REPORT OF 040303

1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA_WVS_1P) products,
which are the available few hours after the acquisition, on the high rate browse (BP) products
and on the Module Stepping (MS) product.

2 - Summary

2.1 - Instrument Unavailability

ASAR Antenna reset on 03-MAR-2004 10:00:57 to 10:06:51 due to out of limit temperatures detected on tile D2.

2.2 - Browse Visual Inspection

No anomalies observed on available browse products before and after antenna reset.

2.3 - Data Analysis

-The OOL temperature detected on tile D2 do not cause a corruption of the internal calibration pulses.
-Stable raw data statistics.

-Nominal Doppler behavior.

3 - Module Stepping Mode

The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

- ASA_MS__0PNPDK20040302_194657_000000152024_00414_10488_0245.N1
- ASA_MS__0PNPDK20040302_194817_000000152024_00414_10488_0246.N1

Polarisation	Start Time
V	20040302 194817
H	20040302 194657

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
☒	☒
☒	☒
☒	☒
☒	☒

MSM in H/H polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
☒	☒
☒	☒
☒	☒
☒	☒

4 - Internal calibration Results

No anomalies observed.

4.1 - Daily statistics

row	stat	AveP1	AveP2	AveP3

3	mean	-3.61973	-22.3899	-8.13621
	stdev	0.00600327	0.0779005	0.00326826
24	mean	-5.06067	-21.0415	-8.13621
	stdev	0.0121130	0.0736364	0.00326826

4.2 - Cyclic statistics

row	stat	AveP1	AveP2	AveP3
3	mean	-3.63897	-22.3955	-8.13193
	stdev	0.00642519	0.0780915	0.00302902
24	mean	-5.10354	-21.0664	-8.13193
	stdev	0.0144745	0.0749749	0.00302902

4.3 - cal pulses monitoring (all rows)

5 - RAW data statistics

No anomalies observed.

5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000453285
	stdev	2.58089e-07
MEAN Q	mean	0.000434899
	stdev	2.97737e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B

STDEV I	mean	0.123556
	stdev	0.00123798
STDEV Q	mean	0.123786
	stdev	0.00125150

5.3 - Gain imbalance I/Q

6 - Wave Doppler Analysis

No anomalies observed in Doppler evolution.
Doppler analysis performed over the last 35 days.

6.1 - Unbiased Doppler Error

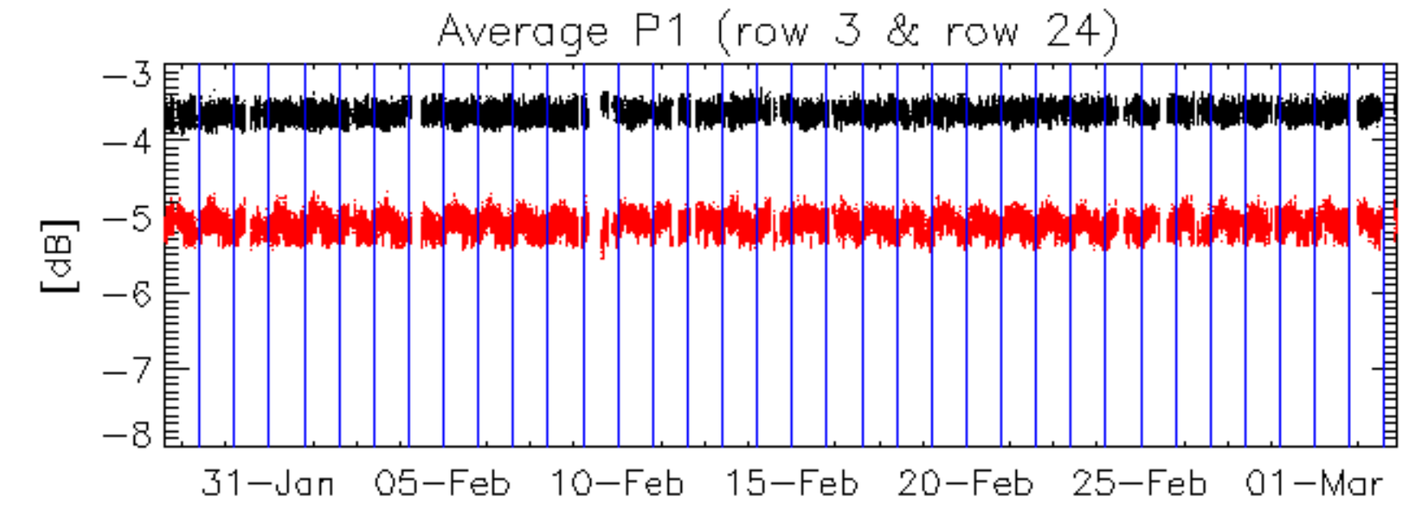
Evolution of unbiased Doppler error (Real - Expected)
Acsending
Descending

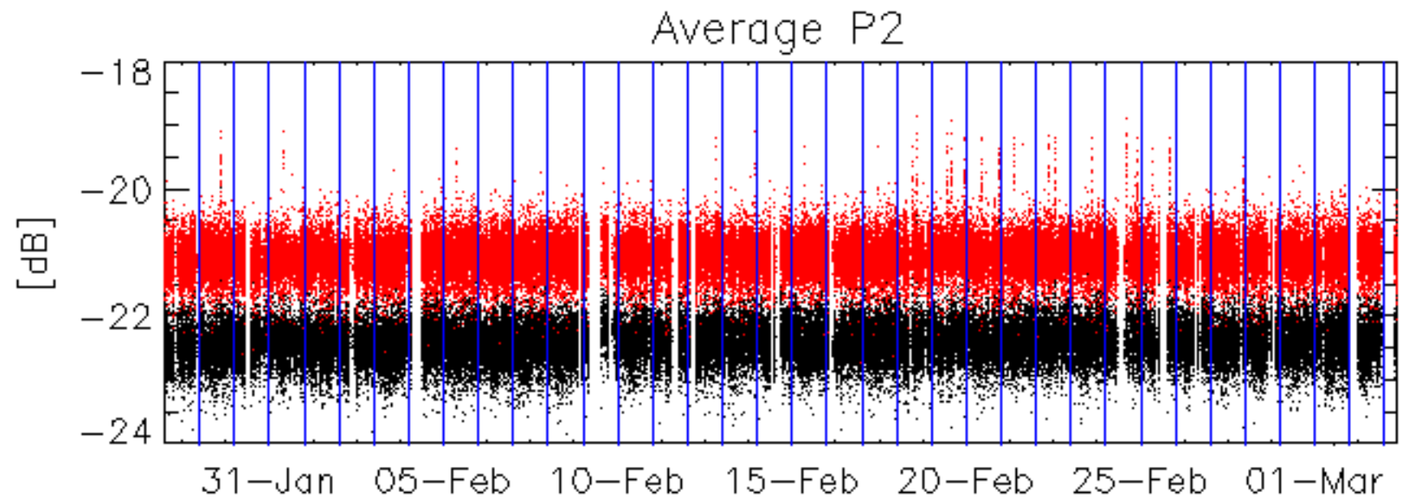
6.2 - Absolute Doppler

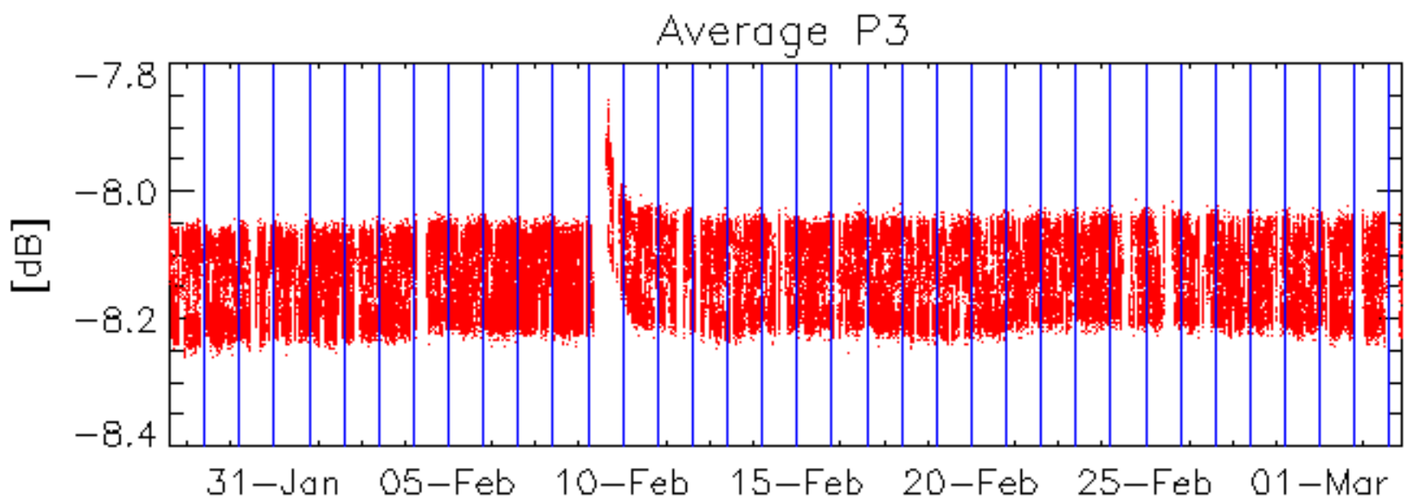
Evolution of Absolute Doppler
Acsending
Descending

6.3 - Doppler evolution versus ANX

Evolution Doppler error versus ANX



Average P1 (row 3 & row 24)
[dB]
−3
−4
−5
−6
−7
−8
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
01−Mar

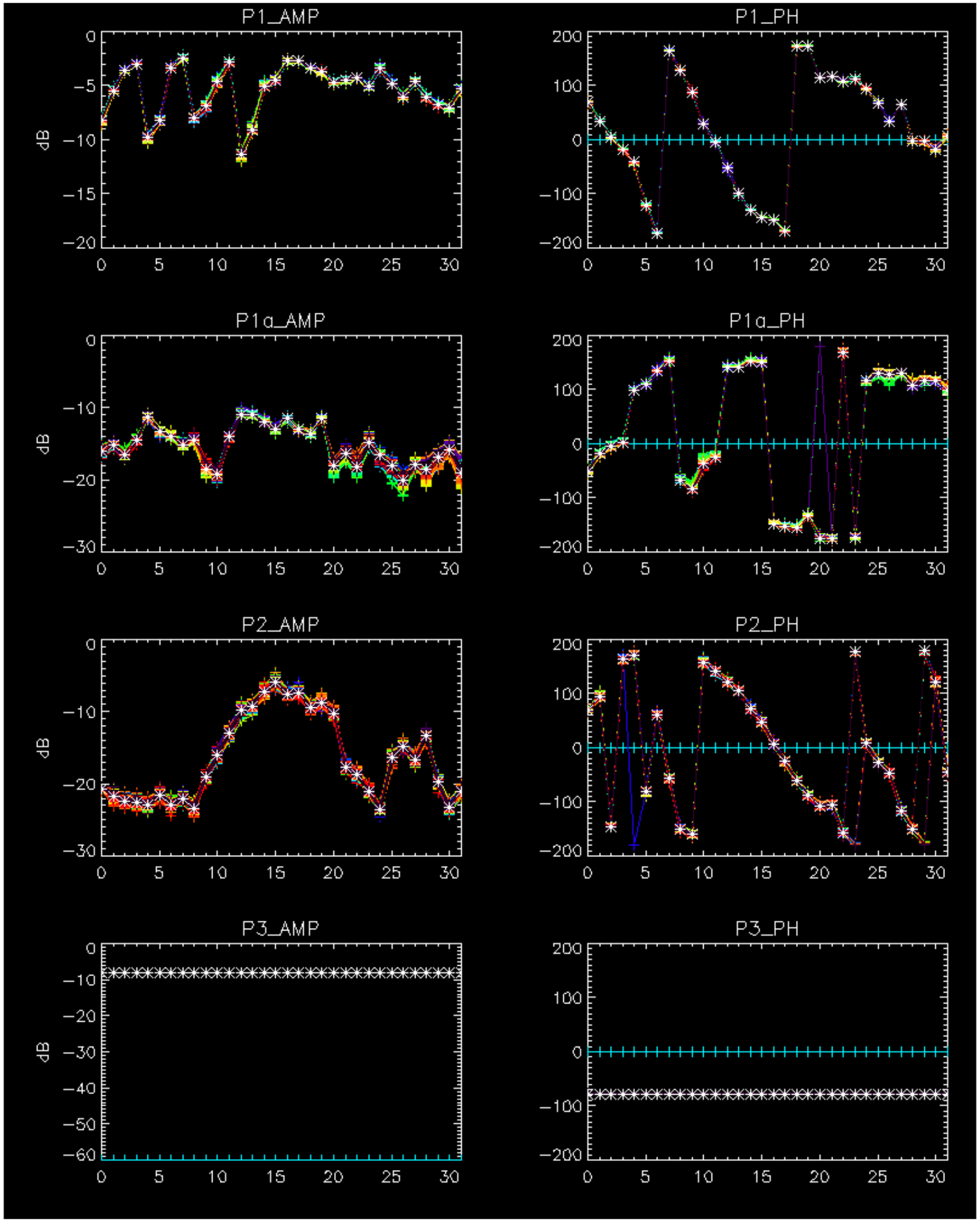

Average P2
[dB]
−18
−20
−22
−24
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
01−Mar


Average P3
[dB]
−7.8
−8.0
−8.2
−8.4
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
01−Mar

Average P1 (row 3 & row 24)
[dB]
−2
−4
−6
−8
−10
06
09
12
15
18
21
00
03
06
03−Mar
Average P2
[dB]
−18
−20
−22
−24
06
09
12
15
18
21
00
03
06
03−Mar
Average P3
[dB]
−7.8
−8.0
−8.2
−8.4
06
09
12
15
18
21
00
03
06
03−Mar

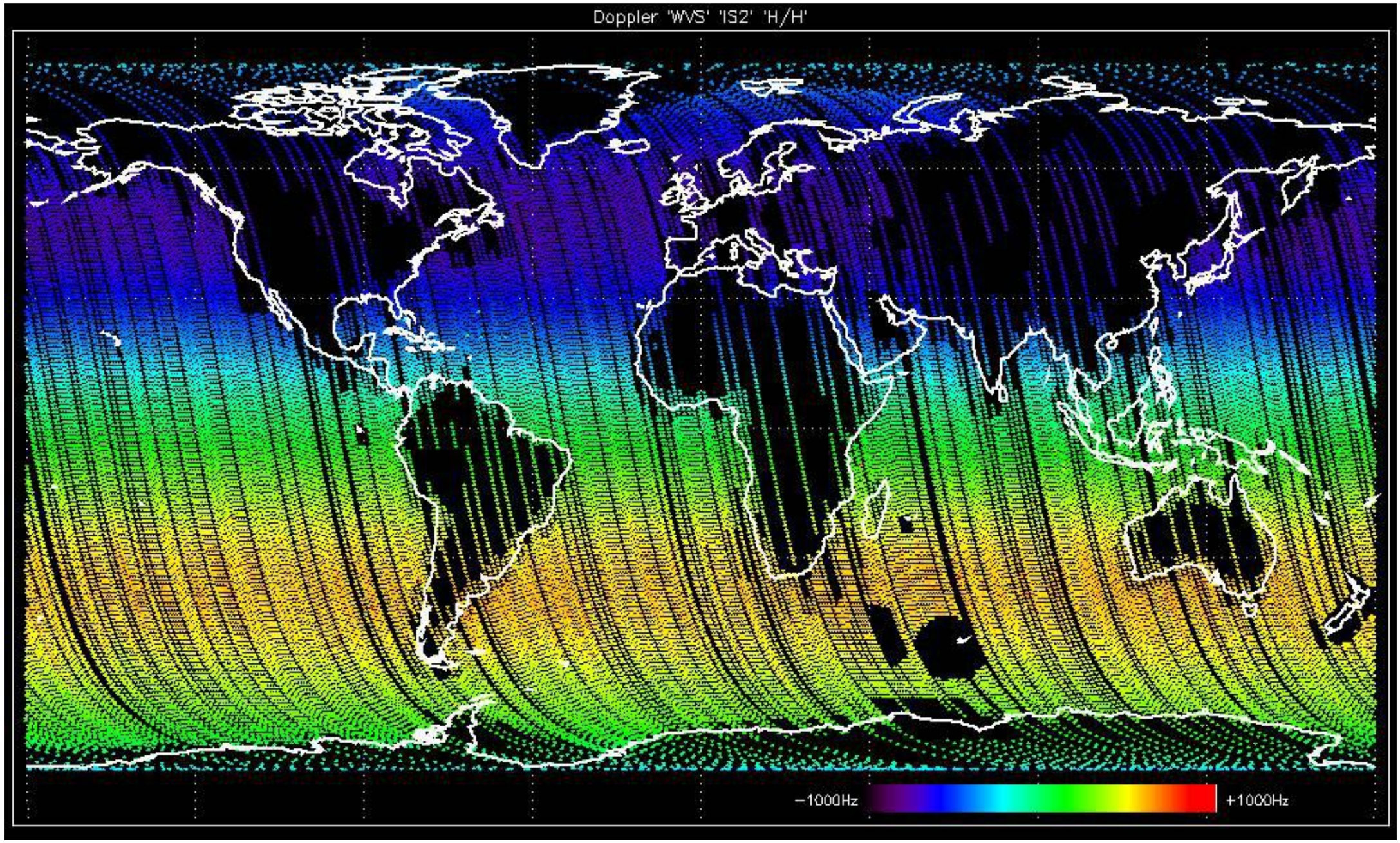
No anomalies observed on available browse products before and after antenna reset.

