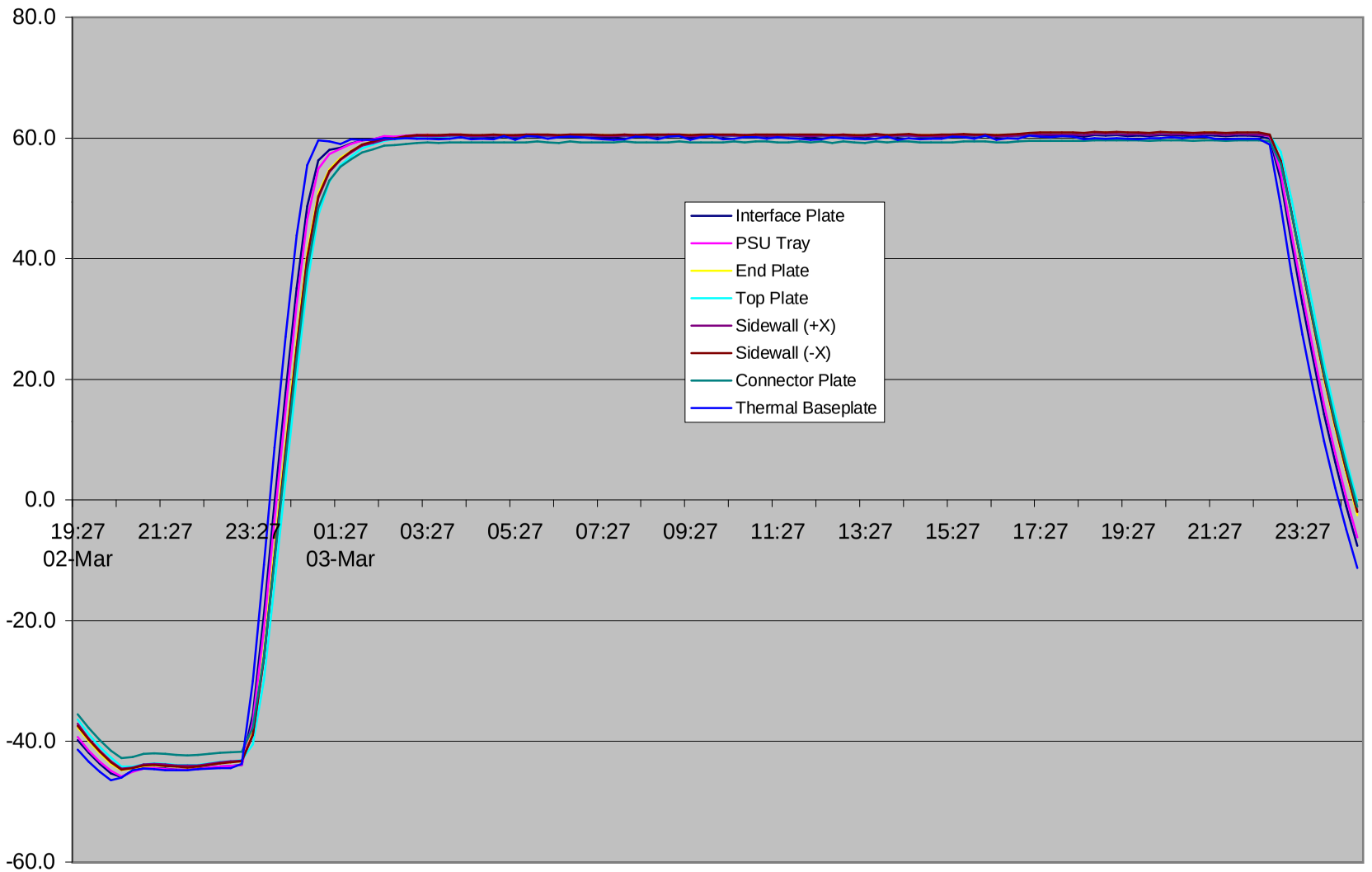
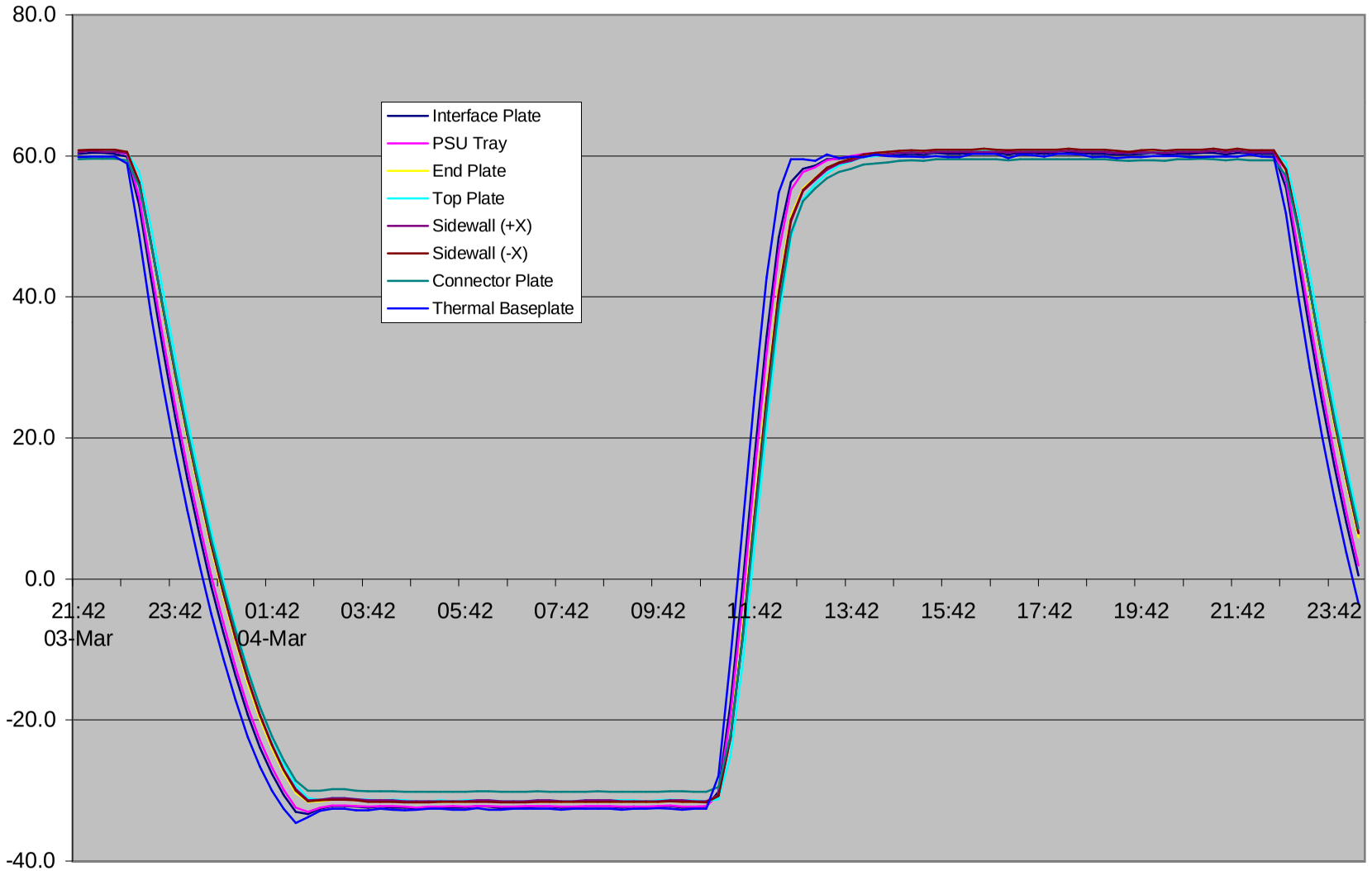
