

Integration Test Report

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 MeerKAT Extension

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Document Approval

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Publish in eB and Distribute to all signatories on the document and the relevant line managers.

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Glossary

B-Engine	The DSP software or bitstream responsible for beamforming.
F-Engine	The DSP software or bitstream responsible for channelisation.
F-X Corre-	A correlator architecture where digitiser data is first channelised (F) per-receptor, and then cross-
lator	correlation (X) is calculated per-frequency-channel.
X-Engine	The DSP software or bitstream responsible for correlation.

1 Test Configuration

Configuration Parameter	Value
Test Suite Git Info	0.2-279-g3628032-dirty
Some other software version	x.y.ZZ

2 Result Summary

Test	Result	Duration
Channelisation	passed	4.010 s
Delay Tracking	failed	5.011 s
Baselines	failed	2.006 s

3 tests run, with 1 passing and 2 failing.

Total test duration: 11.027 s

3 Detailed Test Results

3.1 Channelisation

Channelisation Test.

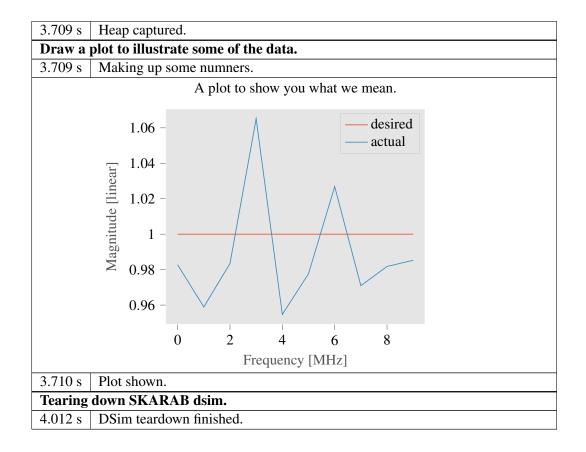
Fulfils requirement ABC.

Outcome: PASSED Test start time: 09:39:13 Duration: 4.010 s seconds

Test Configuration		
Channels	4096	
Antennas	13	
Bandwidth	1712000000.0	

3.1.1 Procedure

Setting 1	Setting up SKARAB Dsim		
0.701 s	skarab020406, firmware 0.1		
Select a	random channel.		
0.705 s	Random channel selected: 42		
Sweep fi	Sweep frequencies across that channel and capture heaps.		
0.705 s	Setting Dsim frequency to 1		
1.706 s	Heap captured.		
1.706 s	Setting Dsim frequency to 2		
2.707 s	Heap captured.		
2.707 s	Setting Dsim frequency to 3		



3.2 Delay Tracking

Delay tracking test.

Fulfils requirement FGD.

Outcome: FAILED Test start time: 09:39:17 Duration: 5.011 s seconds

Test Configuration		
Channels	4096	
Antennas	13	
Bandwidth	1712000000.0	
Enthusiasm	Low	

3.2.1 Procedure

Setting up SKARAB Dsim		
0.701 s	skarab020406, firmware 0.1	
Set delay model on Antenna 1		
0.702 s	Setting delay model on antenna 1	
1.703 s	Antenna 1 delay model confirmed as 345.	
Capture 3 heaps, compare the phase, check for within spec.		
2.704 s	Captured heap 1	

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3.706 s	Captured heap 2	
4.707 s	Captured heap 3	
Tearing down SKARAB dsim.		
Icaring	down SKARAD ushii.	

AssertionError: Phase not within spec!

assert 2 < 1

3.3 Baselines

Baseline test.

Blurb.

Fulfils another requirement.

Outcome: FAILED Test start time: 09:39:22 Duration: 2.006 s seconds

Test Configuration			
Setup	Arbitrary		

3.3.1 Procedure

Setting up SKARAB Dsim		
0.701 s	skarab020406, firmware 0.1	
Set something.		
1.704 s	Checking that something is set.	
1.704 s	Confirmed, something is set properly.	
Tearing down SKARAB dsim.		
2.007 s	DSim teardown finished.	

assert 9 < 8