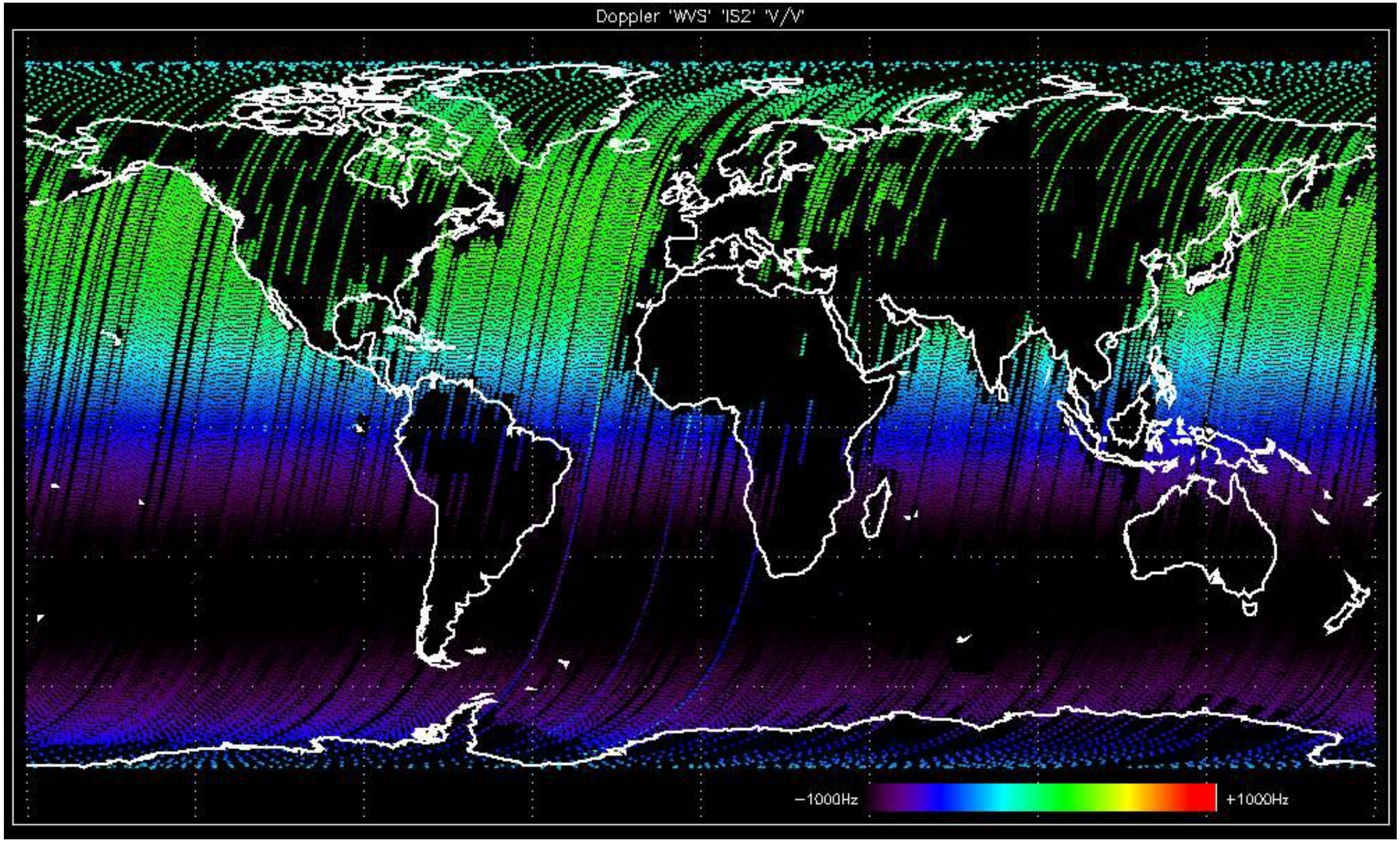
No anomalies observed.

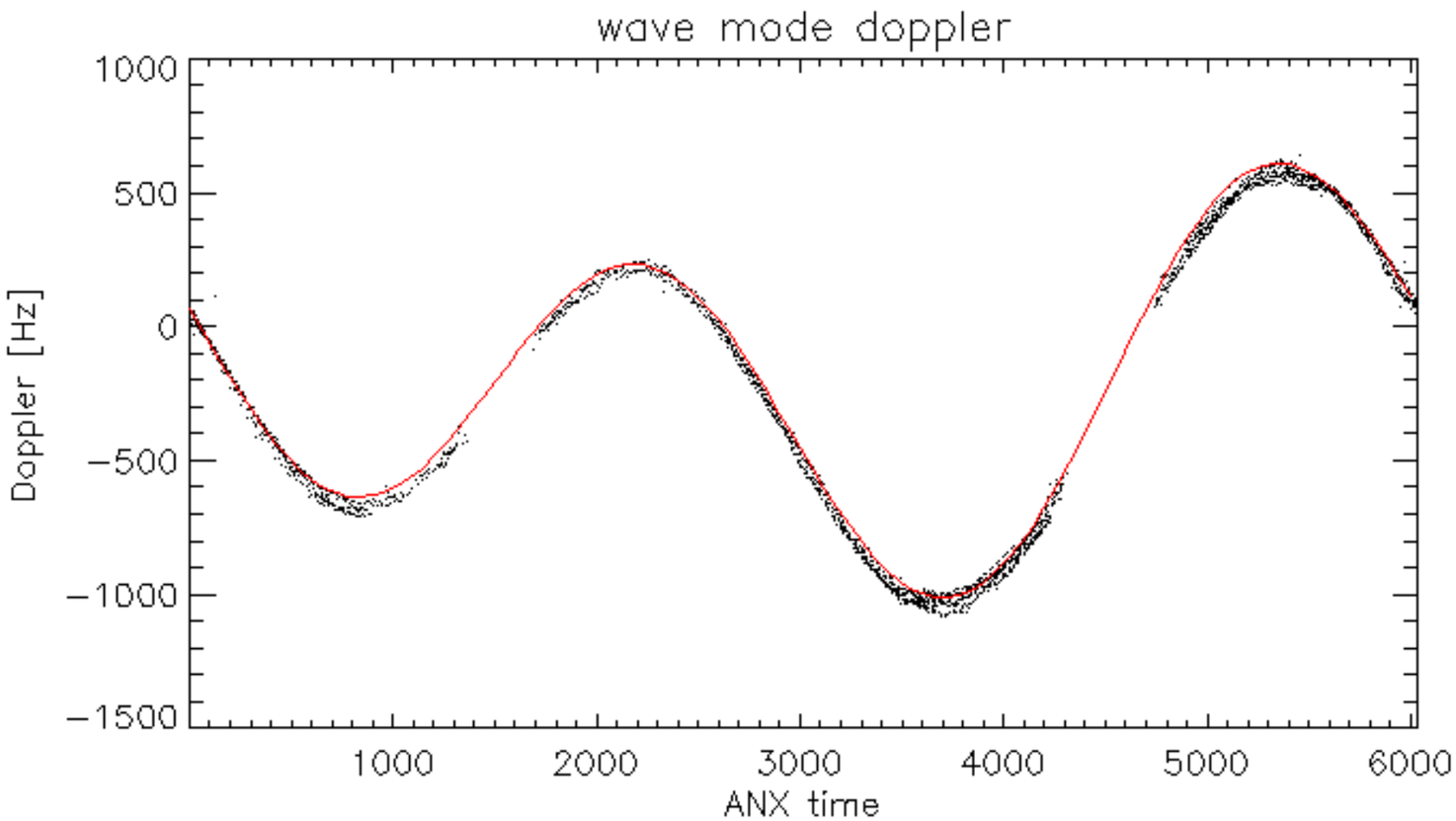

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

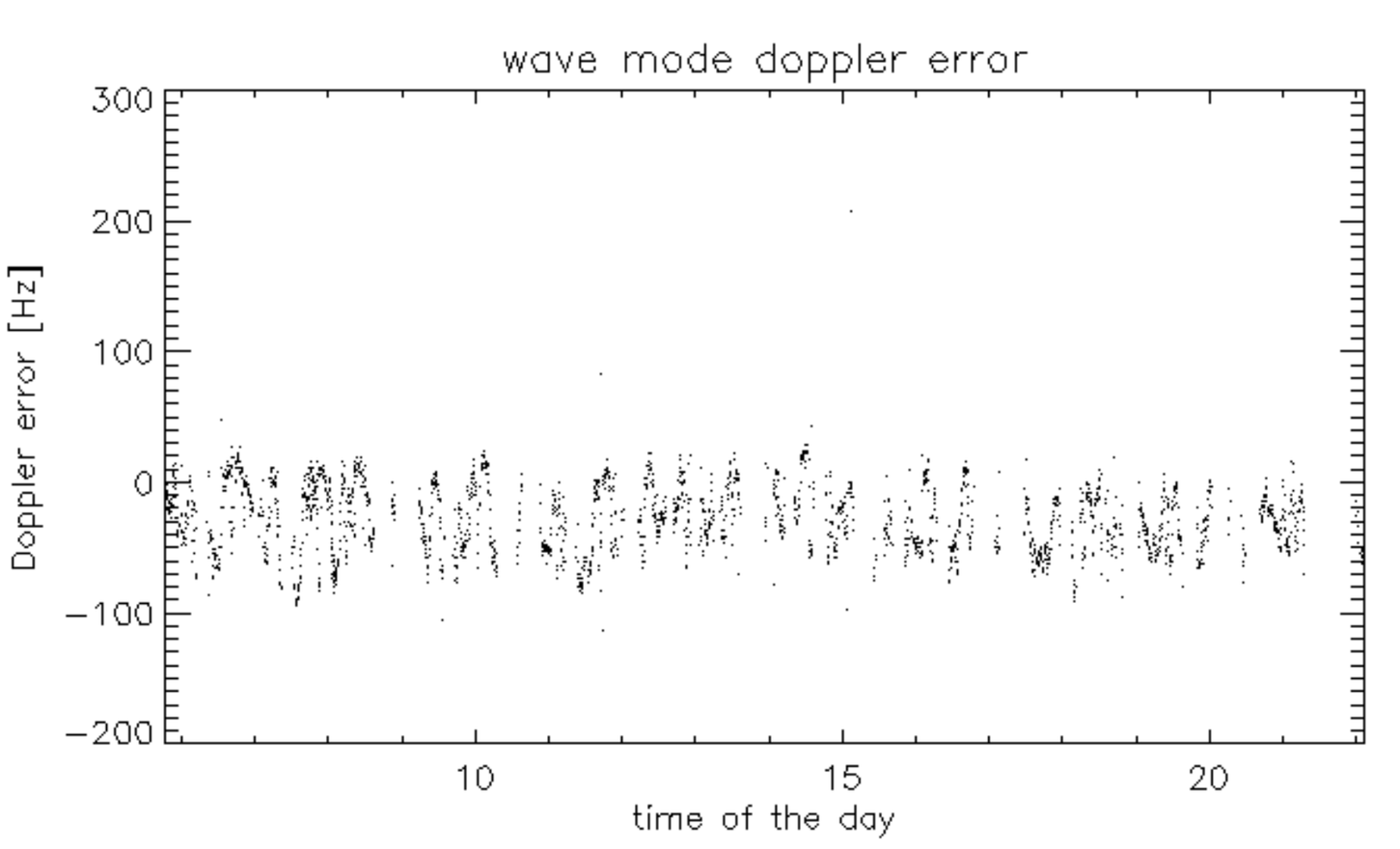
-The OOL temperature detected on tile D2 do not cause a corruption of the internal calibration pulses.
-Stable raw data statistics.
-Nominal Doppler behavior.

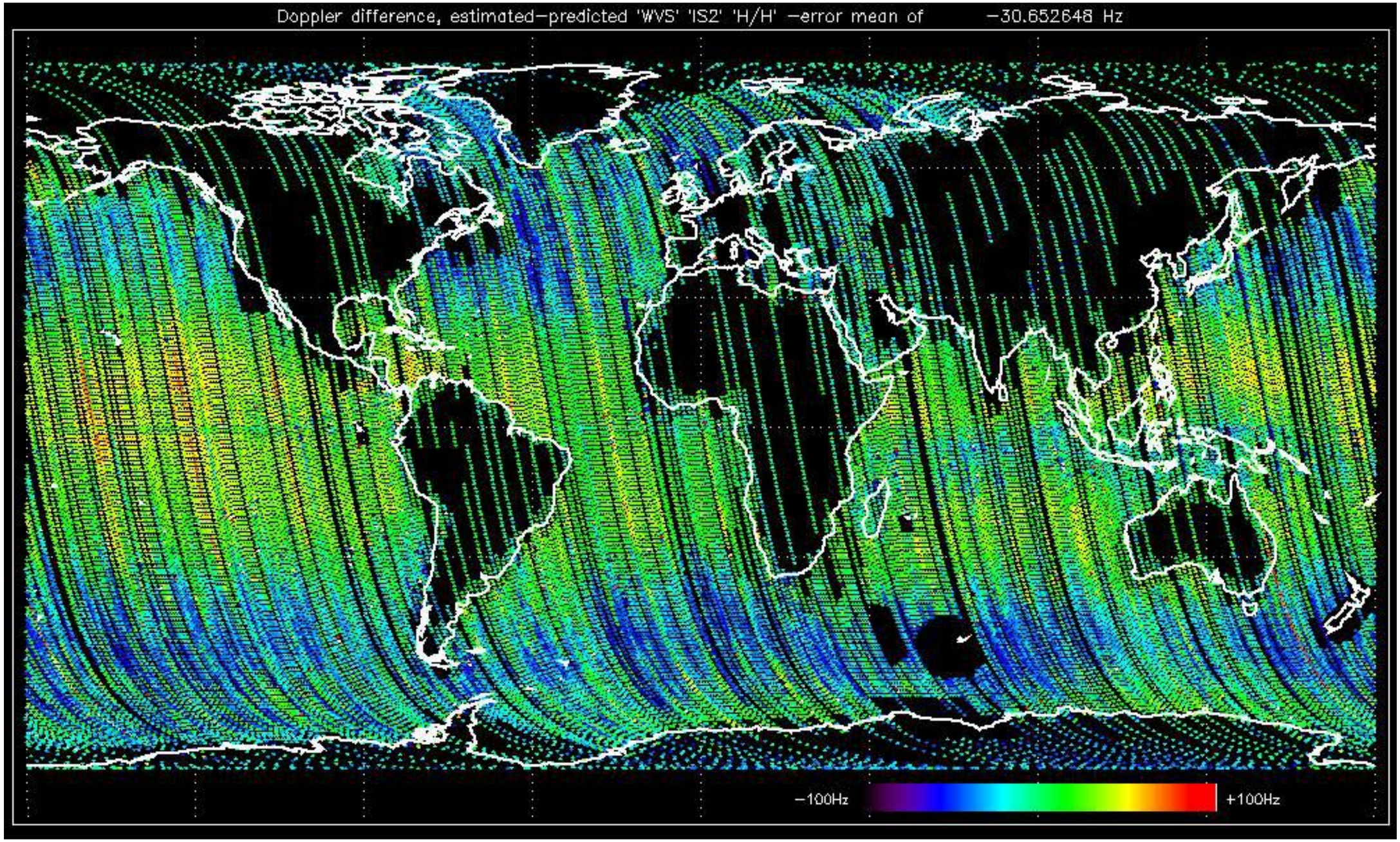
No anomalies observed in Doppler evolution.
Doppler analysis performed over the last 35 days.

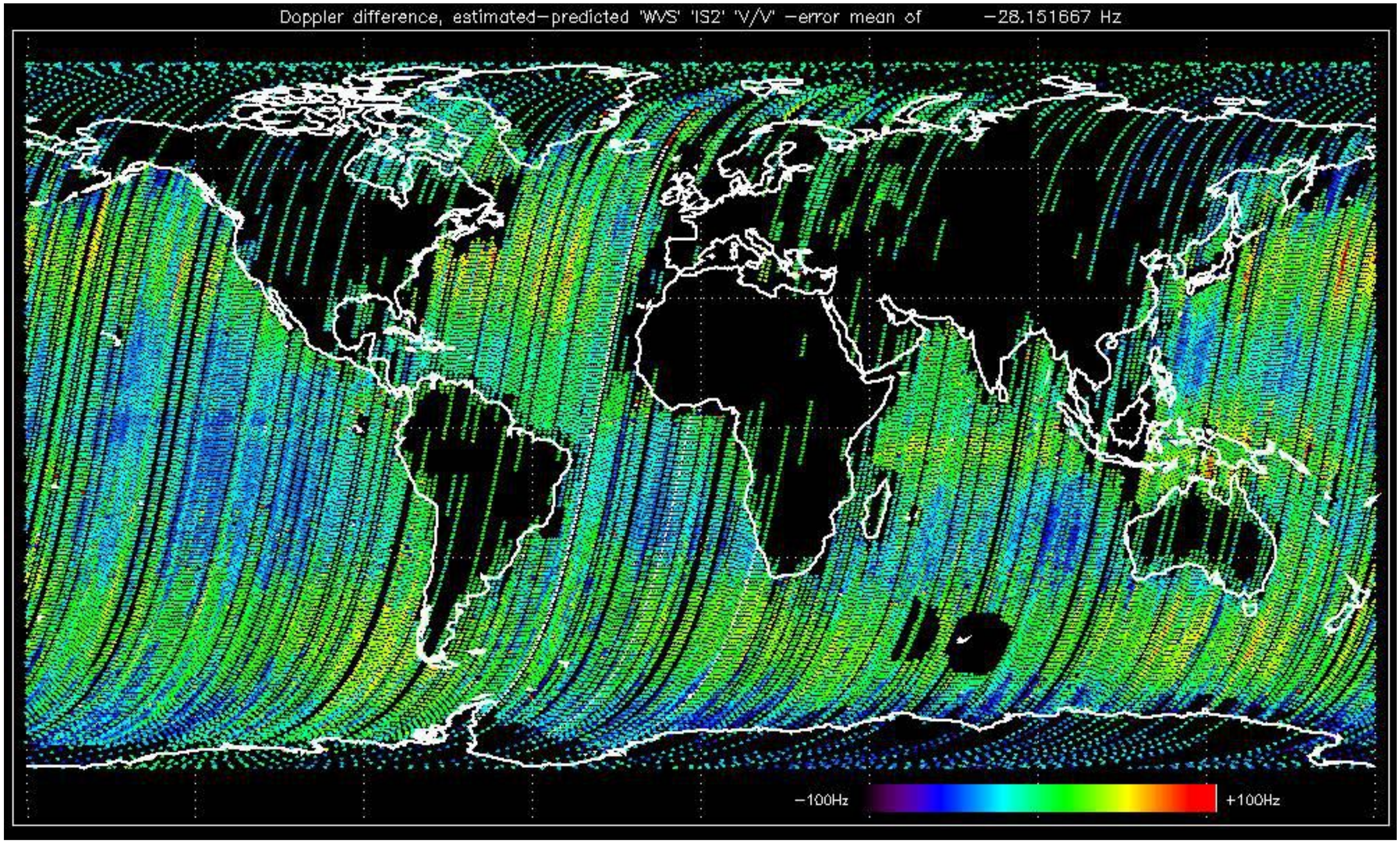

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz


Doppler 'WVS' 'IS2' 'V/V'
−1000Hz
+1000Hz


wave mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
1000
2000
3000
4000
5000
6000
ANX time


wave mode doppler error
Doppler error [Hz]
300
200
100
0
−100
−200
10
15
20
time of the day