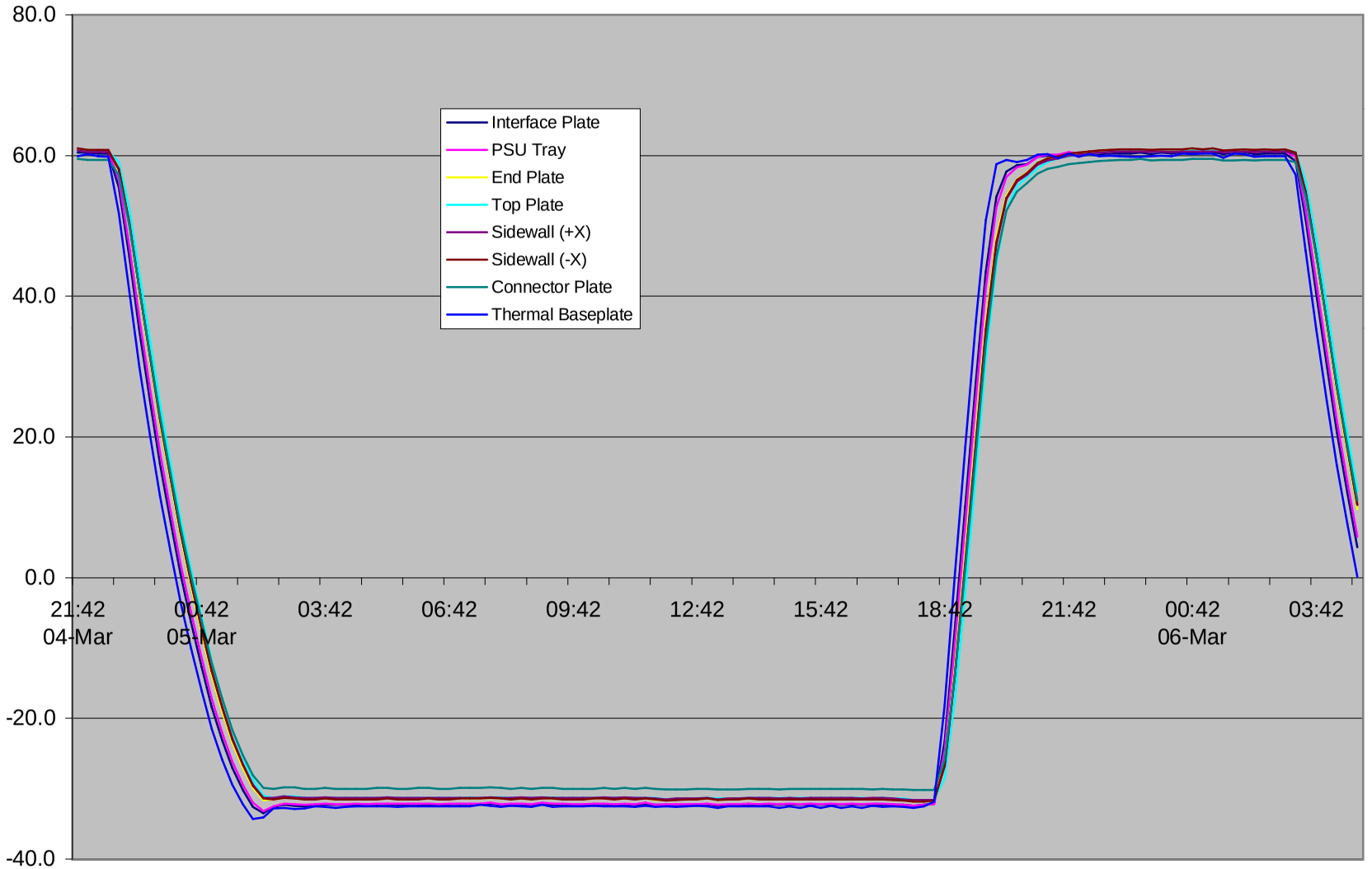
CYCLE 1


