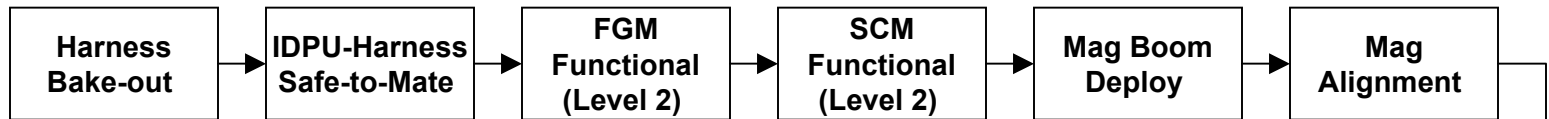


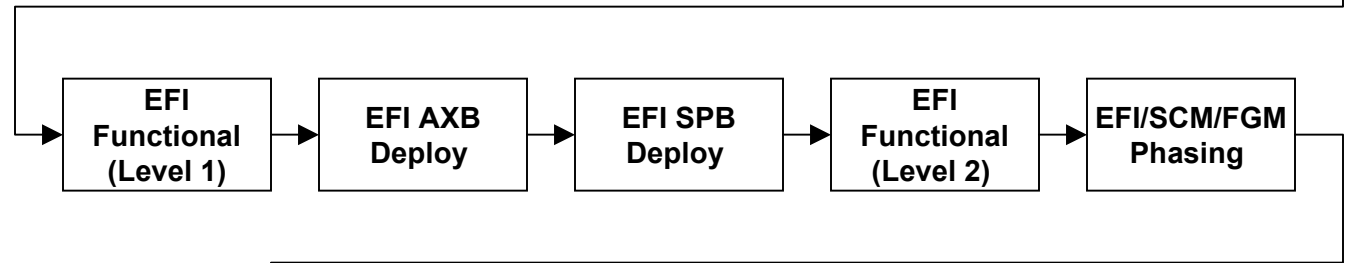
Instrument Payload I&T Flow



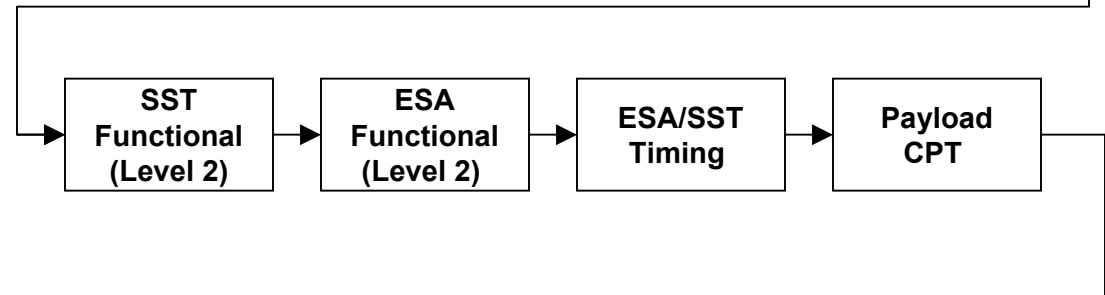
G INTEGRATION



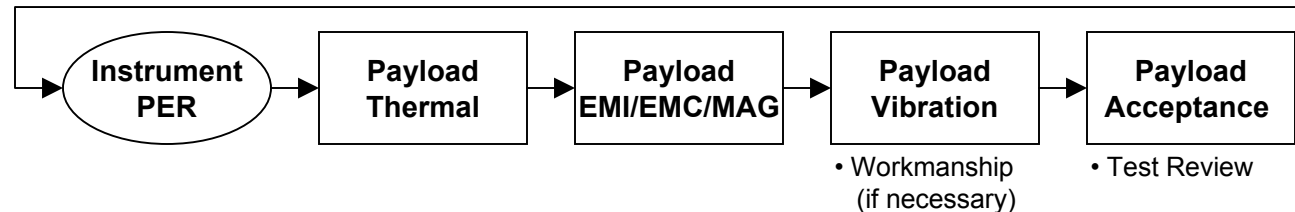
INTEGRATION

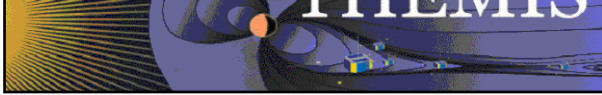


/SST INTEGRATION



LOAD ENVIRONMENTAL



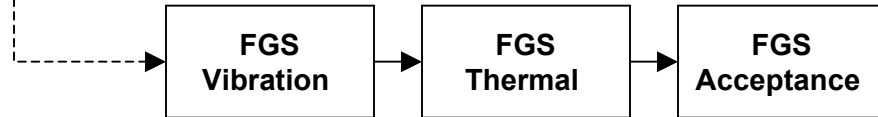


M BOOM (FGB)



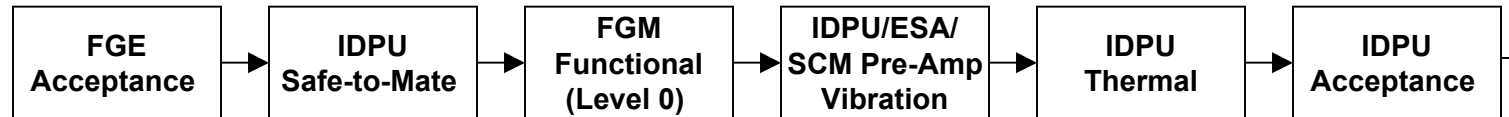
- 1 cycle T-V
- Hot/Cold Deploy
- Inspection
- Mass Properties
- DC Magnetics

M SENSOR (FGS)



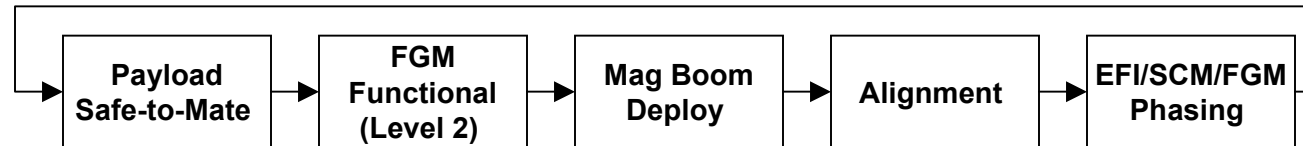