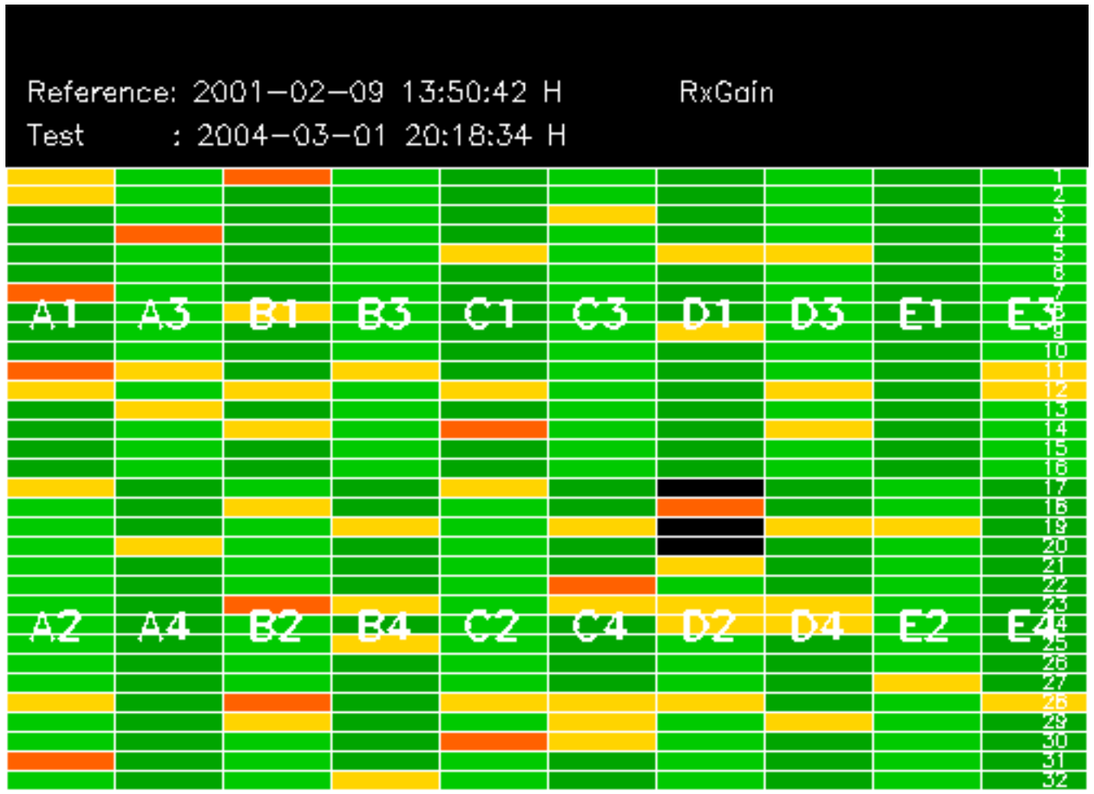

Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of -30.652648 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −28.151667 Hz
−100Hz
+100Hz

The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

- ASA_MS__0PNPDK20040302_194657_000000152024_00414_10488_0245.N1
- ASA_MS__0PNPDK20040302_194817_000000152024_00414_10488_0246.N1

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-03-01 20:18:34 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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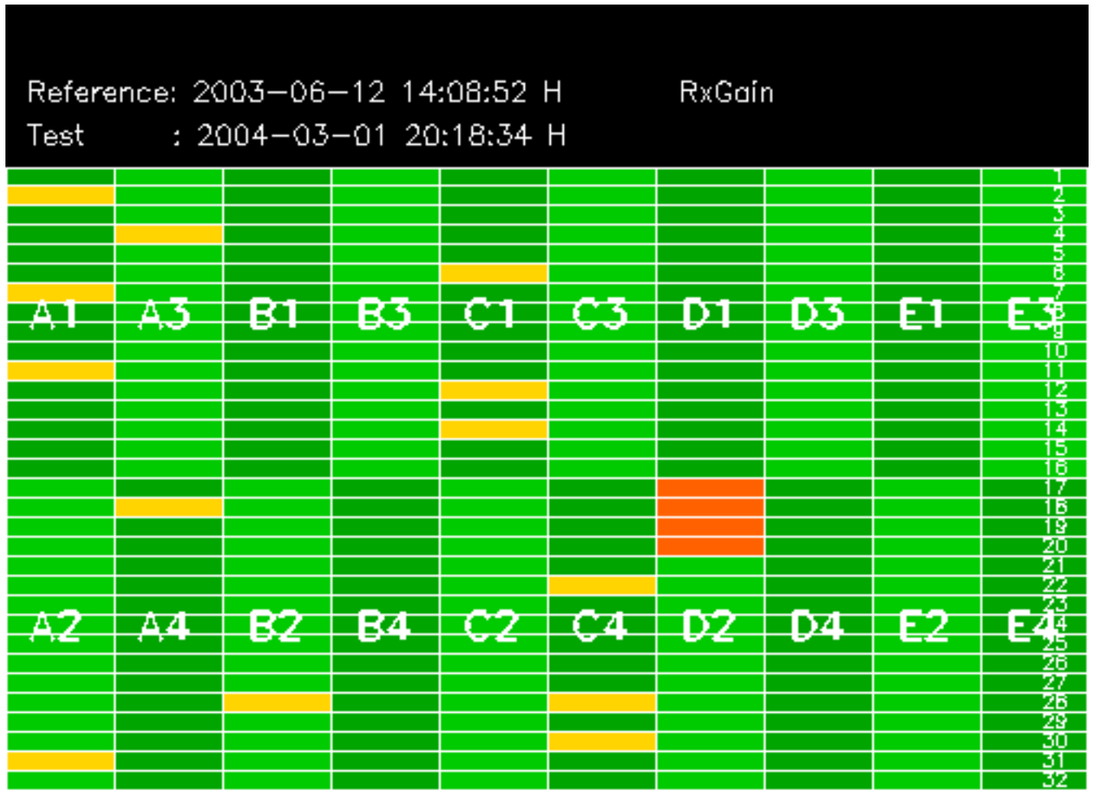
Reference: 2003-06-12 14:08:52 H
Test : 2004-03-01 20:18:34 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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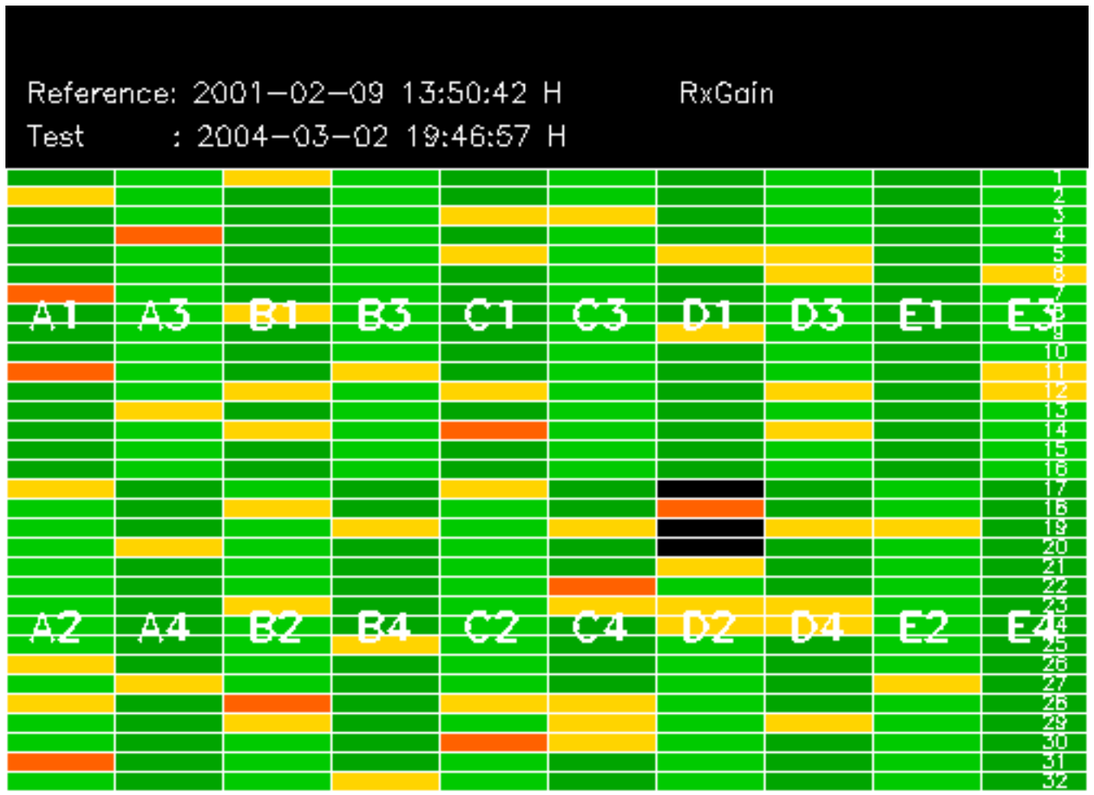
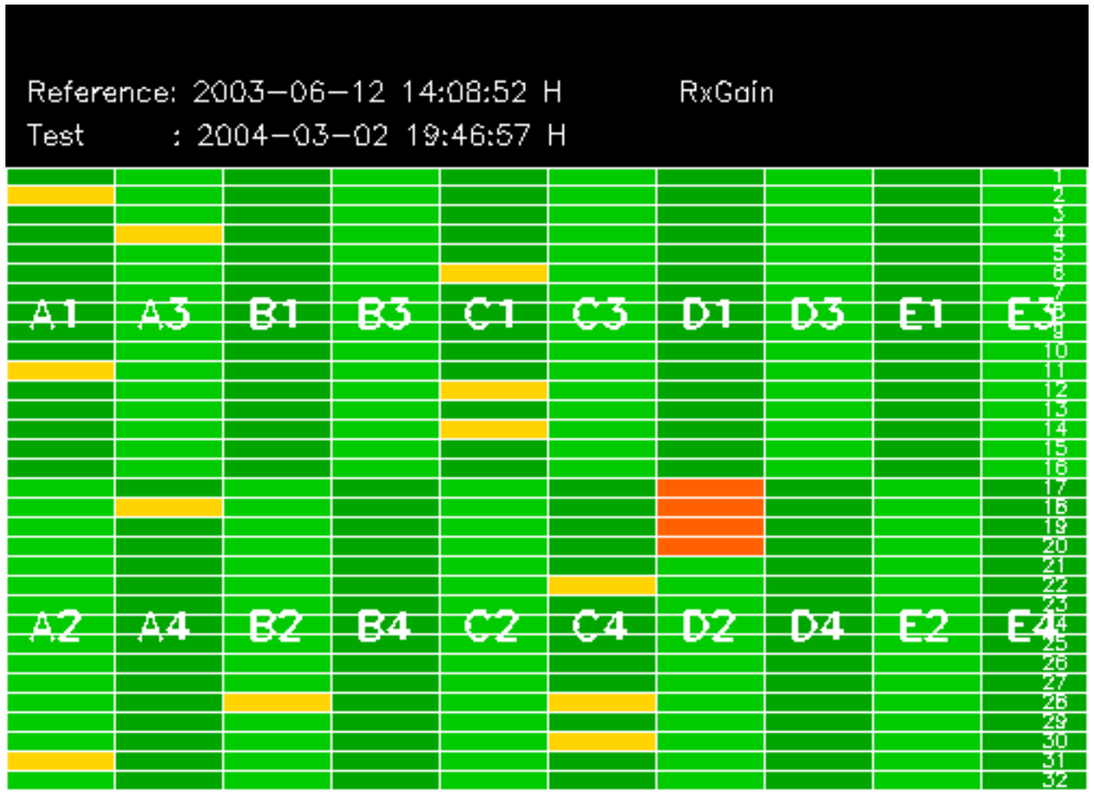

Reference: 2001-02-09 13:50:42 H
Test : 2004-03-02 19:46:57 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-02 19:46:57 H
RxGain
A1
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B1
B3
C1
C3
D1
D3
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E3
A2
A4
B2
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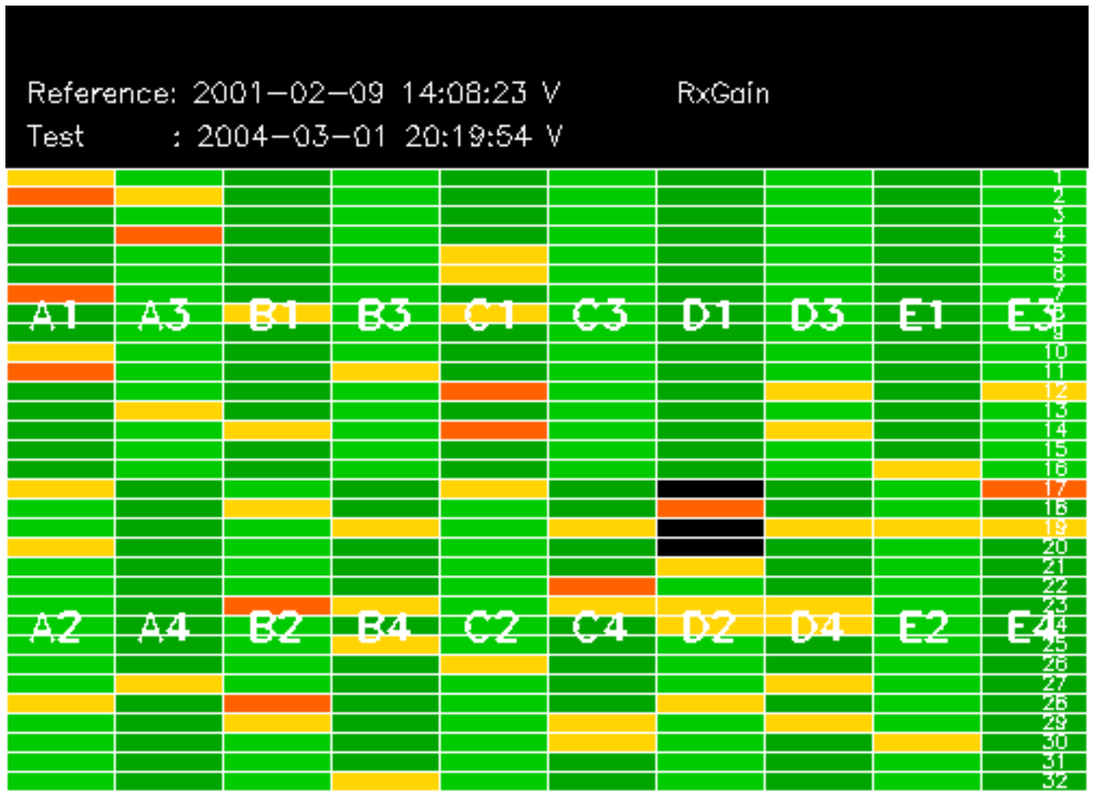
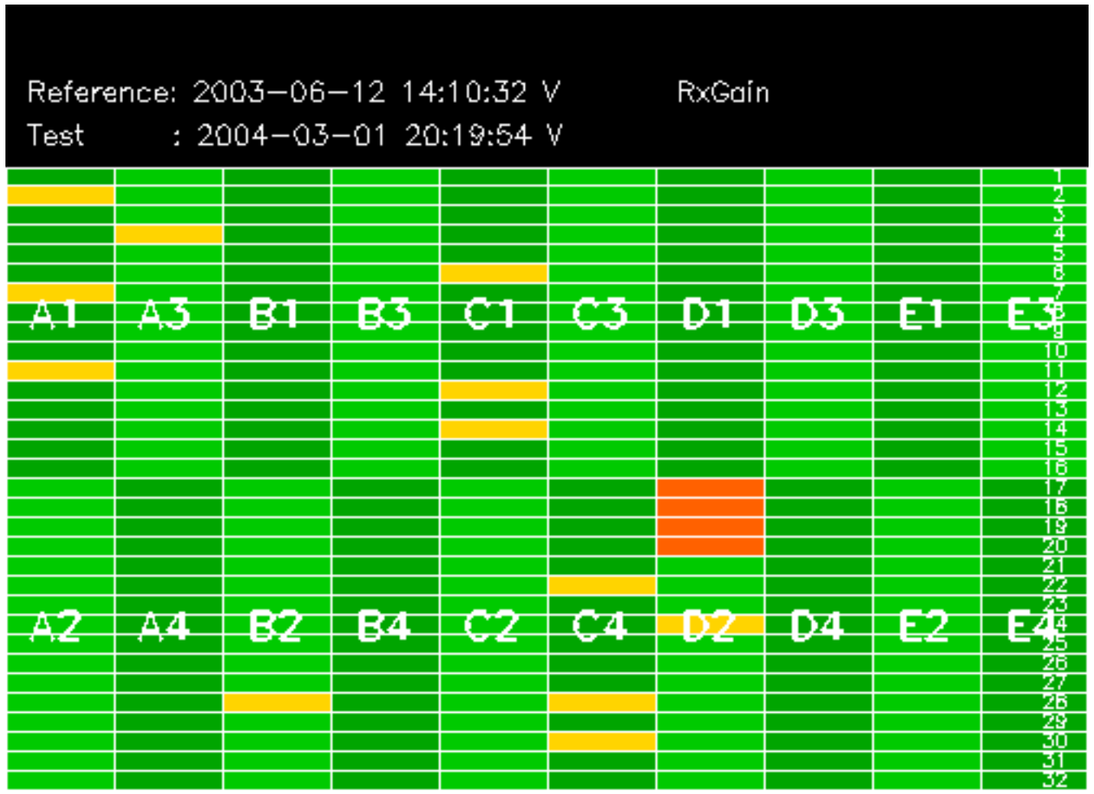

