

# ROBIN-Analog Boundary Scan system

BASS Solutions



# ROBIN shortly

- Patented method for measuring analog components with Boundary Scan i.e resistors, capacitors, diodes and coils
- Method was earlier known as Sniffer, but ROBIN collects more measurement data and more advanced mathematic functions are used for result calculation.
- Test developer can bargain between measurement time and accuracy
- More technical info and test results are in separate presentation.



# ROBIN shortly

- ROBIN collects stream of data, and mathematical functions are used for component value calculation
- ROBIN is very easy to integrate with Boundary Scan environment

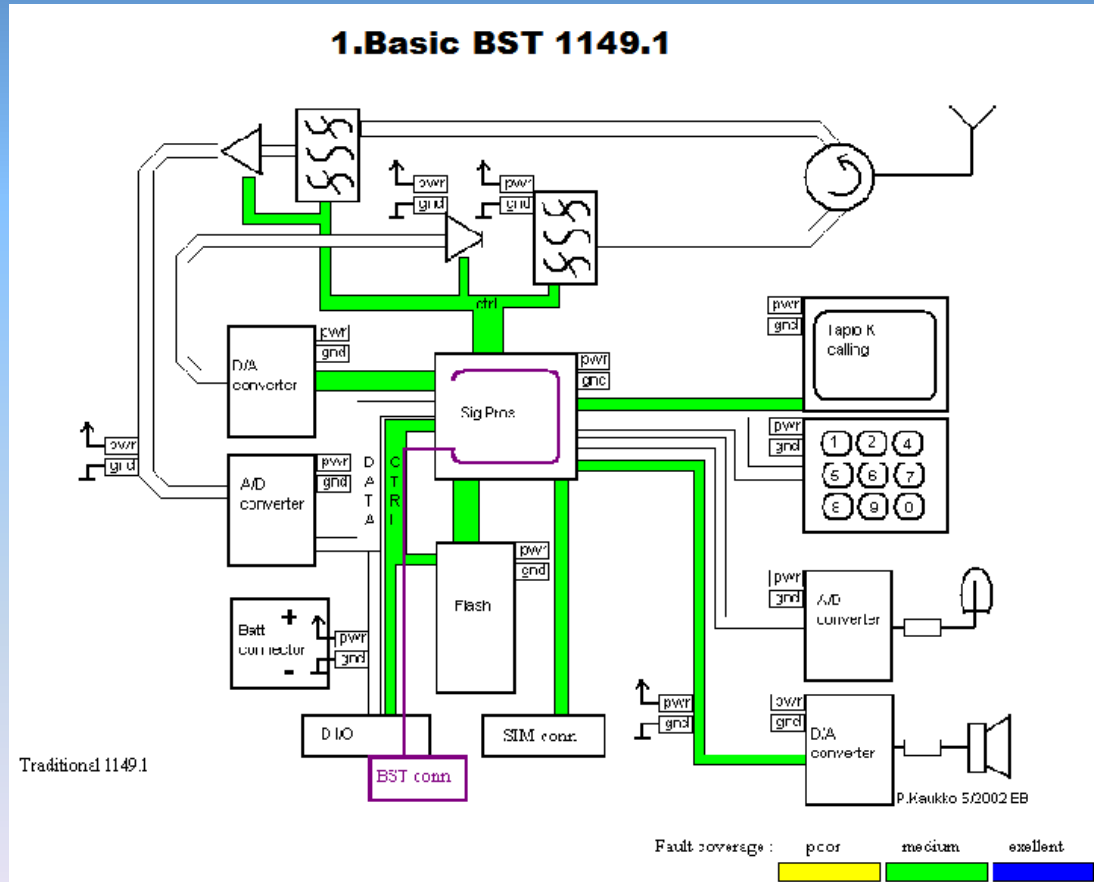


# ROBIN main benefits for Boundary Scan markets

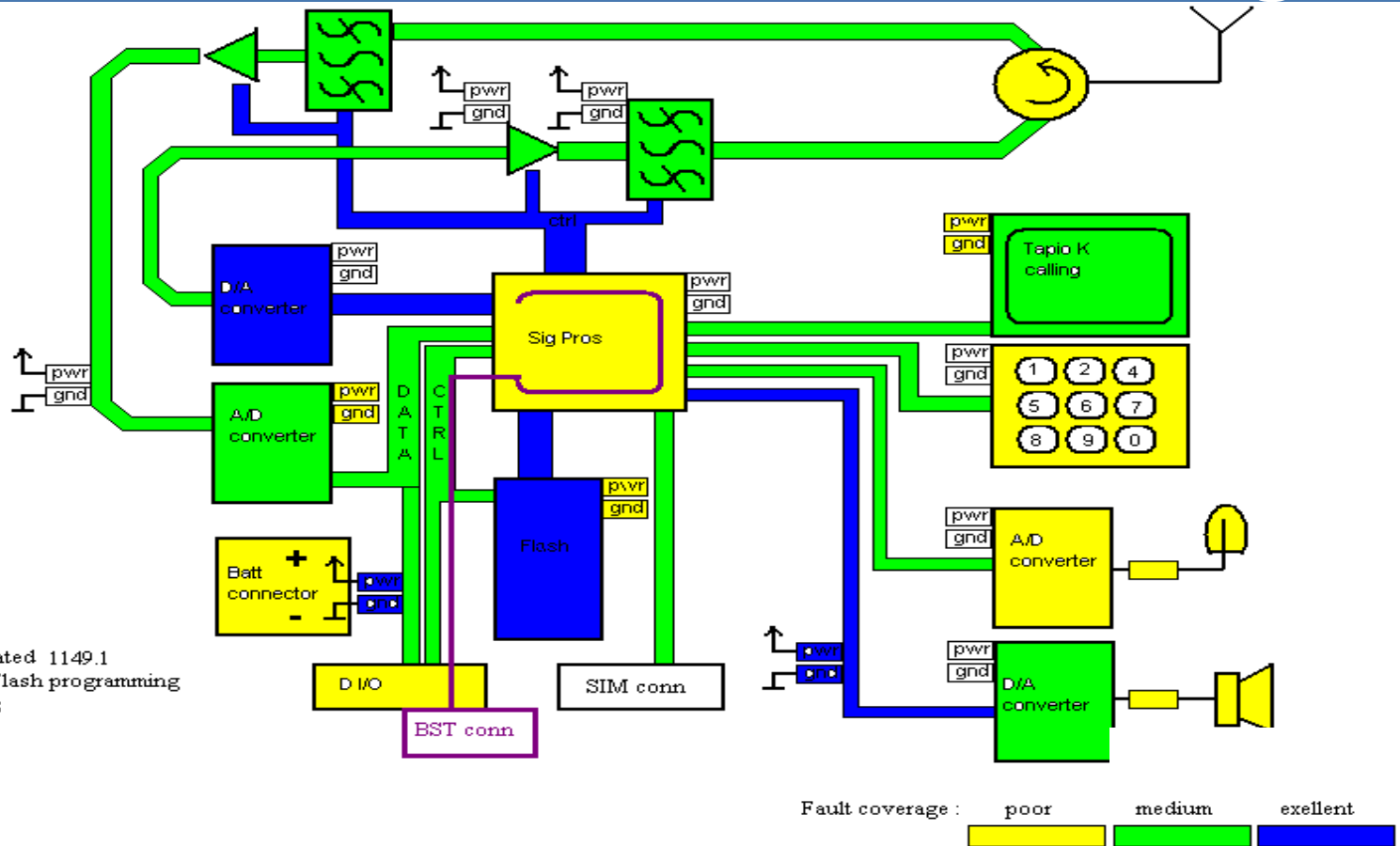
- Adds possibility to make analog component testing with traditional Boundary Scan. (resistors, capacitors, diodes etc.)
- Main segment for ROBIN is devices with low current consumption i.e heart rate monitors, intelligent watches, and devices where high test coverage are needed i.e military, automotive, medical systems.