- Boom Levels
- 2 cycles T-V
- Bake-out +60C
- Inspection
- Mass Properties
- DC Magnetics

M ELECTRONICS (FGE)



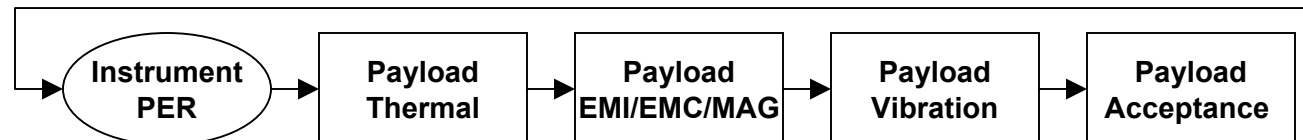
- Inspection
- Backplane
- Without FGS
- 2 cycles T-V
- Bake-out +60C
- FGS Functional (Level 1)
- Inspection
- Mass Properties
- DC Magnetics

M / PAYLOAD INTEGRATION

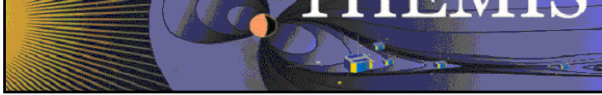


- Harness
- Sensor in TCU

LOAD ENVIRONMENTAL

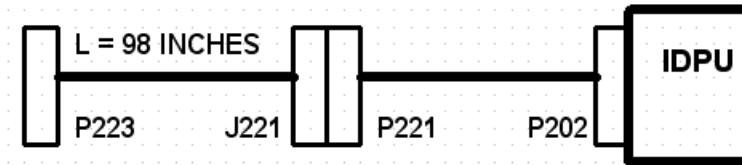


- 6 cycles T-V
- FGM Functional (Level 1)
- Workmanship (if necessary)
- Test Review