Reference: 2001-02-09 14:08:23 V
Test : 2004-03-01 20:19:54 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-01 20:19:54 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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E4
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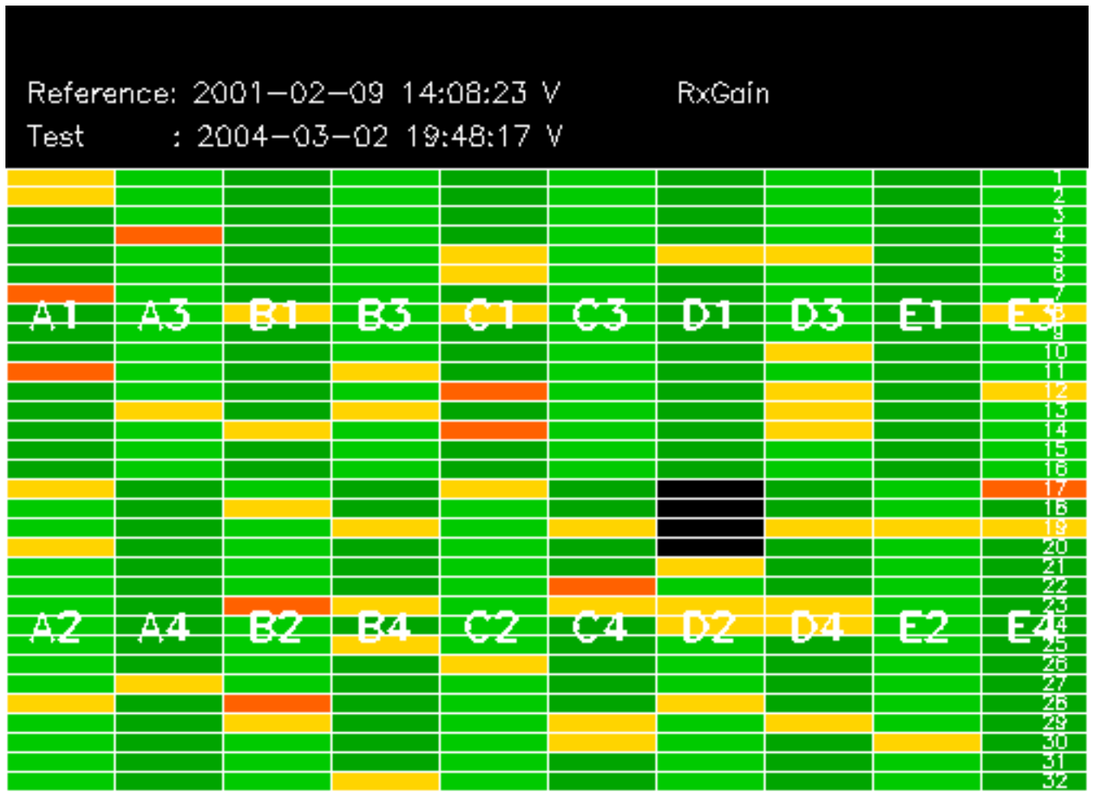
Reference: 2001-02-09 14:08:23 V
Test : 2004-03-02 19:48:17 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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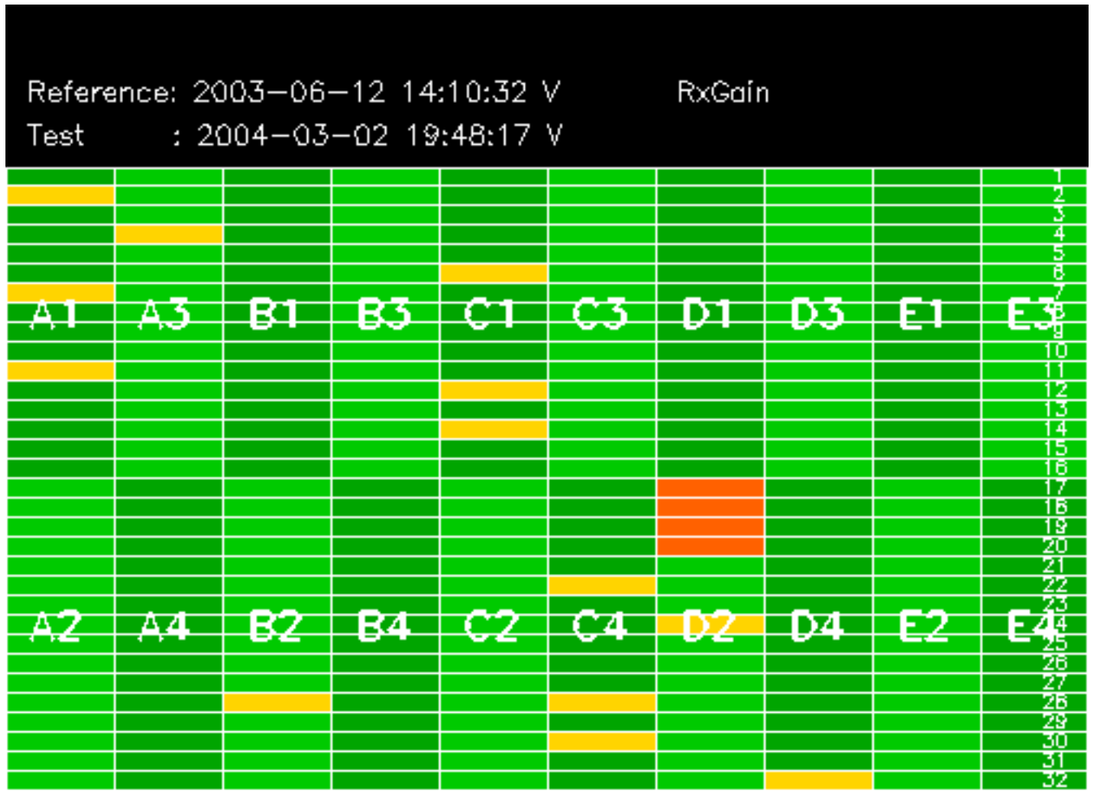
Reference: 2003-06-12 14:10:32 V
Test : 2004-03-02 19:48:17 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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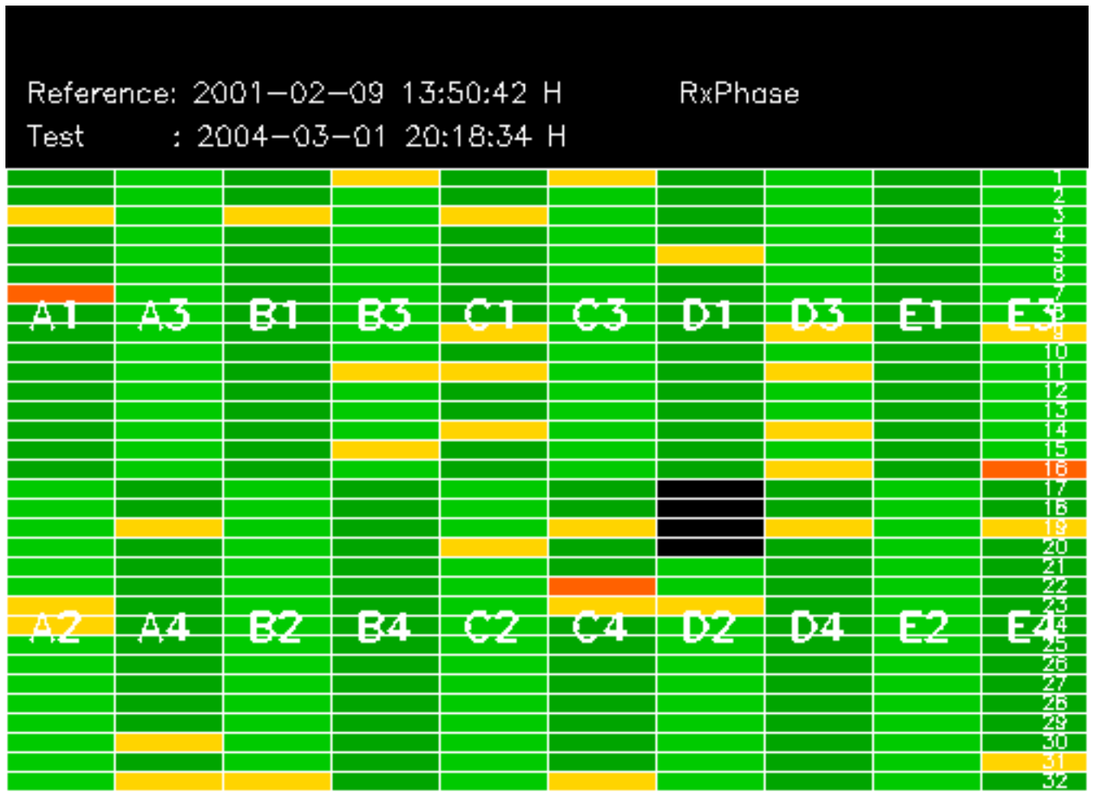
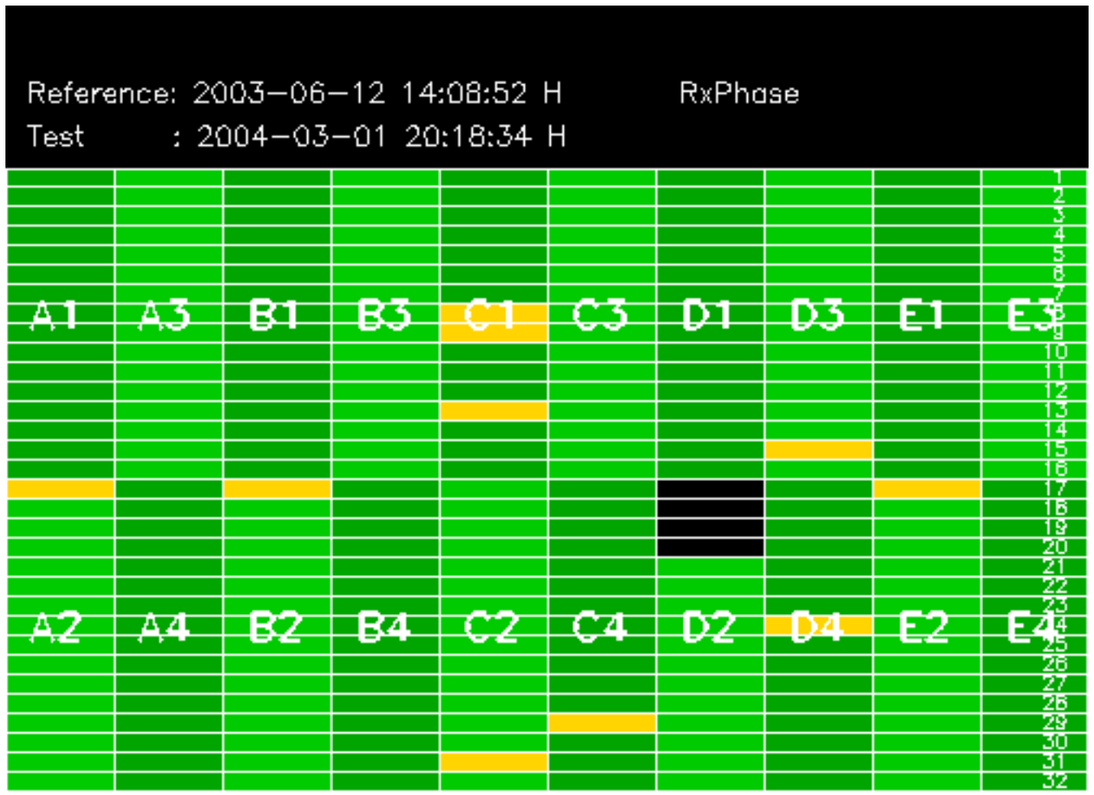

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-03-01 20:18:34 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-01 20:18:34 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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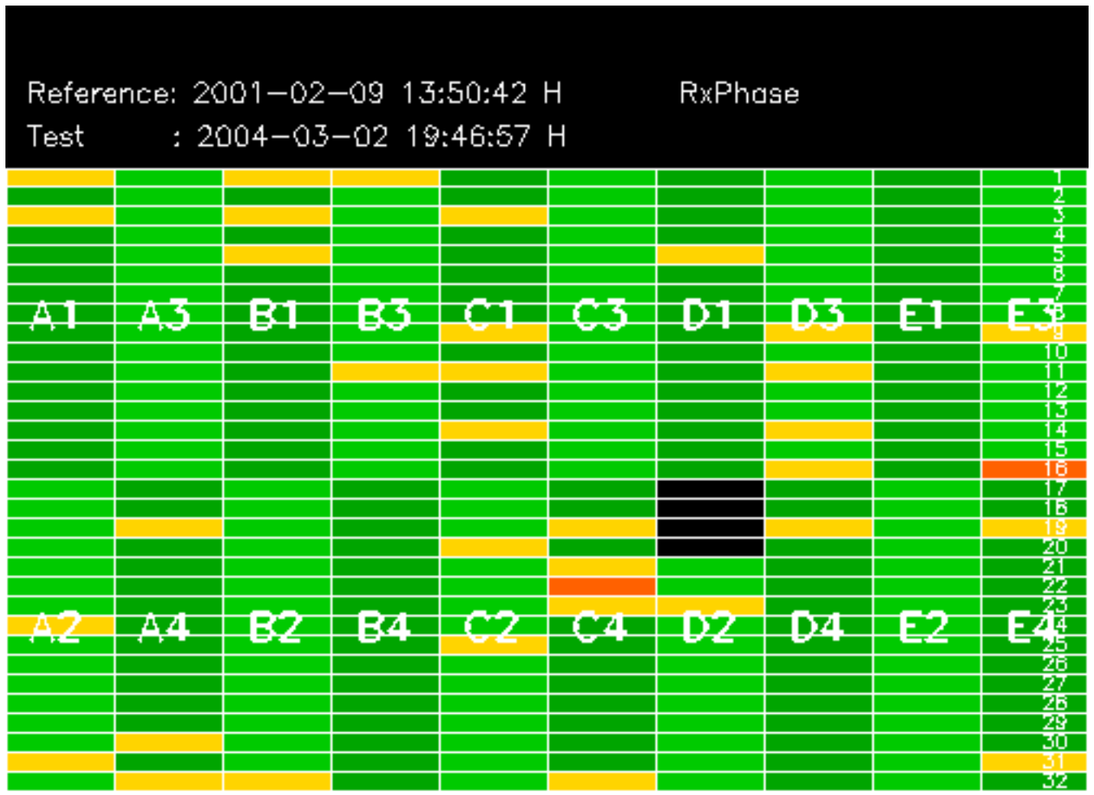
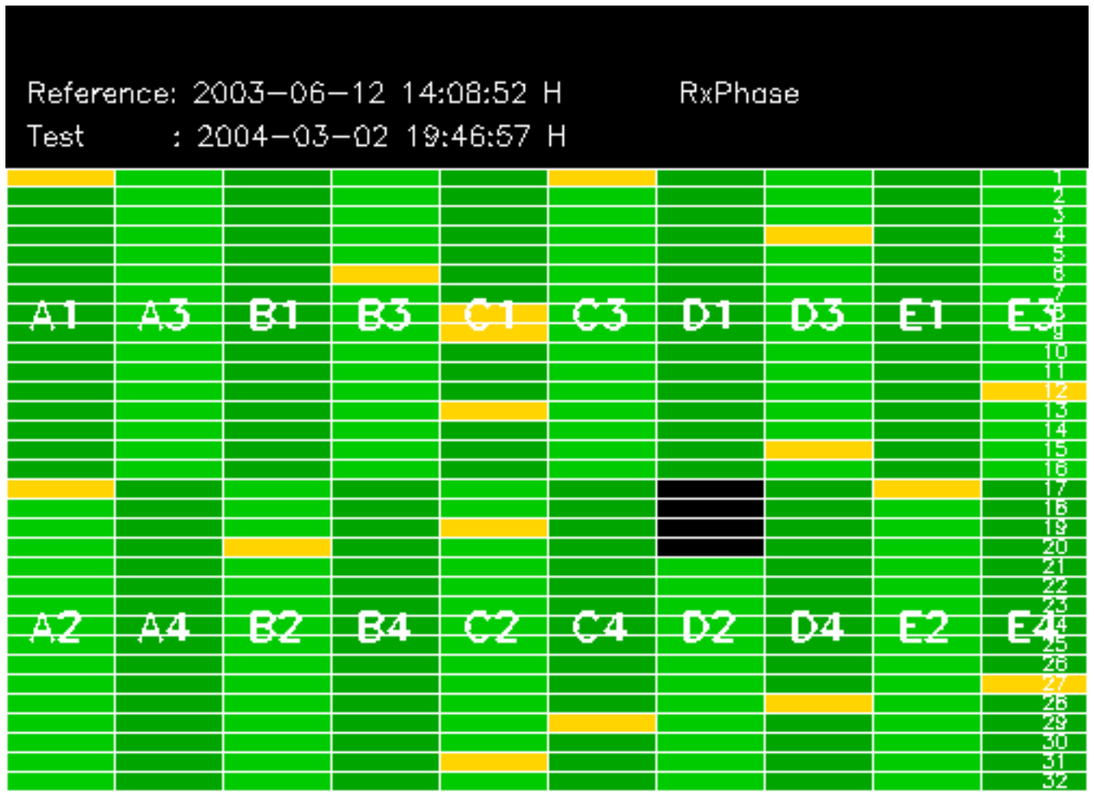
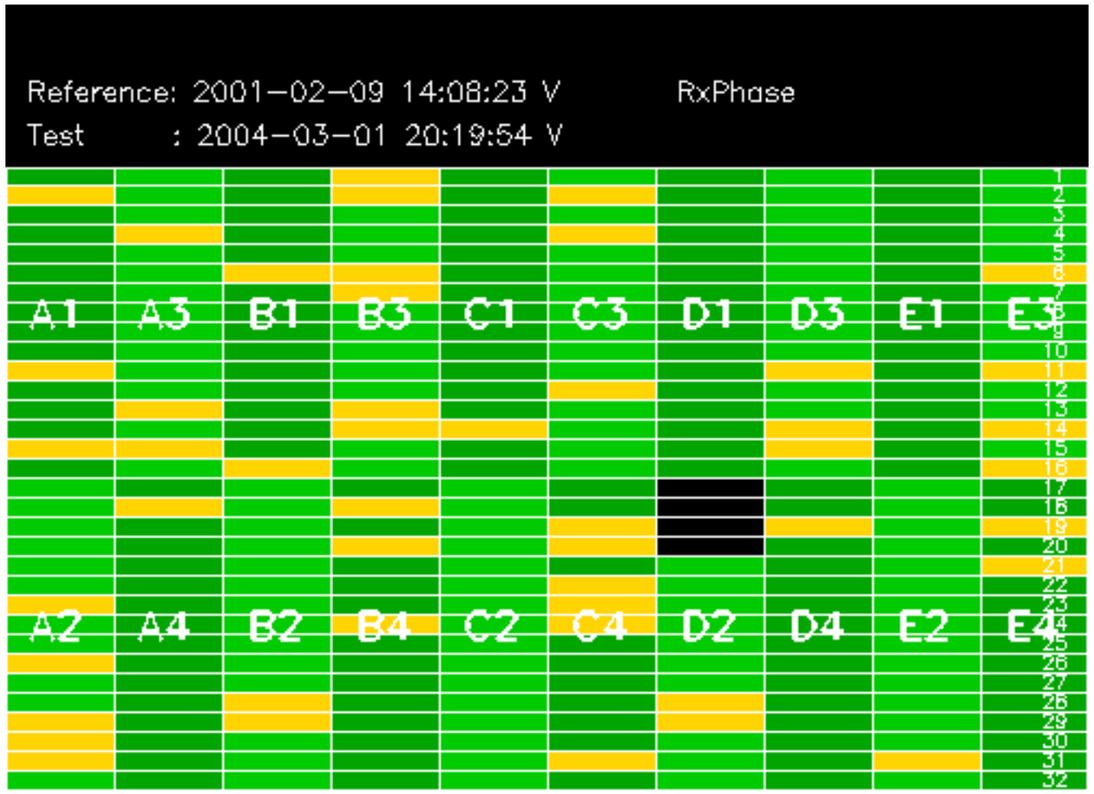