# ROBIN increase test coverage



# ROBIN increase test coverage



# ROBIN with Cascon



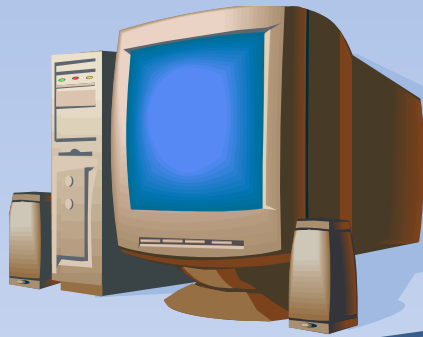
# ROBIN with Cascon

- This document presents ROBIN Analog component test creation process





# ROBIN test setup



Communication  
via GPIB

Keithley 3706 and  
2306



Cascon  
control  
interface



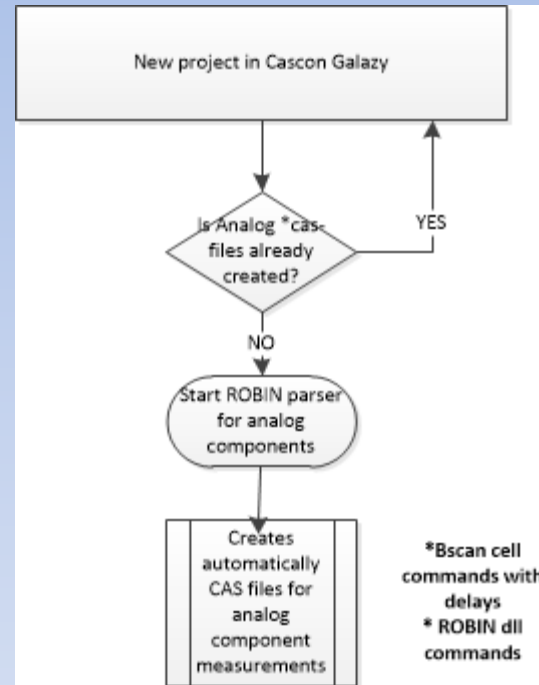
Measure current  
When ROBIN  
interface is called

# First step

- New Cascon project is created normally.
- ROBIN parser interface is executed for analog components. It creates \*.cas-files for analog component measurements



# ROBIN parser interface



Confidential



# Second step: Project Execution

- Cascon project is execute normally. ROBIN analog measurement interface is called via analog component \*.CAS files



# ROBIN interface

UUT: ROBIN  
Test: START\_ROBIN [Stop]  
Batch: TESTISEKVENSSI [Debug]

Serial Number: 8815  
Result: RESULT\_1  
ExitCode:

Batch line: TEST  
Number of DRShits: 0

Board UUT: cmd> EXECUTE\_BATCH running  
TCK: 100.00 kHz >> actual 100.00 kHz

Measurement Interval (ms): 10  
Chart size: 150  
Voltage: 3,4  
remote command: Start

Normal testing [Data from GPIB]