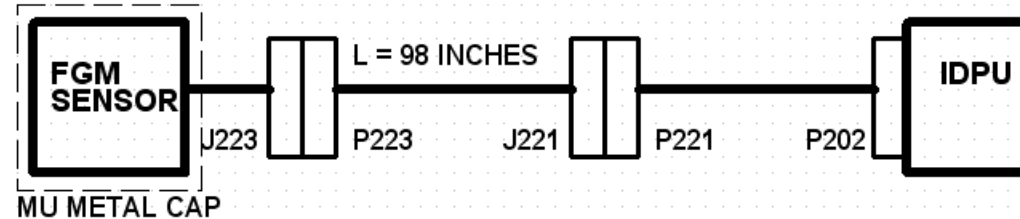
FGM Level 0 – Without Sensor (Aliveness)

- B-field about zero if FGM in Cal Mode (preferred mode)
- B-field saturated if feedback is closed
- Interface full functional
- Power consumption reduced by about 200mW



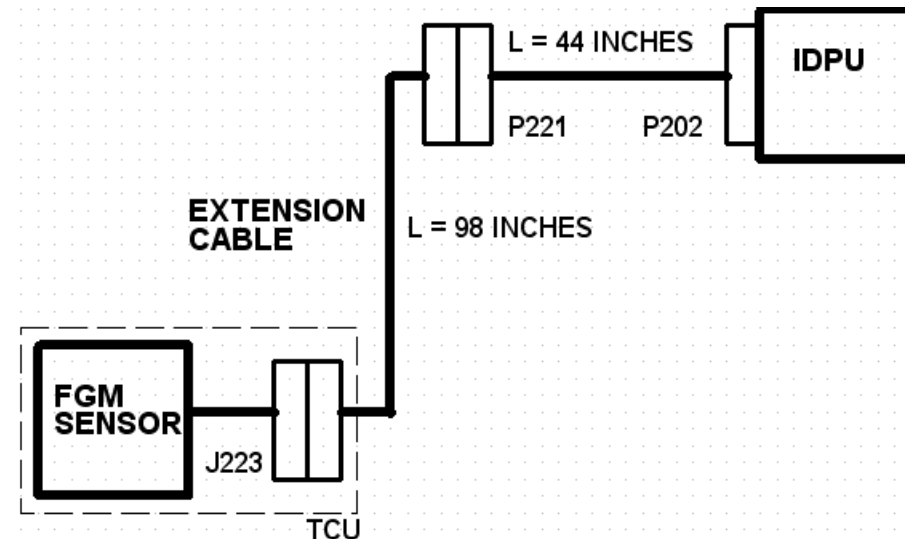
FGM Level 1 – Sensor in Mu-metal cap (Limited Performance Test)

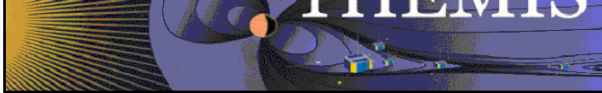
- B-field about 10,000nT, Noise about 1nT
- Full functionality, but B-field not representative



FGM Level 2 – Sensor in TCU (Comprehensive Performance Test)

- B-field < 10nT, Noise < 10pT/sqrt (Hz)
- B-field has to be available in full quality
- Delta in calibration coefficients known





M BOOM (SCB)

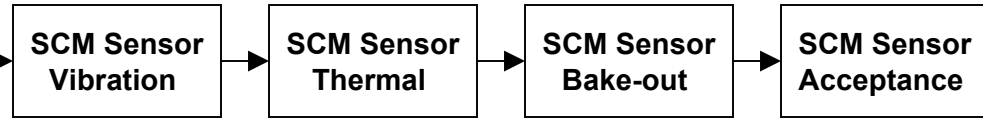


- 14.1g RMS

- 1 cycle T-V
- Hot/Cold Deploy

- Inspection
- Mass Properties
- DC Magnetics

M SENSOR (SCM)