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-03-02 19:46:57 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-02 19:46:57 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-03-01 20:19:54 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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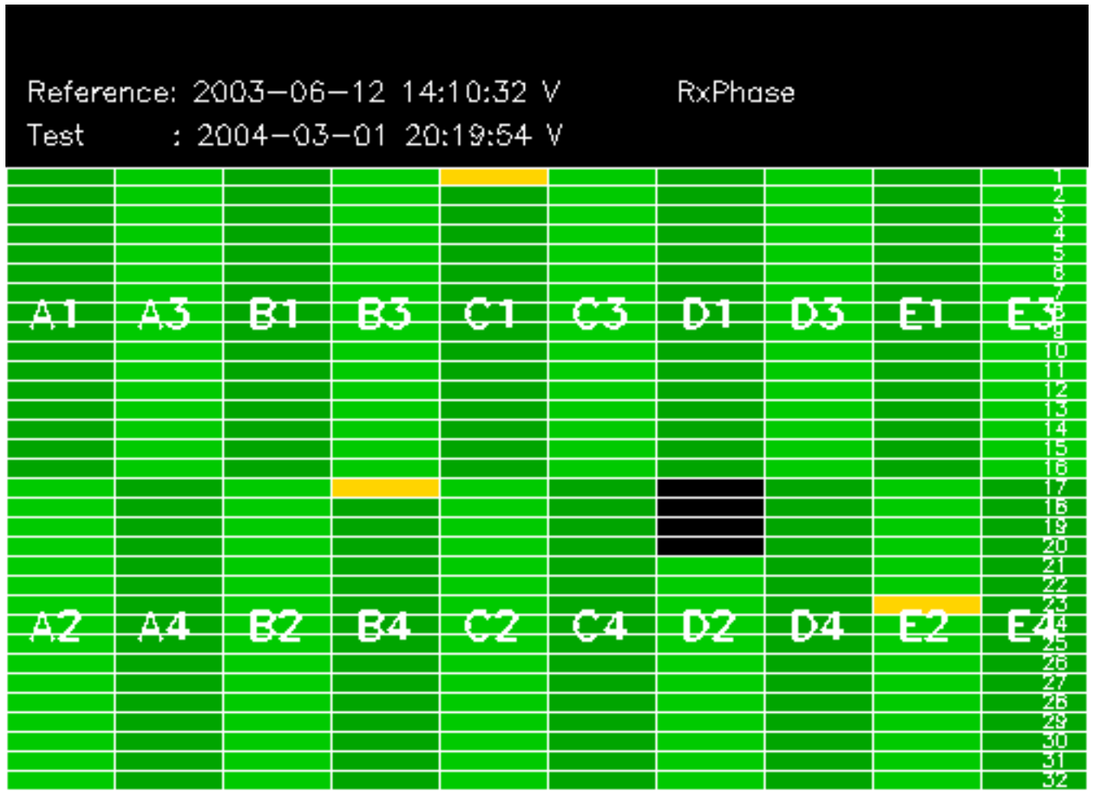
Reference: 2003-06-12 14:10:32 V
Test : 2004-03-01 20:19:54 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
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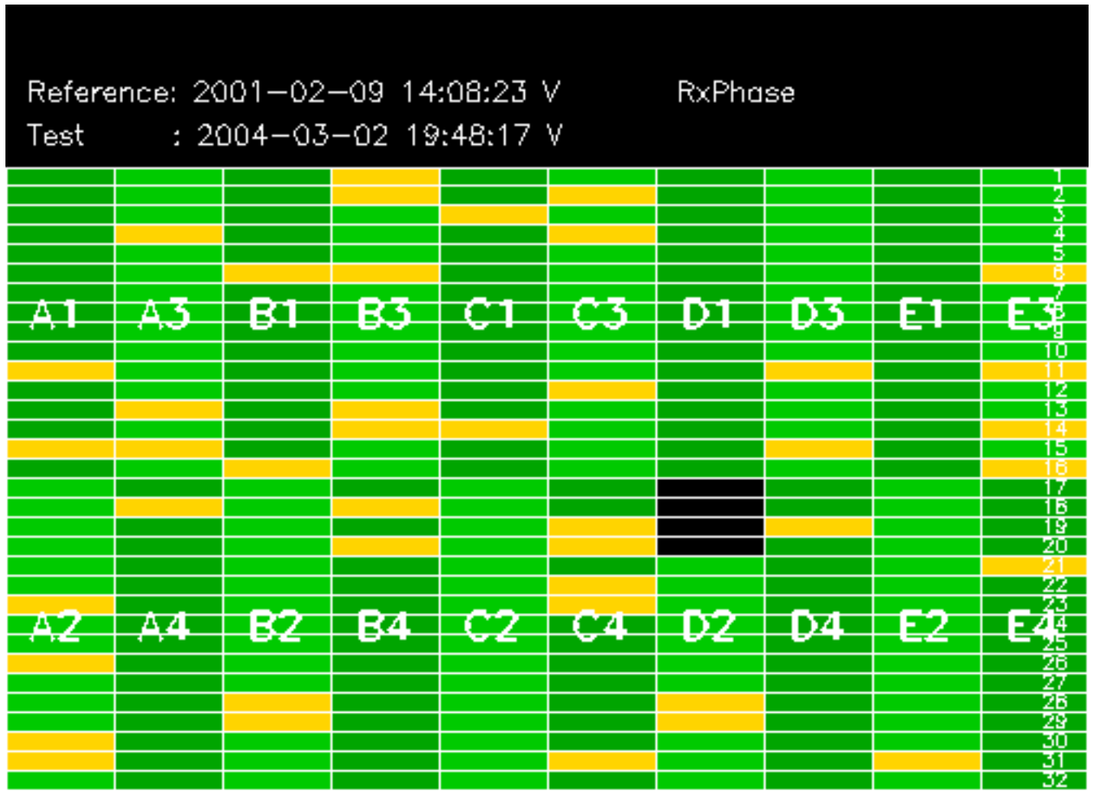
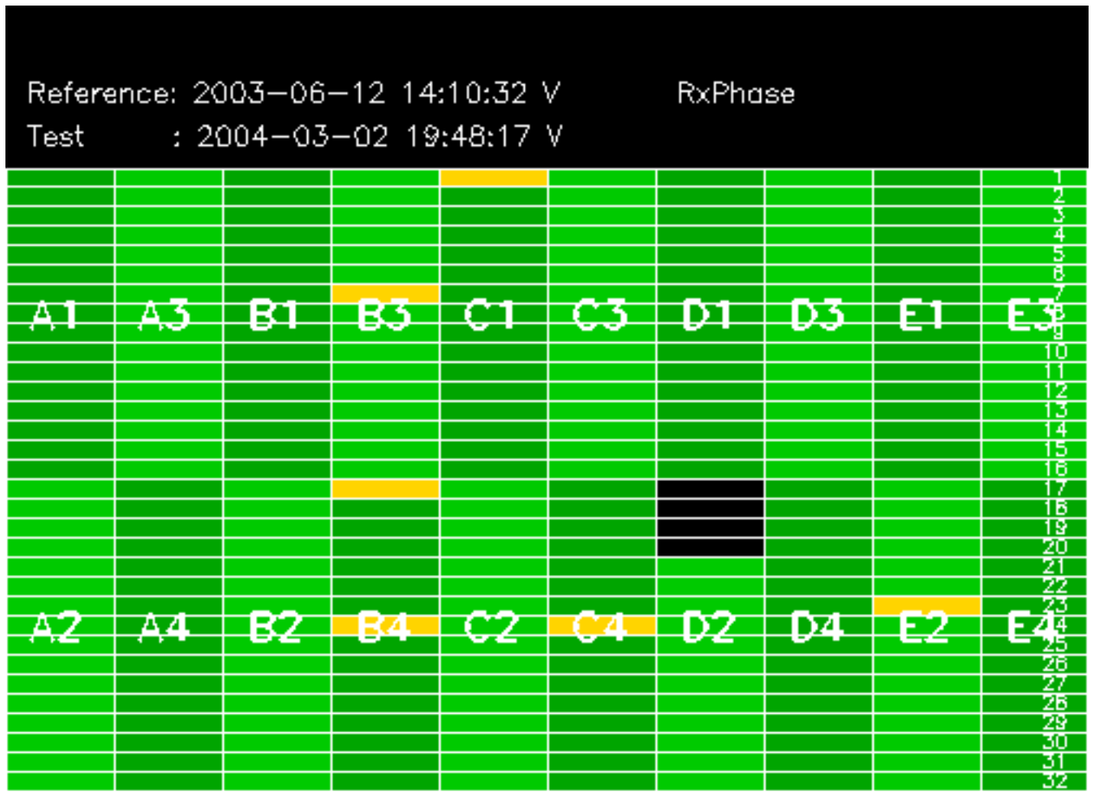

Reference: 2001-02-09 14:08:23 V
Test : 2004-03-02 19:48:17 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-02 19:48:17 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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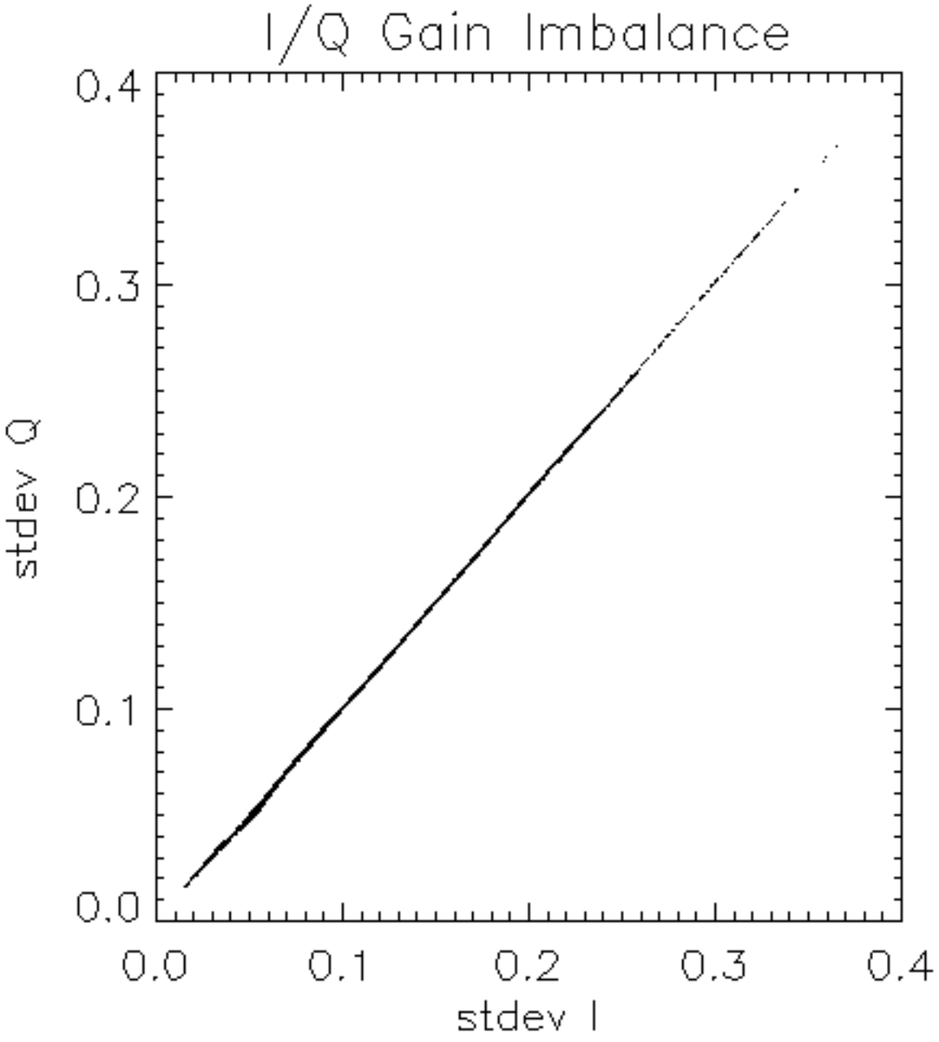
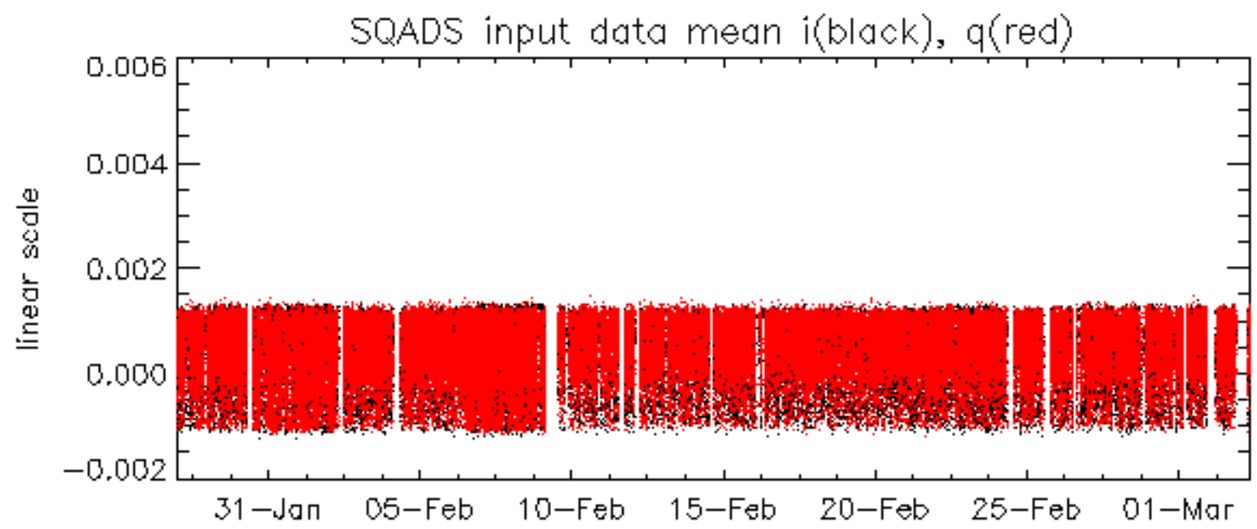
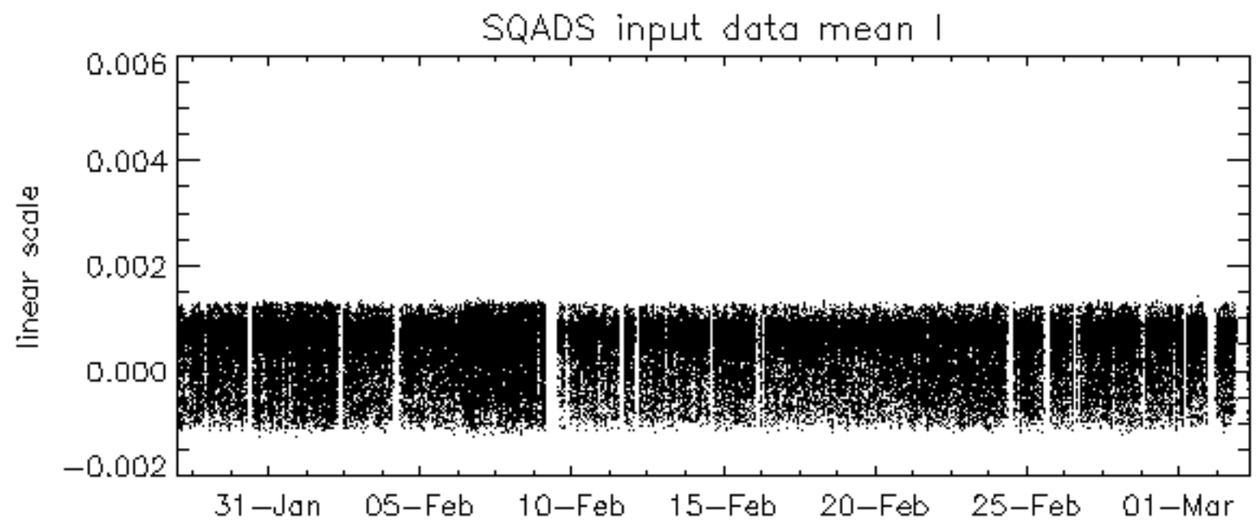
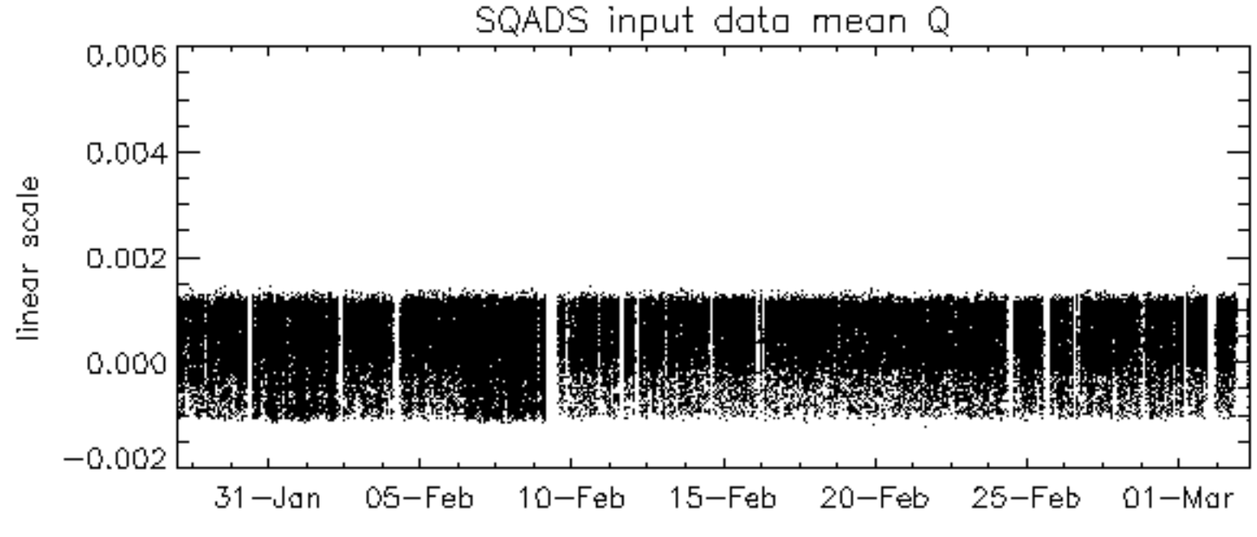
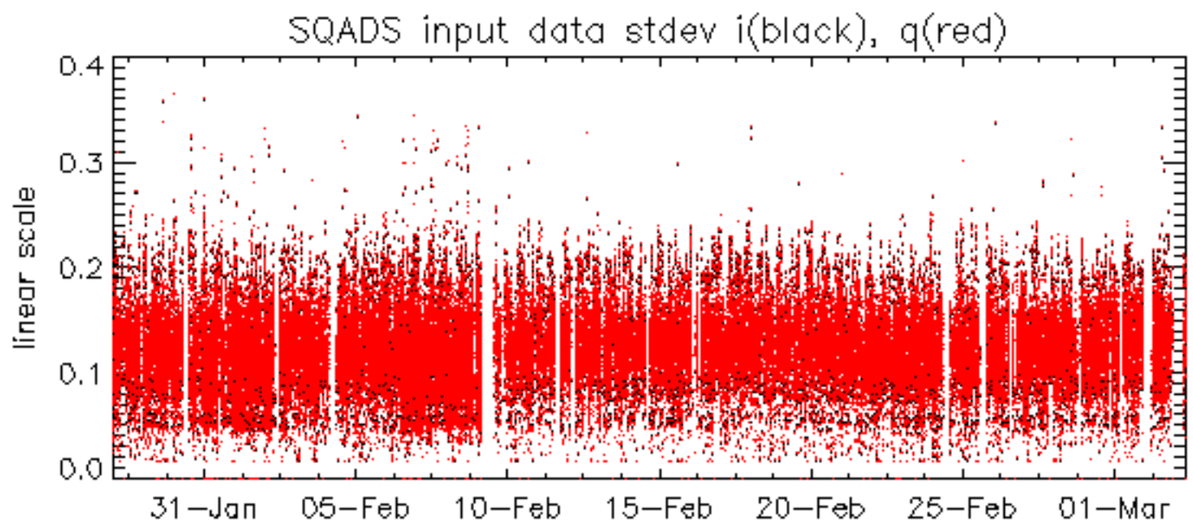
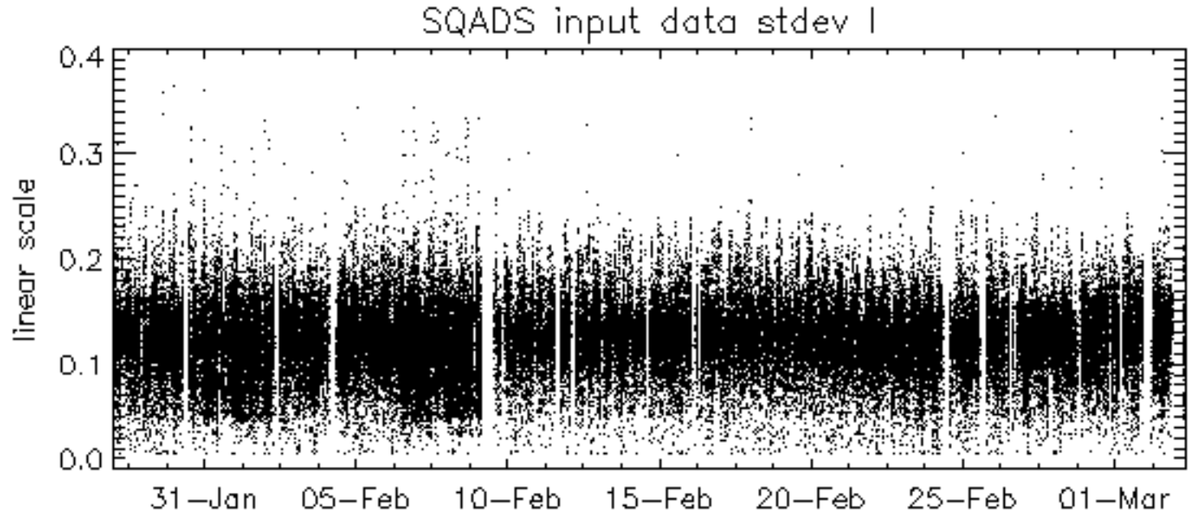