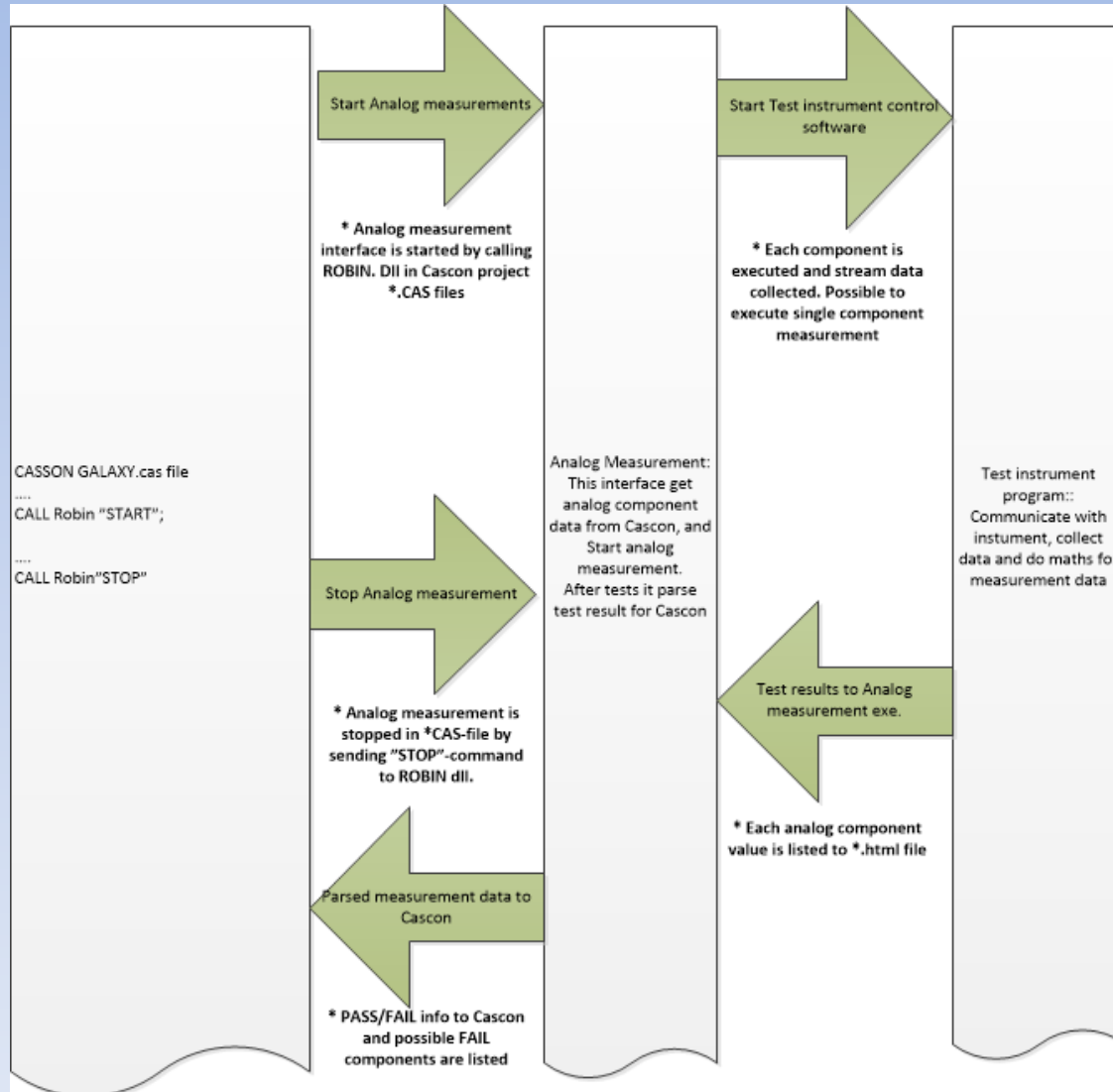
VISA resource name: GPIB0::16::INSTR

GPIB command:  
dmm.tunc = dmm.DC\_CURRENT  
dmm.connect = dmm.CONNECT\_ALL  
MyBuffer = dmm.makebuffer(1)  
dmm.measurecount = 1  
print(dmm.measure())

status: code: 0  
source:

