to provide the most accurate measurement.

Place a jumper on the pins of the test bench

Measure again peak-to-peak amplitude

Test Report A5191HRT

Test performed by:

Date:

NAME	MIN	NOM	MAX	MEASURED	PASS/FAIL
VDD	2V85	3V3	3V15		
IDD,Q	400uA	420uA	440uA		
AREF	1V20	1V24	1V30		
nRTS	2V4	3V	3V15		

NAME	MIN	NOM	MAX	MEASURED	PASS/FAIL
VPP,MARK	490mV	500mV	510mV		
TMARK	828us	835us	843us		
VPP,0uA					