I/Q Gain Imbalance
stdev Q
stdev I
0.0
0.1
0.2
0.3
0.4

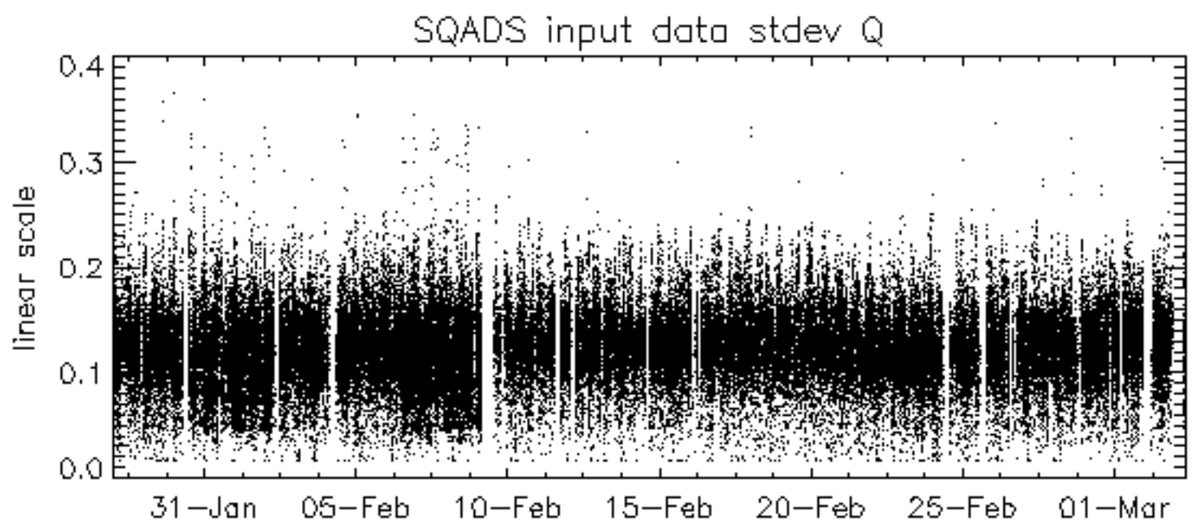

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
01−Mar

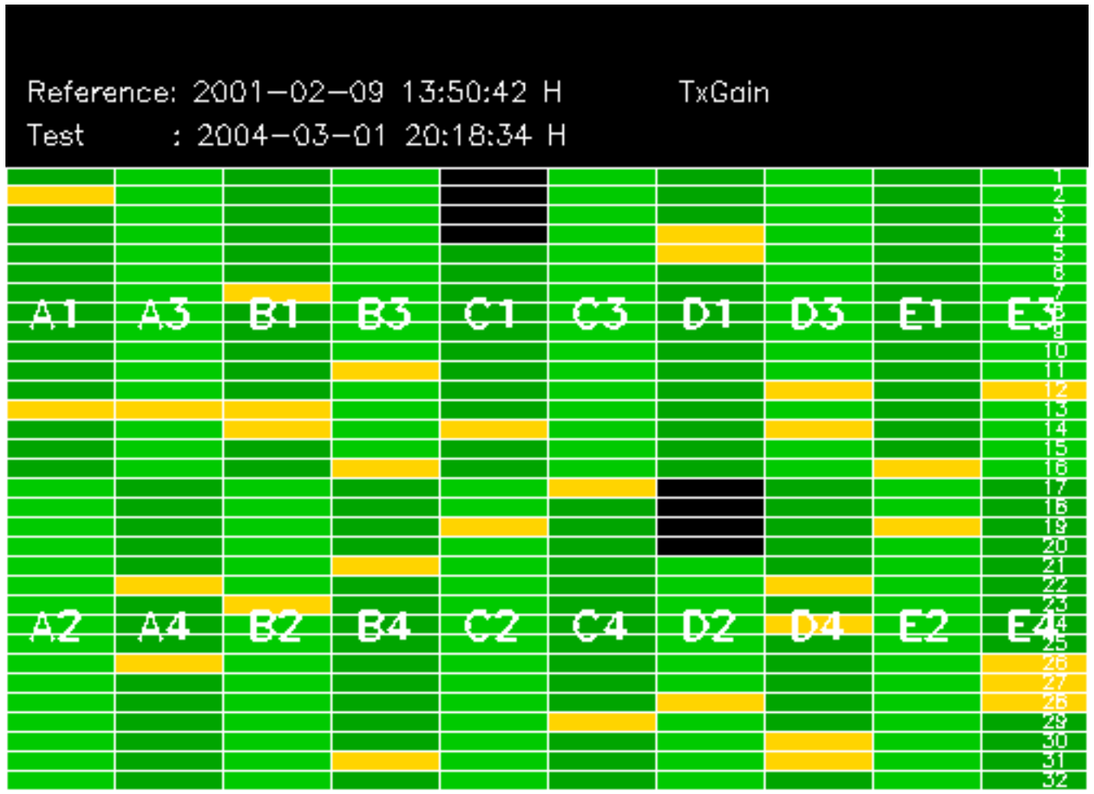

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
01−Mar

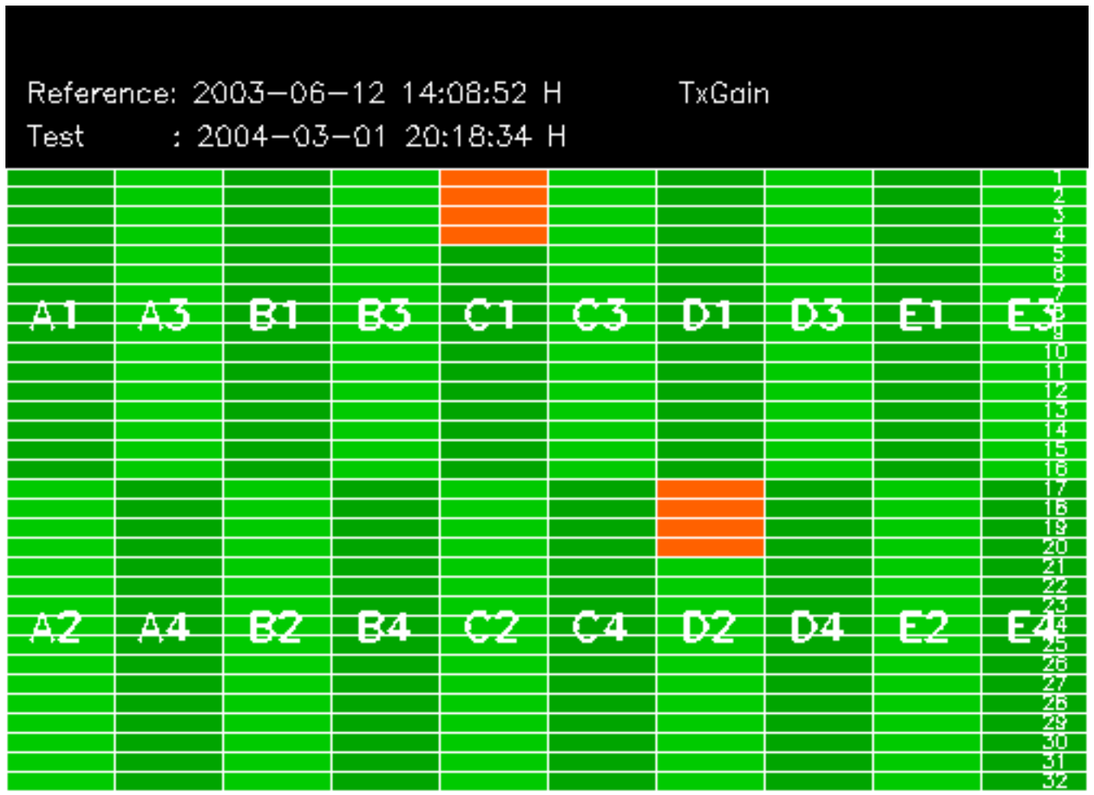

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
01−Mar


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
01−Mar


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
01−Mar


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
01−Mar


Reference: 2001-02-09 13:50:42 H
Test : 2004-03-01 20:18:34 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-01 20:18:34 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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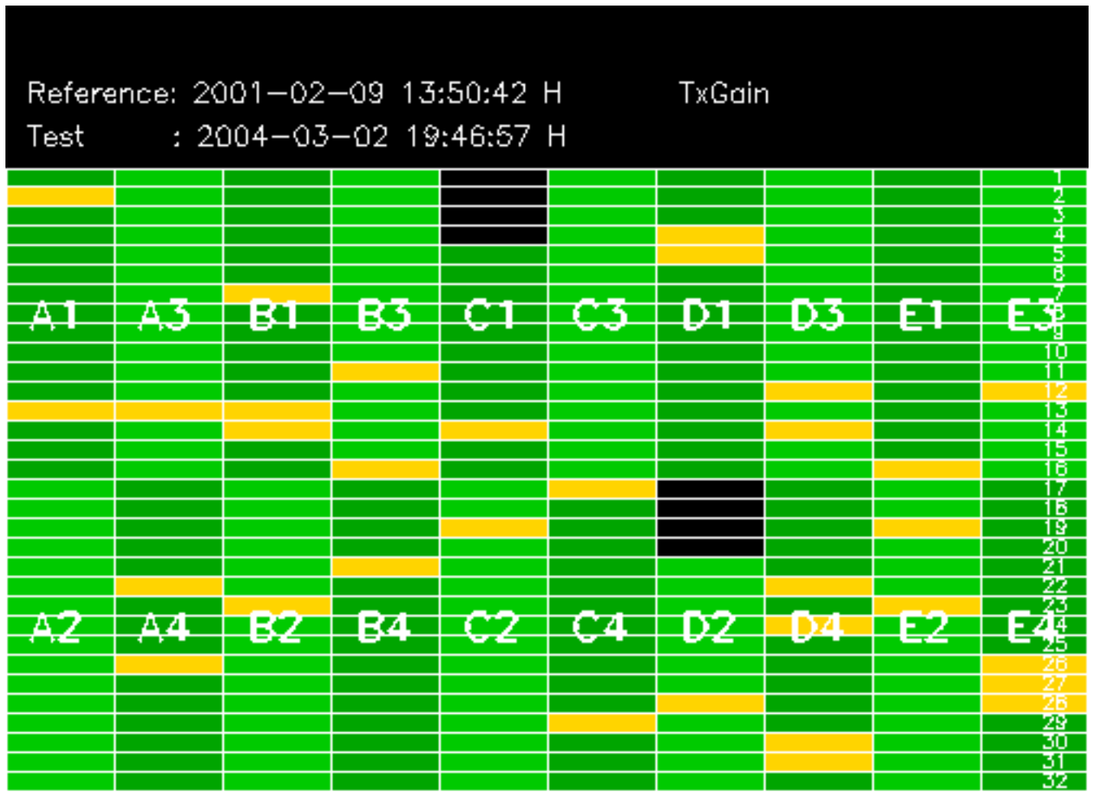
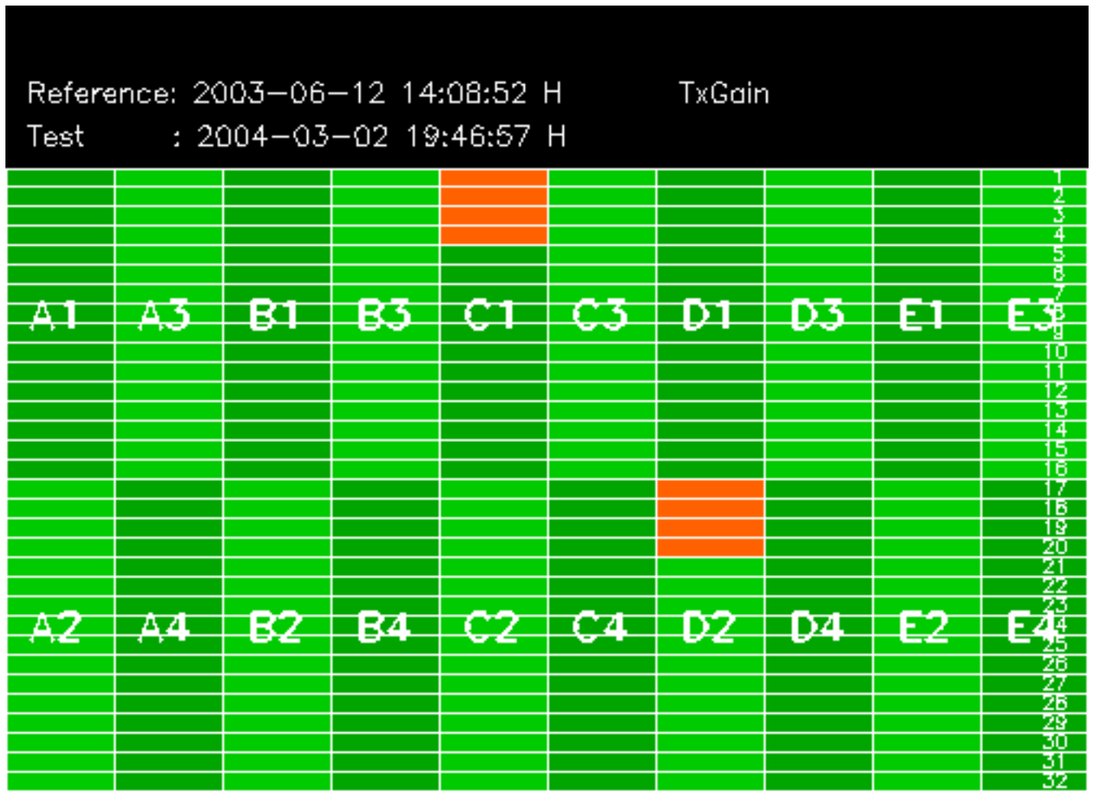