80.0
60.0
40.0
20.0
0.0
-20.0
-40.0
-60.0
19:27
02-Mar
21:27
23:27
01:27
03-Mar
03:27
05:27
07:27
09:27
11:27
13:27
15:27
17:27
19:27
21:27
23:27
Interface Plate
PSU Tray
End Plate
Top Plate
Sidewall (+X)
Sidewall (-X)
Connector Plate
Thermal Baseplate

CYCLE 2


80.0
60.0
40.0
20.0
0.0
-20.0
-40.0
Interface Plate
PSU Tray
End Plate
Top Plate
Sidewall (+X)
Sidewall (-X)
Connector Plate
Thermal Baseplate
21:42
03-Mar
23:42
01:42
04-Mar
03:42
05:42
07:42
09:42
11:42
13:42
15:42
17:42
19:42
21:42
23:42

CYCLE 3


80.0
60.0
40.0
20.0
0.0
-20.0
-40.0
Interface Plate
PSU Tray
End Plate
Top Plate
Sidewall (+X)
Sidewall (-X)
Connector Plate
Thermal Baseplate
21:42
04-Mar
00:42
05-Mar
03:42
06:42
09:42
12:42
15:42
18:42
21:42
00:42
06-Mar
03:42

CYCLE 4

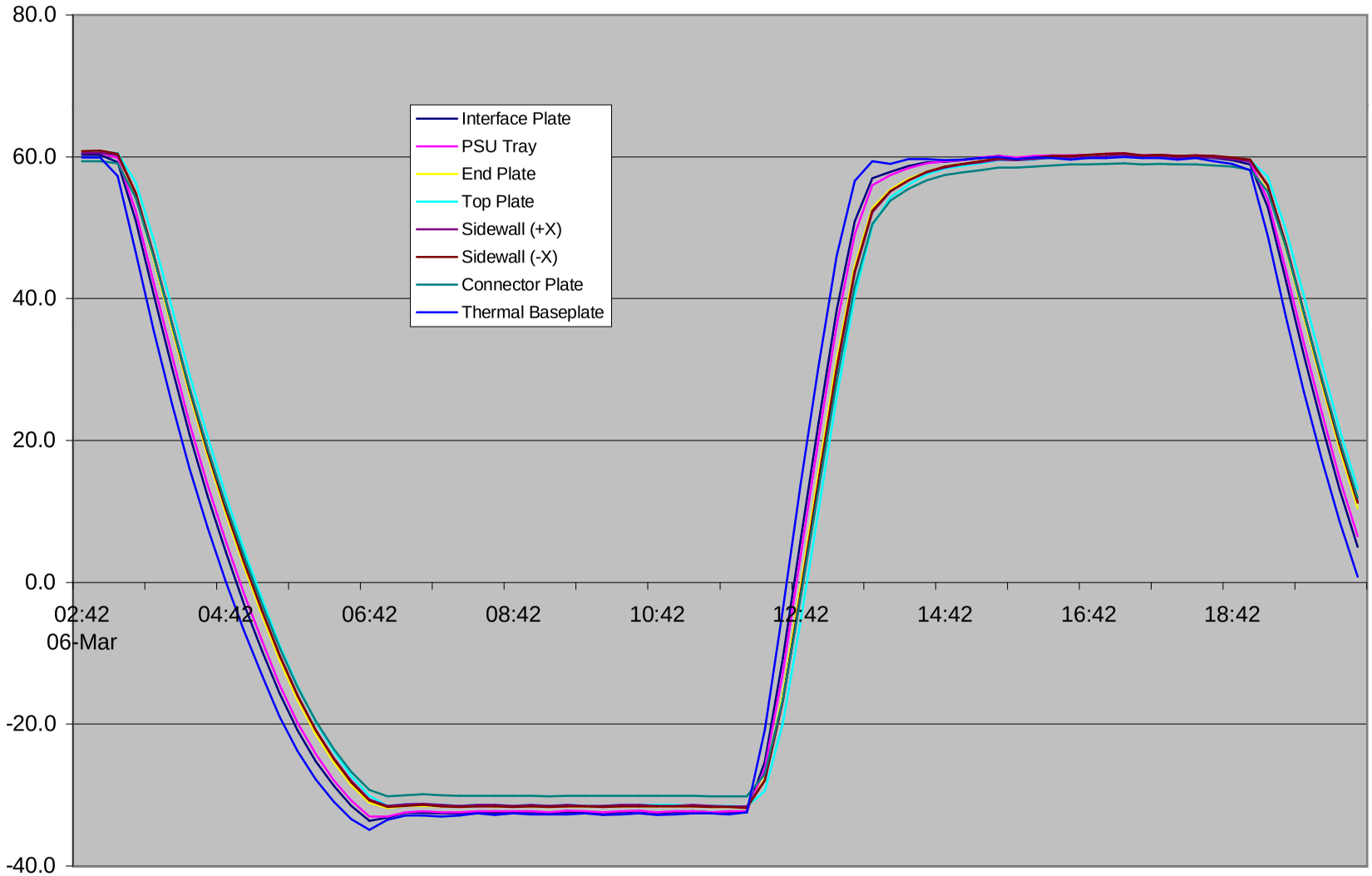

80.0
60.0
40.0
20.0
0.0
-20.0
-40.0
02:42
06-Mar
04:42
06:42
08:42
10:42
12:42
14:42
16:42
18:42
Interface Plate
PSU Tray
End Plate
Top Plate
Sidewall (+X)
Sidewall (-X)
Connector Plate
Thermal Baseplate