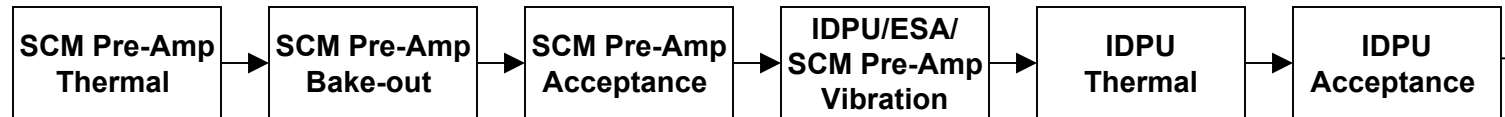
- Boom Levels

- 3 cycles (air)

- Bake-out +60C

- Inspection
- Mass Properties
- DC Magnetics

M PRE-AMP



- 3 cycles (air)

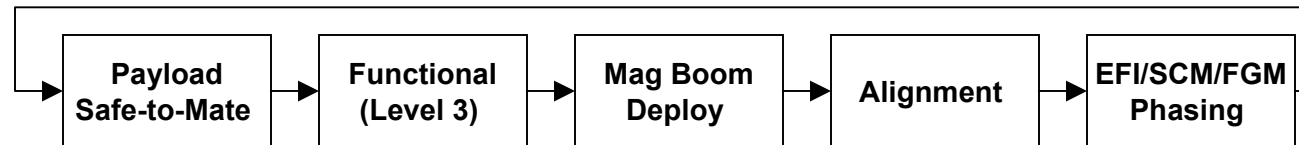
- Bake-out +60C

- Inspection
- Mass Properties
- DC Magnetics

- 2 cycles T-V
- Bake-out +60C
- SCM Functional (Level 1)

- Inspection
- Mass Properties
- DC Magnetics

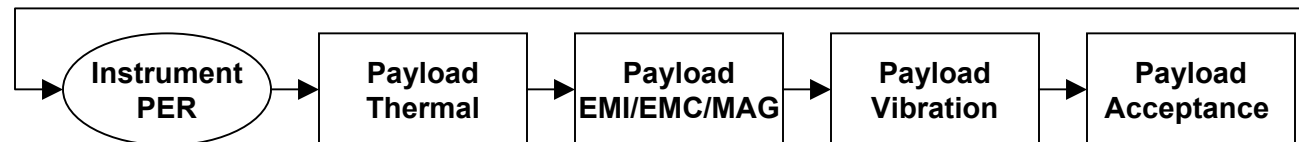
M / PAYLOAD INTEGRATION



- Harness

- SCM Sensor in Mu Metal

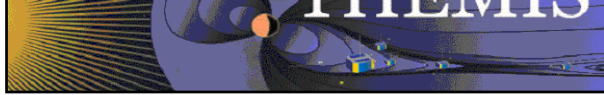
LOAD ENVIRONMENTAL



- 6 cycles T-V
- SCM Functional (Level 2)

- Workmanship (if necessary)