Reference: 2001-02-09 13:50:42 H
Test : 2004-03-02 19:46:57 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-03-02 19:46:57 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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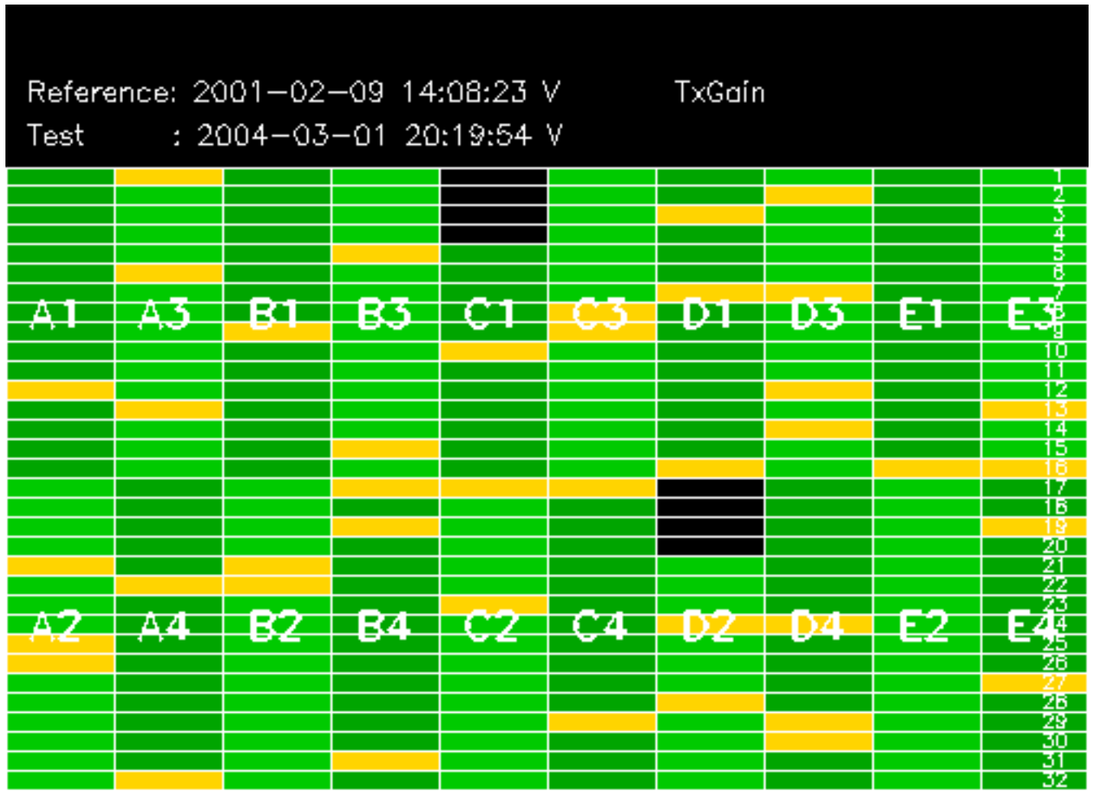
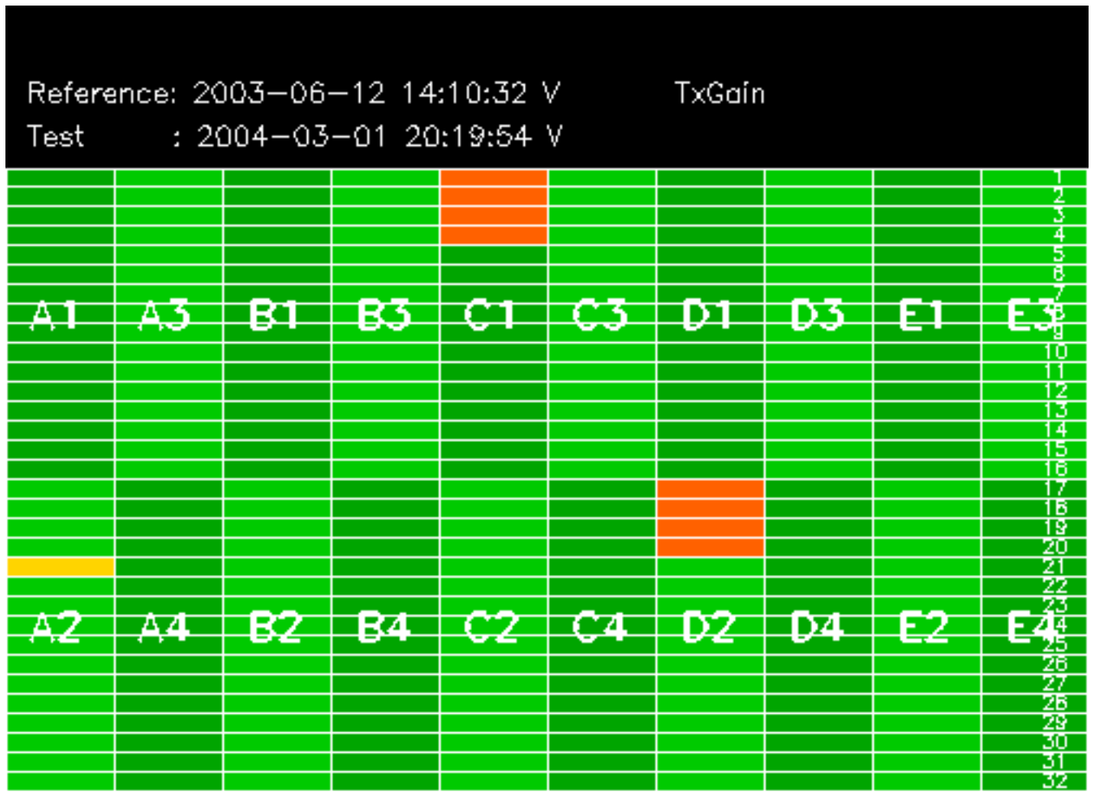

Reference: 2001-02-09 14:08:23 V
Test : 2004-03-01 20:19:54 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-01 20:19:54 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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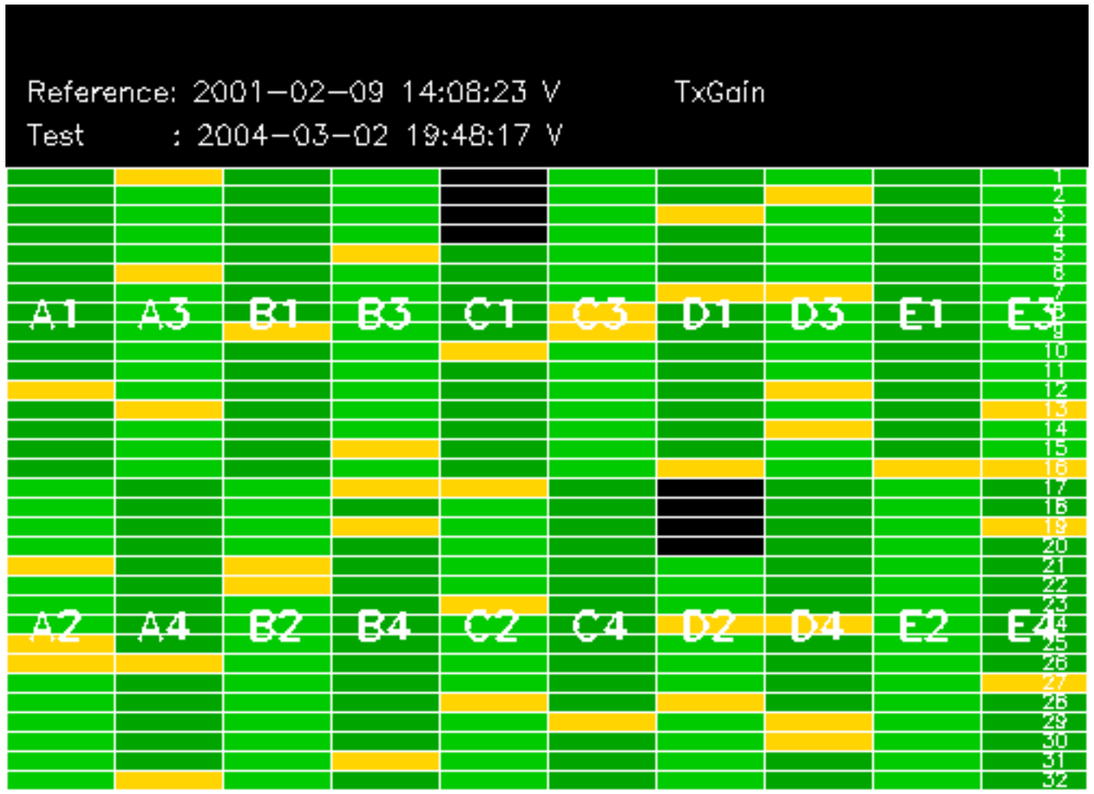
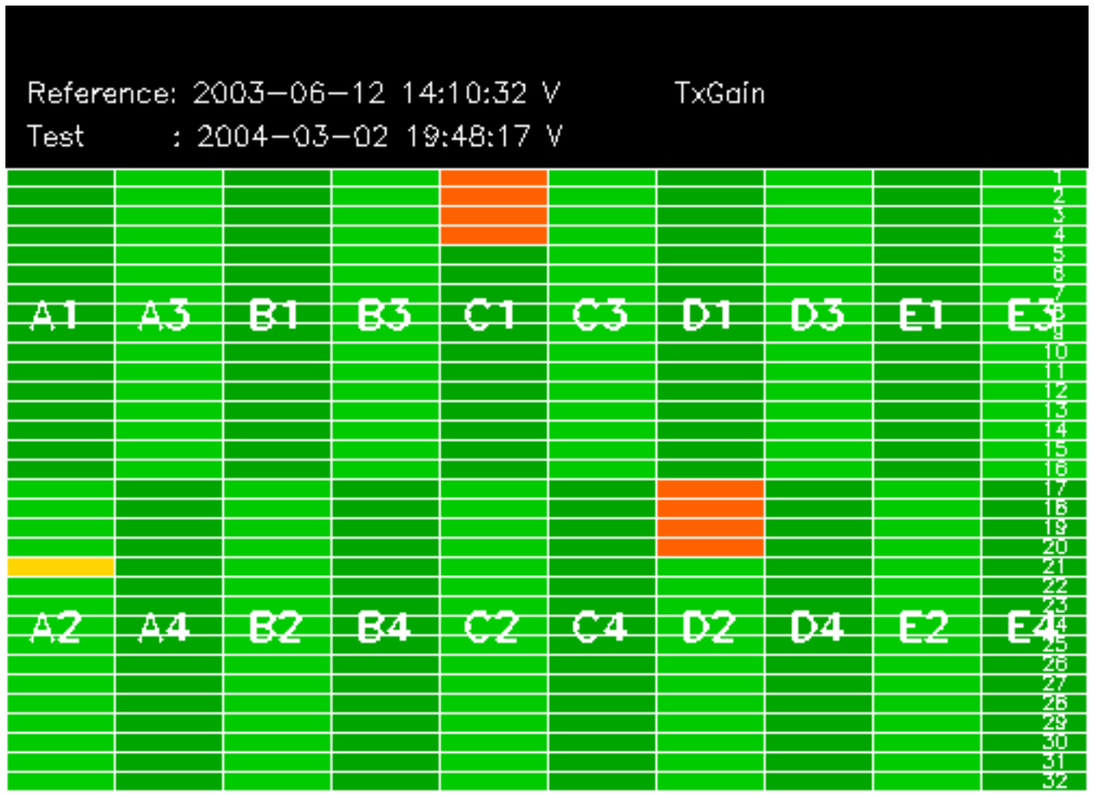