CHART 5

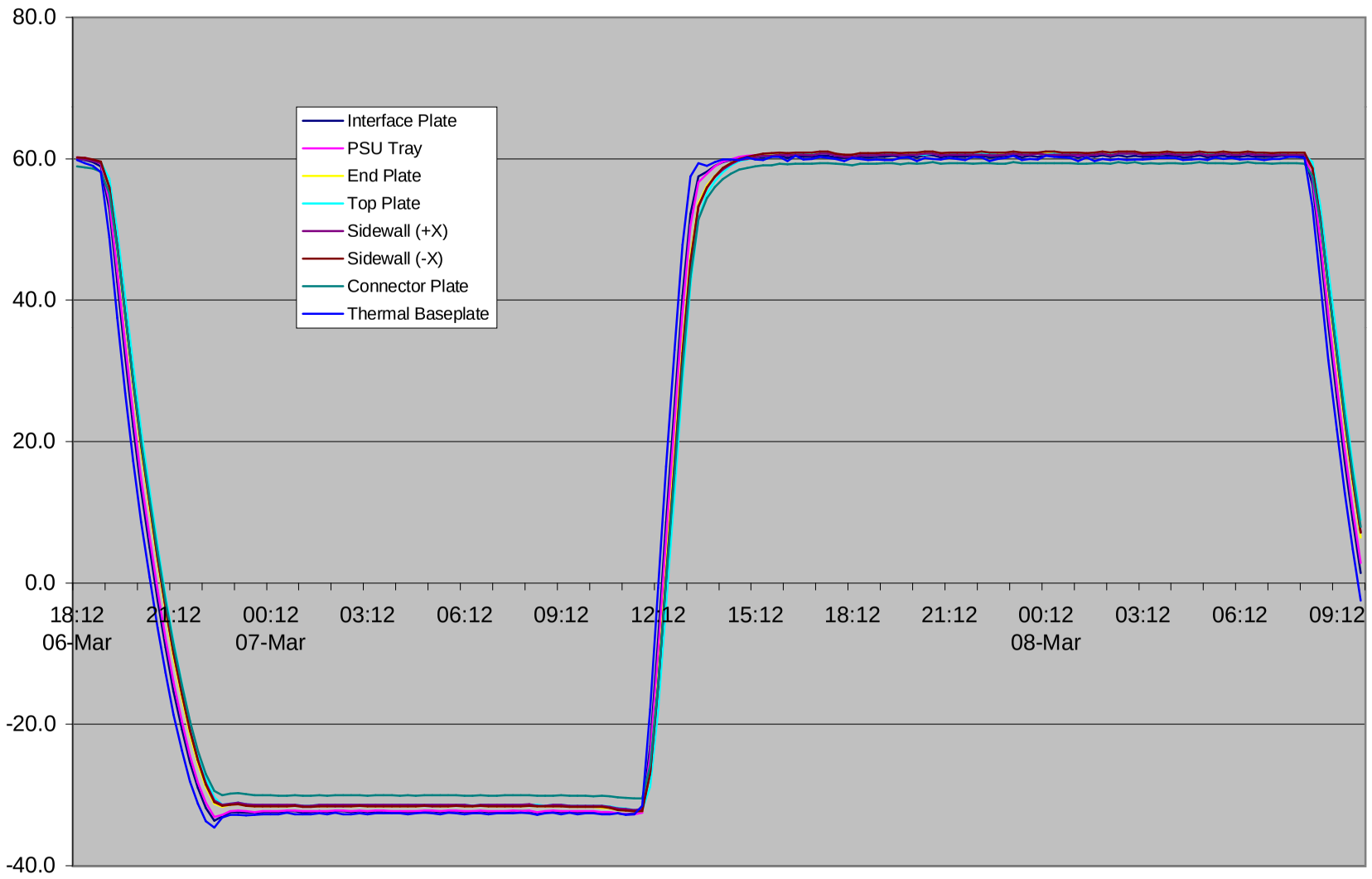