--- STOP MEASUREMENT ---

# ROBIN SW interfaces



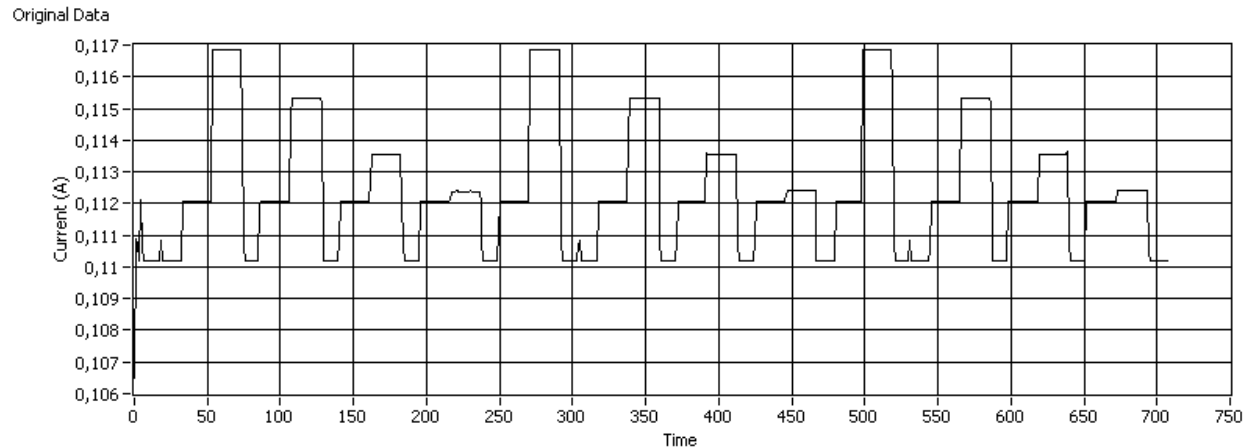
# Final Step: Results

- ROBIN interface send PASS/FAIL information to CASCON.
- Each component value is collected to separate \*.html document



# ROBIN result file

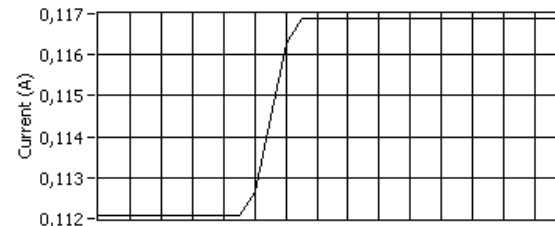
Measured current values



Single component values

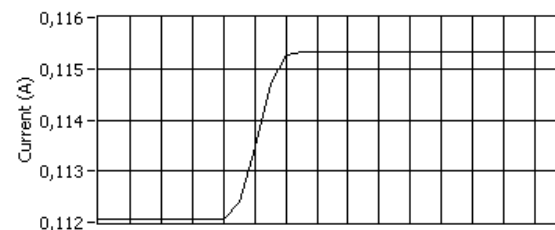
0-level: 0,1120593 A  
1-level: 0,1168680 A  
Resistance: **707 Ohm**

Measurement area



0-level: 0,1120514 A  
1-level: 0,1153428 A  
Resistance: **1033 Ohm**

Measurement area



Measurement area



baas

SOLUTIONS

# Marko Turpeenoja BIO

- Nokia Mobile Phones 2000-2002
  - RF trainee
- Central ostrobothnian polytechnic 2002-2006(Centria Ylivieska)
  - Testing specialist
  - Future testing methods research and project management(Bscan,future RF testing, test buses PXI,LXI etc.)
  - Testing techniques lecturer (Labview and TestStand)
- Elektrobit 2006-2010
  - Senior testing specialist
  - Testing solutions for different radio interfaces
  - Production test manager
- Entrepreneur 2009-



# BASS Background

- Our business began in 2009 for commercial applications in Labview implementation. (**B**uilding **A**utomation **S**oftware **S**olutions)
  - Innovative energy-saving software for real estate remote control systems
  - The first prize in Energy Nero Competition organized by YIT, inventor Foundation and Aalto university
- Currently providing testing solutions for ITC, Health care and basic industry. Customers are top in their field internationally.
- Located at Oulu, but our solutions are used around the world.
- Göpel Gate Partner



# Business Areas

## Testing services and Products

- Automated Test equipment for integrated embedded systems including RF
- Boundary Scan test application for HW and RF
- Patented ROBIN product for extended R&D / production testing
- Experienced Project management with wide contact network to main Test tool suppliers with specialist

## Software development services

- National LabView and TestStand applications, Visual Studio
- machine vision applications
- Siemens, Panasonic programmable logic applications

## Process excellence services

- Design for Excellence
- New Project Introduction
- Consultation for Production methods / tools



# Contacts

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We Make it happen!