- Test Review

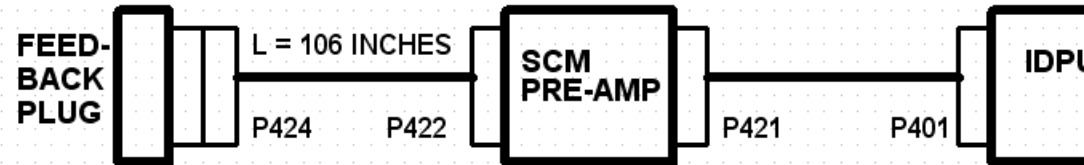


SCM Test Configurations



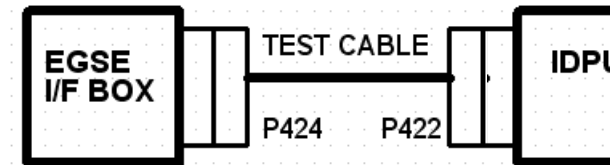
SCM Safety – Feedback Plug

- Required when SCM Pre-Amp is powered and sensor is not connected



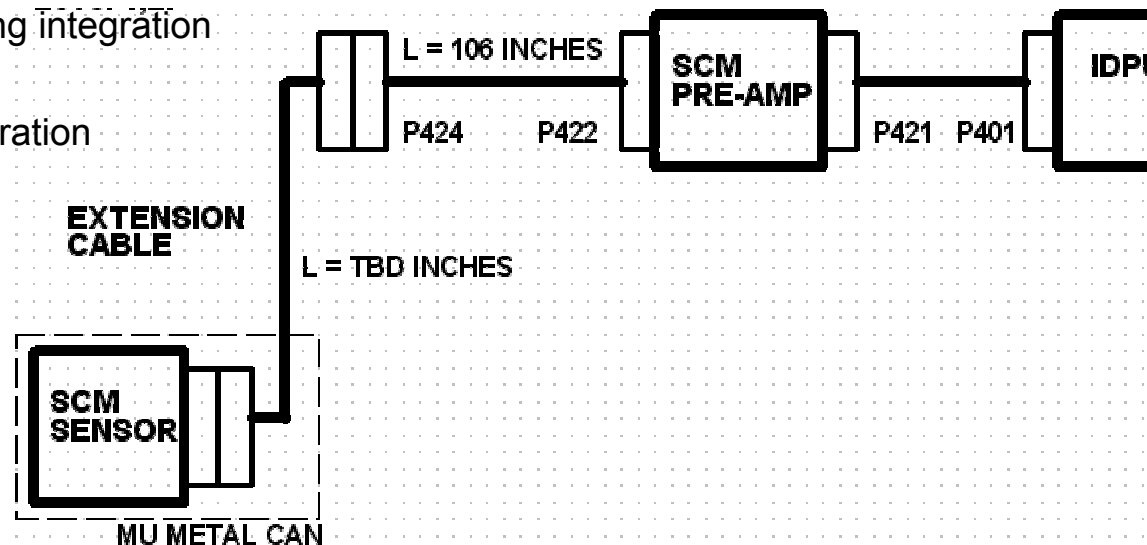
SCM Level 0 – With SCM EGSE I/F Box (Aliveness)

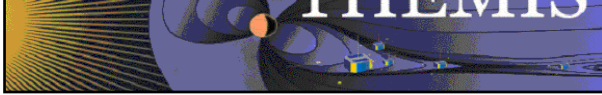
- Same Power, Command, Analog output interfaces
- Power and Cal Mode identification by LED
- Cal Signal re-injected to the input
- Signal generator connected to input
- Validation by analysis of data



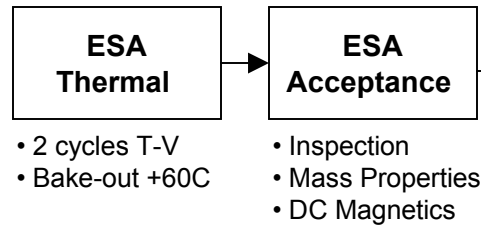
SCM Level 1, 2 – Sensor in Mu Metal Box (Comprehensive Performance Test)

- Sensor kept in mu metal box during integration
- Axis identification
- Re-verification of end-to-end calibration
- Phase relation
- Check of conducted noise
- SCM/EField timing reference