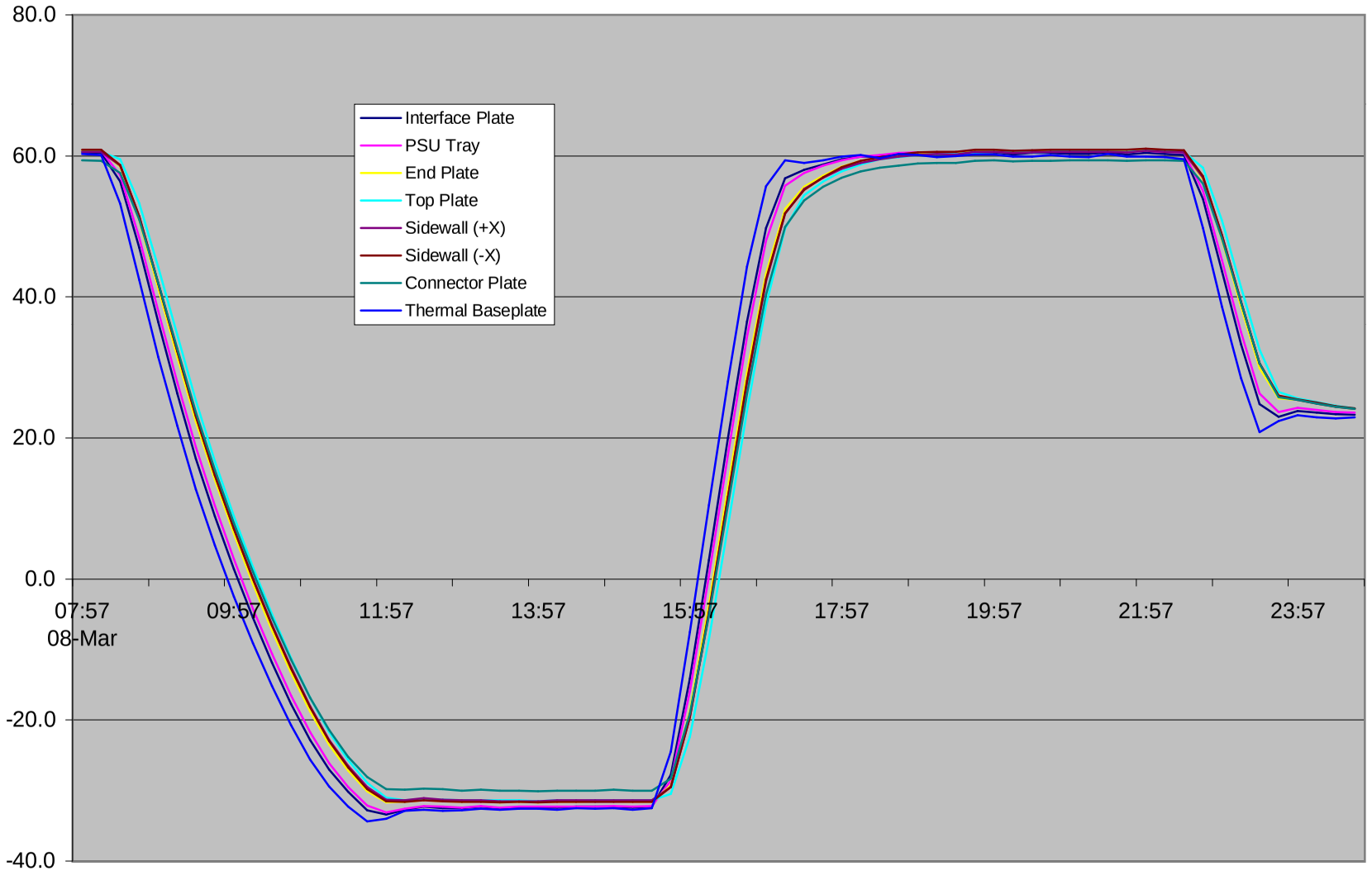