Reference: 2001-02-09 14:08:23 V
Test : 2004-03-02 19:48:17 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-02 19:48:17 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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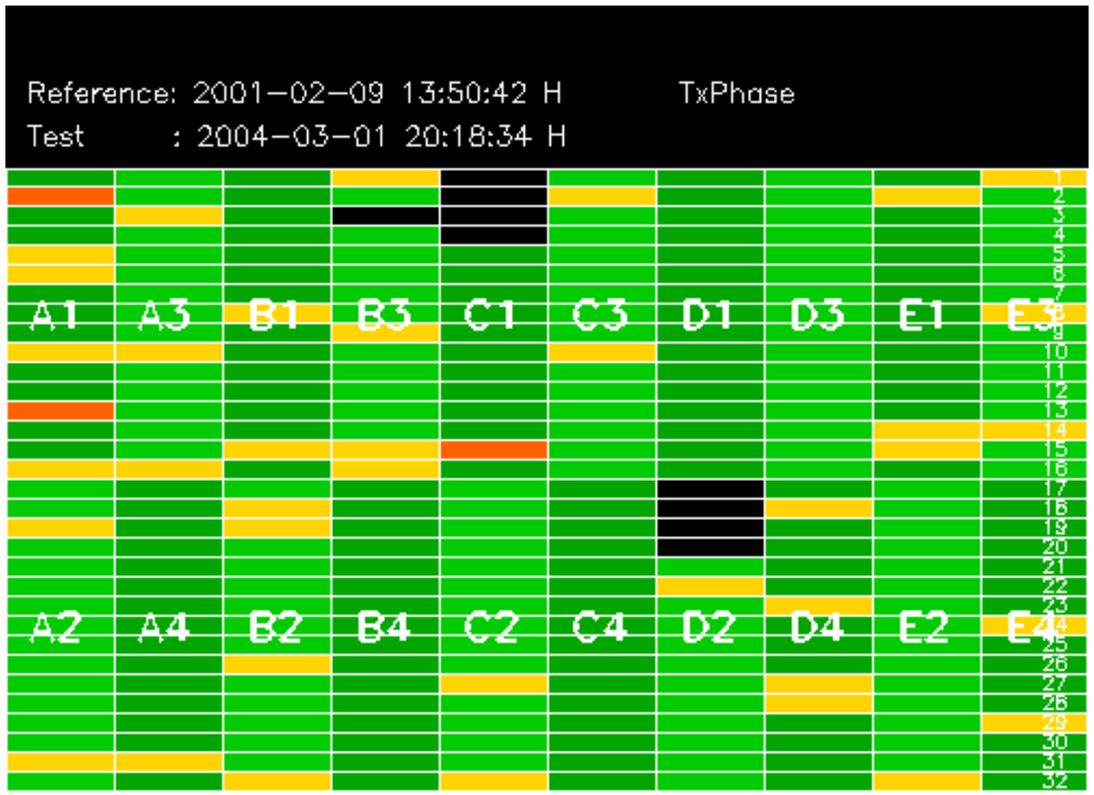
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-03-01 20:18:34 H
A1
A3
B1
B3
C1
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D1
D3
E1
E3
A2
A4
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B4
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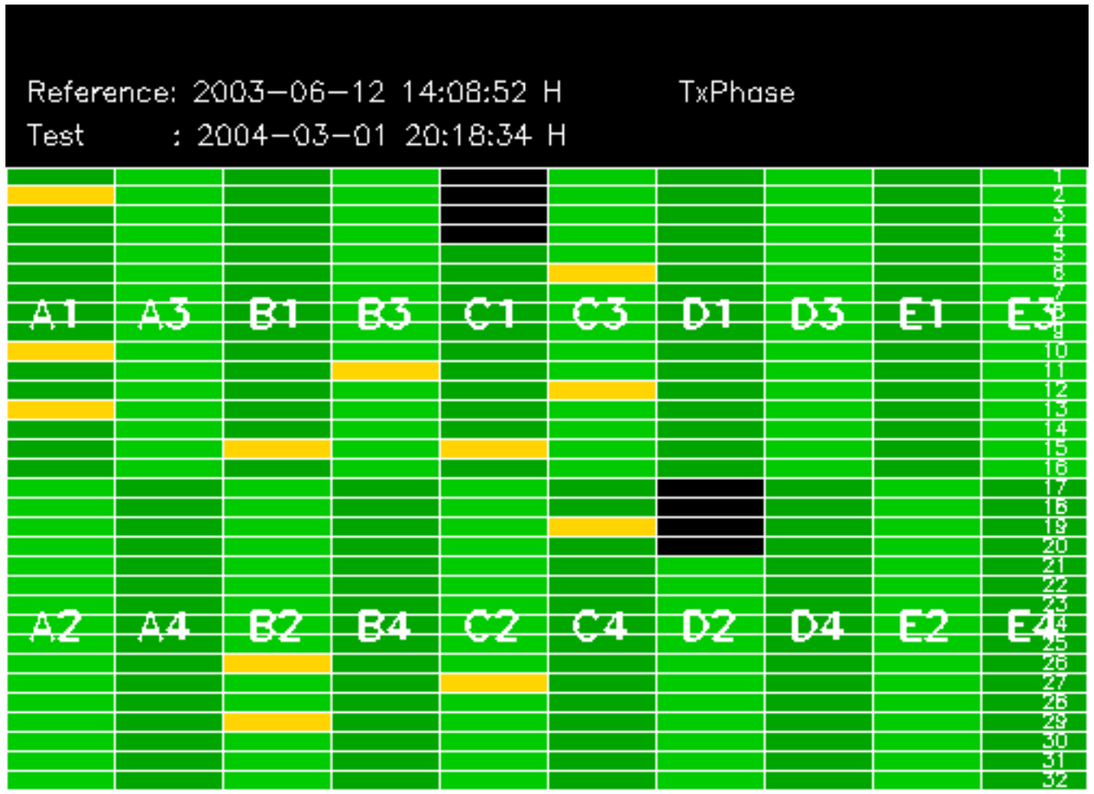
Reference: 2003-06-12 14:08:52 H
Test : 2004-03-01 20:18:34 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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B4
C2
C4
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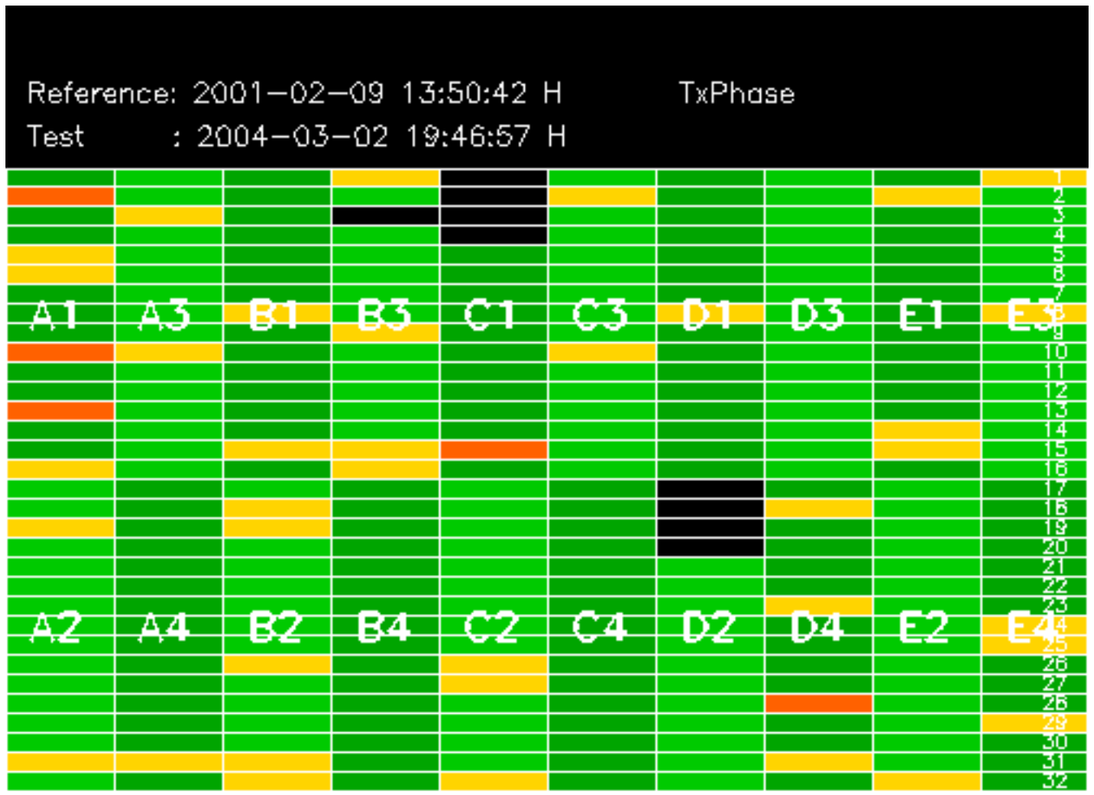
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-03-02 19:46:57 H
A1
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B3
C1
C3
D1
D3
E1
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A2
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B4
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C4
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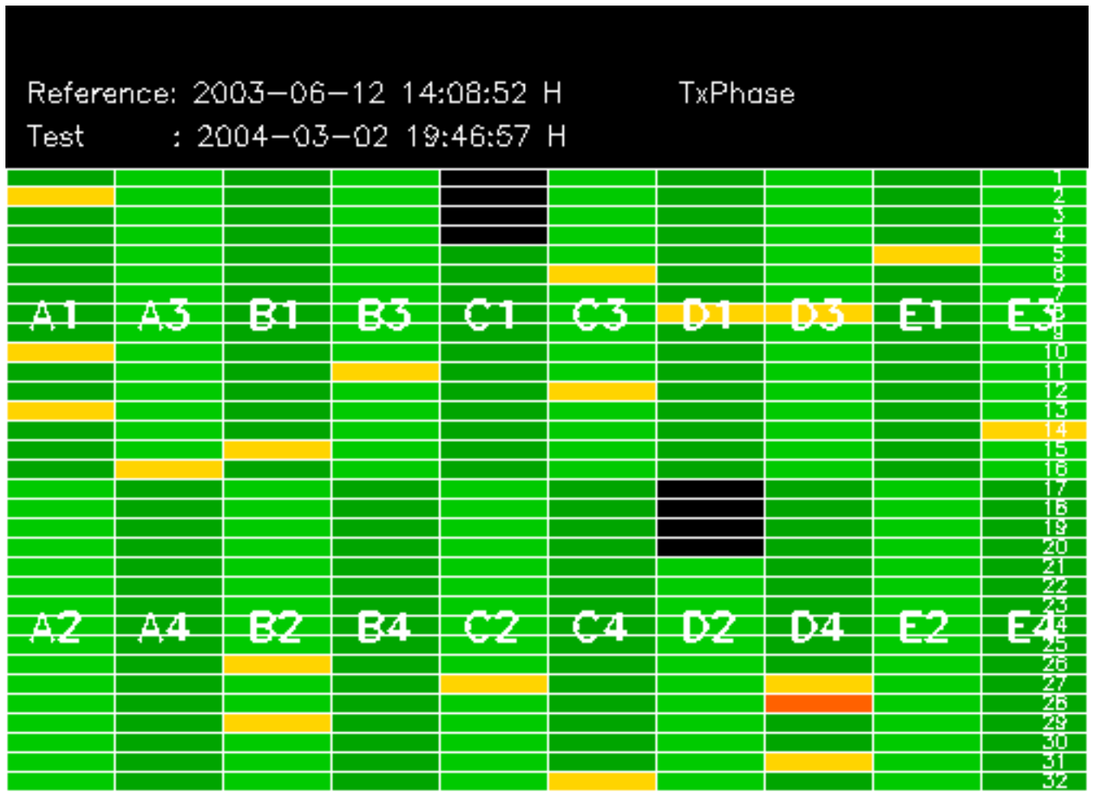
Reference: 2003-06-12 14:08:52 H
Test : 2004-03-02 19:46:57 H
TxPhase
A1
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B3
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C3
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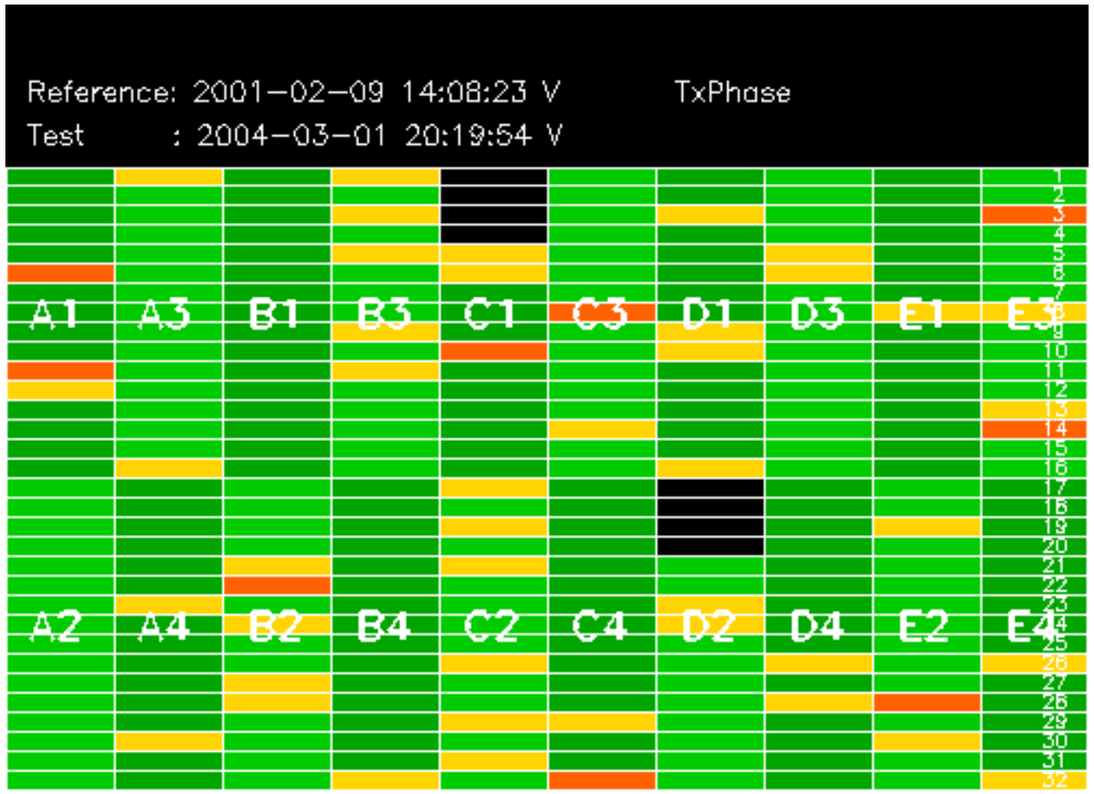
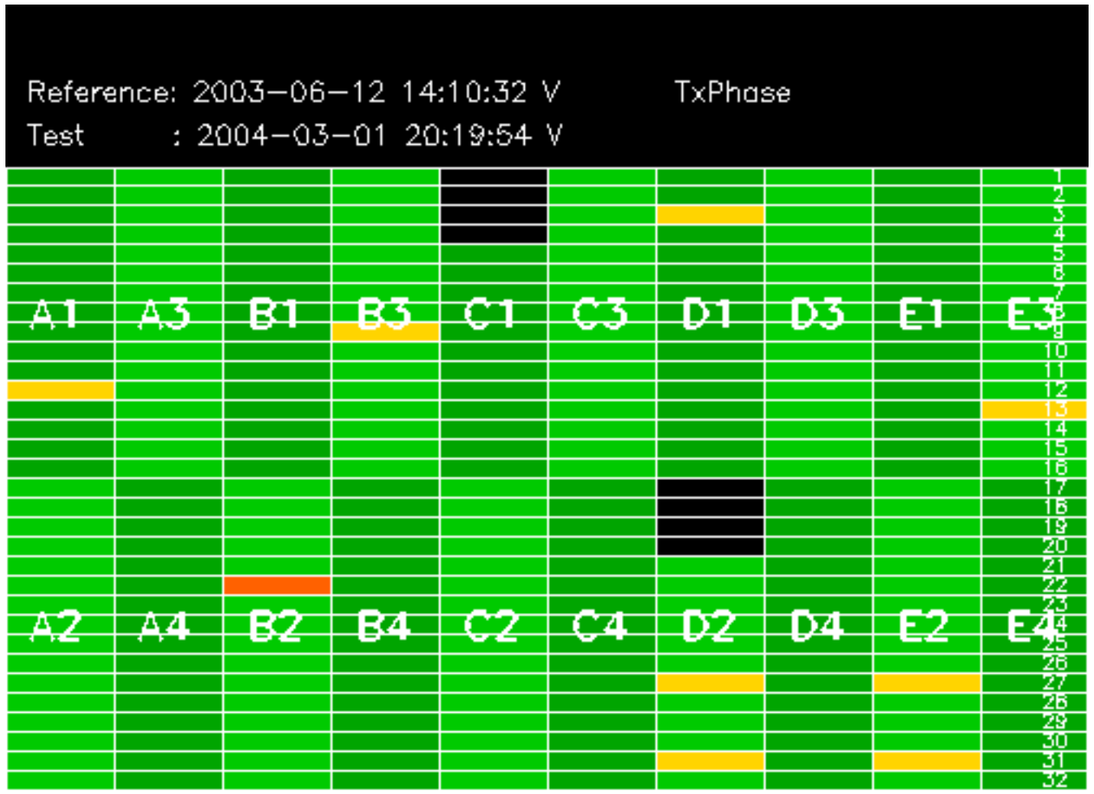

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-03-01 20:19:54 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-03-01 20:19:54 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
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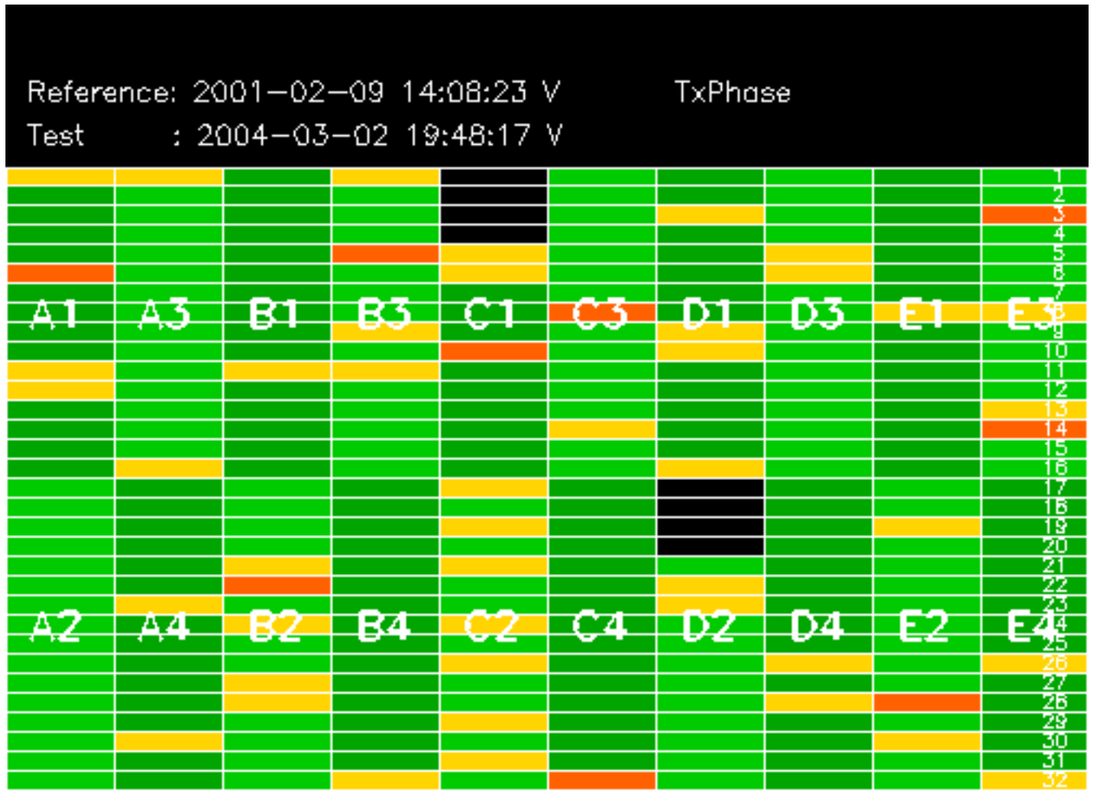
Reference: 2001-02-09 14:08:23 V
Test : 2004-03-02 19:48:17 V
TxPhase
A1
A3
B1
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C1
C3
D1
D3
E1
E3
A2
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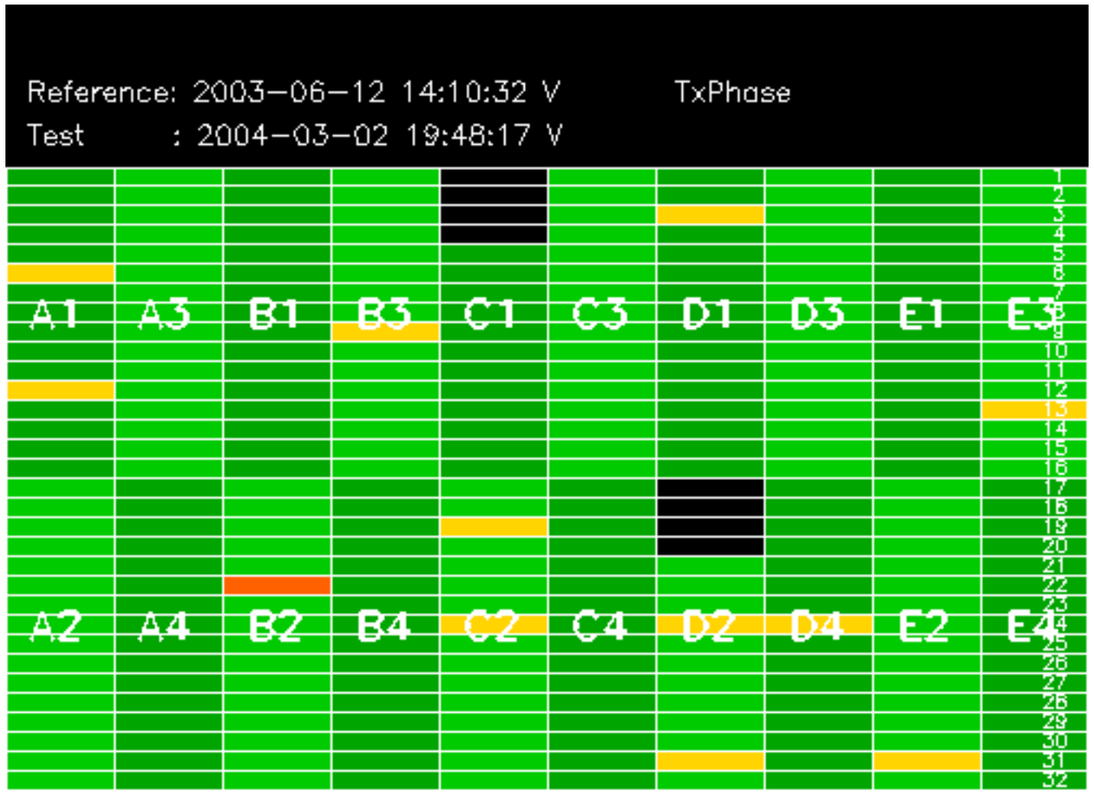
Reference: 2003-06-12 14:10:32 V
Test : 2004-03-02 19:48:17 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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B4
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ASAR Antenna reset on 03-MAR-2004 10:00:57 to 10:06:51 due to out of limit temperatures detected on tile D2.