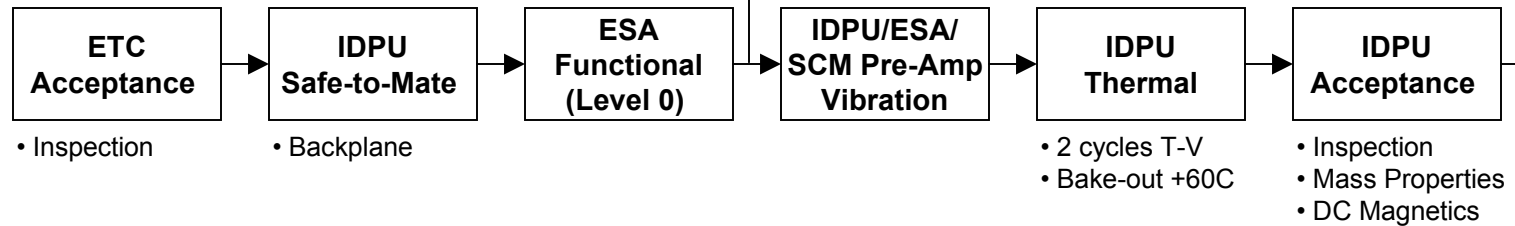




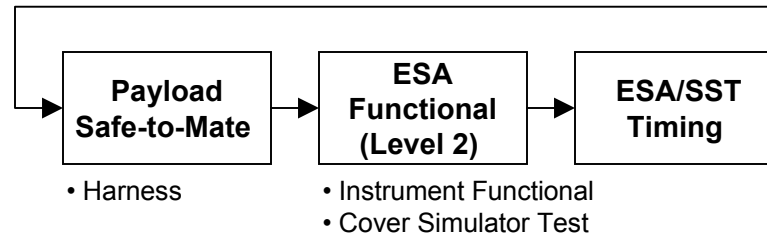
SENSOR



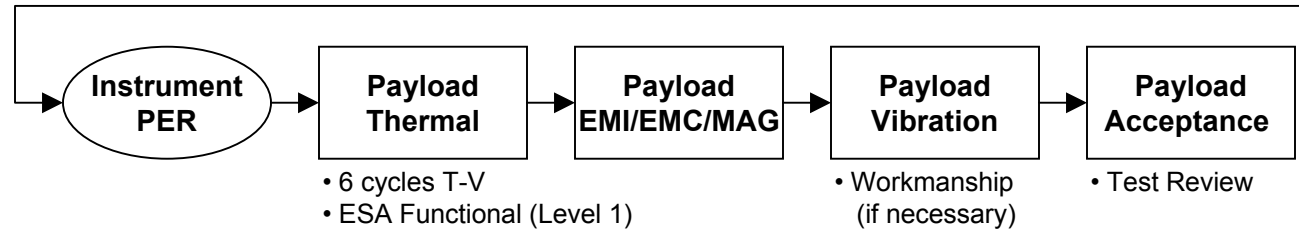
ELECTRONICS (ETC)

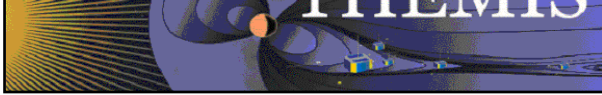


/ PAYLOAD INTEGRATION



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SENSOR



- 2 cycles T-V
- Bake-out +60C

- Inspection
- Mass Properties
- DC Magnetics

ELECTRONICS
(P and ETC)



- Inspection



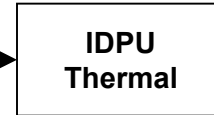
- Inspection



- Backplane



- Without SST



- 2 cycles T-V
- Bake-out +60C

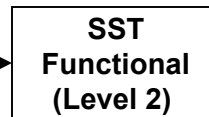


- Inspection
- Mass Properties
- DC Magnetics

/ PAYLOAD INTEGRATION



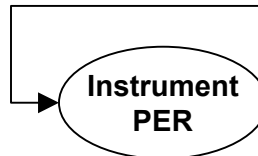
- Harness



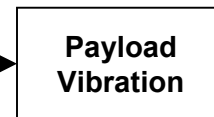
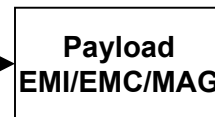
- SST w/ Radiation Source
- Attenuator Test



LOAD ENVIRONMENTAL



- 6 cycles T-V
- SST Functional (Level 1)



- Workmanship (if necessary)



- Test Review