80.0
60.0
40.0
20.0
0.0
-20.0
-40.0
Interface Plate
PSU Tray
End Plate
Top Plate
Sidewall (+X)
Sidewall (-X)
Connector Plate
Thermal Baseplate
18:12
06-Mar
21:12
00:12
07-Mar
03:12
06:12
09:12
12:12
15:12
18:12
21:12
00:12
08-Mar
03:12
06:12
09:12

CHART 6


80.0
60.0
40.0
20.0
0.0
-20.0
-40.0
07:57
08-Mar
09:57
11:57
13:57
15:57
17:57
19:57
21:57
23:57
Interface Plate
PSU Tray
End Plate
Top Plate
Sidewall (+X)
Sidewall (-X)
Connector Plate
Thermal Baseplate

SMEI DHU Thermal Vacuum Test
Initial Ambient Functional Test

Date	02-Mar-01
Time	16:00

Pressure	ambient	mbar
Set Point	N/A	deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	27.3
3	PSU Tray (+Y)	26.3
4	End Plate	25.7
5	Top Plate (centre)	26.3

Channel	Allocation	Deg C
6	Sidewall (+X)	26.1
7	Sidewall (-X)	26.2
10	Connector Plate	25.6
11	Thermal Baseplate	26.1

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: N/A

3. Switched On DHU A; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A and B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	118
28V Supply mA (at 128 kbps)	130

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	7	0.12
DHU 5V	130	4.98
PROC (C)	110	26.3
PSU (C)	118	23.8
PROC (I)	42	0.26

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	84
CCD	83
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	129
Mirror	130
Baffle	130
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A and B:

Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	120
28V Supply mA (at 128 kbps)	133

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	11	0.17
DHU 5V	130	4.98
PROC (C)	111	26.0
PSU (C)	111	26.0
PROC (I)	37	0.23

9. Recorded Camera Analog Monitor readings & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	83
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	129
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	704	704	704	56	0.71
De-Icer Heater	600	600	598	47	0.60
Shutter Phase 0	246	246	246	18	0.25
Shutter Phase 1	246	246	246	18	0.25
Shutter Phase 2	246	246	246	18	0.25
Shutter Phase 3	246	246	246	18	0.25

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	805

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	705	705	706	60	0.76
De-Icer Heater	601	601	600	51	0.65
Shutter Phase 0	248	248	248	21	0.29
Shutter Phase 1	248	248	248	21	0.29
Shutter Phase 2	248	248	248	21	0.29
Shutter Phase 3	248	248	248	21	0.29

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	807

16. Switched Off DHU B

17. Started transition to first cold case and cold switch-on:

Time	16:30

Set Point	-47 deg C

SMEI DHU Thermal Vacuum Test
Cold Cycle 1 Functional Test - Cold Switch-On

Date	02-Mar-01
Time	22:00

Pressure	9.3E-06 mbar
Set Point	-47 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	-44.7
3	PSU Tray (+Y)	-44.7
4	End Plate	-44.3
5	Top Plate (centre)	-43.9

Channel	Allocation	Deg C
6	Sidewall (+X)	-44.0
7	Sidewall (-X)	-44.3
10	Connector Plate	-42.3
11	Thermal Baseplate	-44.8

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched On DHU A; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A and B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	124
28V Supply mA (at 128 kbps)	136

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	0	0.03
DHU 5V	131	4.99
PROC (C)	255	<-31.9
PSU (C)	255	<-31.9
PROC (I)	36	0.23

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	84
CCD	83
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	130
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A and B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	128
28V Supply mA (at 128 kbps)	142

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	1	0.04
DHU 5V	130	4.98
PROC (C)	255	<-31.9
PSU (C)	255	<-31.9
PROC (I)	31	0.20

9. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box

Cam 1	ADU
Rad	83
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	83
Elec	130
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	712	712	712	50	0.64
De-Icer Heater	608	607	606	41	0.53
Shutter Phase 0	252	252	252	9	0.14
Shutter Phase 1	252	252	252	9	0.14
Shutter Phase 2	252	252	252	9	0.14
Shutter Phase 3	252	252	252	9	0.14

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	812

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	715	715	715	54	0.69
De-Icer Heater	611	610	609	45	0.58
Shutter Phase 0	257	257	257	13	0.19
Shutter Phase 1	257	257	257	13	0.19
Shutter Phase 2	257	257	257	13	0.19
Shutter Phase 3	257	257	257	13	0.19

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	812

16. Switched Off DHU B

17. Switched On DHU A

18. Started transition to first hot case:

Time	23:00

Set Point	60 deg C

SMEI DHU Thermal Vacuum Test
Hot Cycle 1 Functional Test

Date	03-Mar-01
Time	21:45

Pressure	6.7E-06 mbar
Set Point	60 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	60.3
3	PSU Tray (+Y)	60.6
4	End Plate	60.8
5	Top Plate (centre)	60.7

Channel	Allocation	Deg C
6	Sidewall (+X)	60.6
7	Sidewall (-X)	60.9
10	Connector Plate	59.6
11	Thermal Baseplate	59.9

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	115
28V Supply mA (at 128 kbps)	128

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	8	0.13
DHU 5V	130	4.98
PROC (C)	10	67.7
PSU (C)	16	63.6
PROC (I)	43	0.26

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	83
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	83
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	128
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	118
28V Supply mA (at 128 kbps)	130

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	12	0.18
DHU 5V	130	4.98
PROC (C)	14	64.9
PSU (C)	12	66.3
PROC (I)	38	0.24

9. Recorded Camera Analog Monitor readings & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	83
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	128
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	129
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	702	702	702	56	0.71
De-Icer Heater	598	598	597	47	0.60
Shutter Phase 0	244	244	244	18	0.25
Shutter Phase 1	244	244	244	18	0.25
Shutter Phase 2	244	244	244	18	0.25
Shutter Phase 3	244	244	244	18	0.25

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	803

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	704	704	704	60	0.76
De-Icer Heater	600	600	600	51	0.65
Shutter Phase 0	246	246	246	22	0.30
Shutter Phase 1	246	246	246	22	0.30
Shutter Phase 2	246	246	246	22	0.30
Shutter Phase 3	246	246	246	22	0.30

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	807

16. Switched Off DHU B

17. Reset EGSE and switched DHU A On; left running in 4x4 mode at 64kbps telemetry

18. Started transition to next cold case:

Time	22:35

Set Point	-35 deg C

SMEI DHU Thermal Vacuum Test
Cold Cycle 2 Functional Test

Date	04-Mar-01
Time	10:25

Pressure	4.0E-06 mbar
Set Point	-35 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	-32.3
3	PSU Tray (+Y)	-32.2
4	End Plate	-31.6
5	Top Plate (centre)	-31.5

Channel	Allocation	Deg C
6	Sidewall (+X)	-31.5
7	Sidewall (-X)	-31.7
10	Connector Plate	-30.2
11	Thermal Baseplate	-32.6

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	122
28V Supply mA (at 128 kbps)	135

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	2	0.06
DHU 5V	131	4.99
PROC (C)	246	-25.1
PSU (C)	255	<-31.9
PROC (I)	38	0.24

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	130
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	126
28V Supply mA (at 128 kbps)	139

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	5	0.09
DHU 5V	130	4.98
PROC (C)	250	-28.4
PSU (C)	252	-30.1
PROC (I)	33	0.21

9. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box

Cam 1	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	710	710	710	52	0.67
De-Icer Heater	605	605	604	44	0.57
Shutter Phase 0	250	250	250	13	0.19
Shutter Phase 1	250	250	251	13	0.19
Shutter Phase 2	250	250	251	13	0.19
Shutter Phase 3	250	250	250	13	0.19

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	811

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	712	712	712	56	0.71
De-Icer Heater	608	608	608	47	0.60
Shutter Phase 0	254	254	254	16	0.23
Shutter Phase 1	254	254	254	16	0.23
Shutter Phase 2	254	254	254	16	0.23
Shutter Phase 3	254	254	254	16	0.23

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	815

16. Switched Off DHU B

17. Reset EGSE and switched DHU A On; left running in 4x4 mode at 64kbps telemetry

18. Started transition to next hot case:

Time	10:45

Set Point	60 deg C

SMEI DHU Thermal Vacuum Test
Hot Cycle 2 Functional Test

Date	04-Mar-01
Time	21:40

Pressure	5.4E-06 mbar
Set Point	60 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	60.3
3	PSU Tray (+Y)	60.6
4	End Plate	60.7
5	Top Plate (centre)	60.6

Channel	Allocation	Deg C
6	Sidewall (+X)	60.5
7	Sidewall (-X)	60.8
10	Connector Plate	59.4
11	Thermal Baseplate	59.9

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	115
28V Supply mA (at 128 kbps)	128

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	8	0.13
DHU 5V	130	4.98
PROC (C)	11	67.0
PSU (C)	17	63.0
PROC (I)	43	0.26

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	83
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	83
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	128
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	118
28V Supply mA (at 128 kbps)	131

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	11	0.17
DHU 5V	130	4.98
PROC (C)	10	67.7
PSU (C)	14	64.9
PROC (I)	38	0.24

9. Recorded Camera Analog Monitor readings & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	83
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	129
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	702	702	702	56	0.71
De-Icer Heater	598	598	596	47	0.60
Shutter Phase 0	244	244	244	18	0.25
Shutter Phase 1	244	244	244	18	0.25
Shutter Phase 2	244	244	244	18	0.25
Shutter Phase 3	244	244	244	18	0.25

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	803

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	704	703	703	60	0.76
De-Icer Heater	599	599	598	51	0.65
Shutter Phase 0	246	246	246	21	0.29
Shutter Phase 1	246	246	246	21	0.29
Shutter Phase 2	246	246	246	21	0.29
Shutter Phase 3	246	246	246	21	0.29

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	805

16. Switched Off DHU B

17. Reset EGSE and switched DHU A On; left running in 4x4 mode at 64kbps telemetry

18. Started transition to next cold case:

Time	22:25

Set Point	-35 deg C

SMEI DHU Thermal Vacuum Test
Cold Cycle 3 Functional Test

Date	05-Mar-01
Time	17:07

Pressure	4.4E-06 mbar
Set Point	-35 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	-32.3
3	PSU Tray (+Y)	-32.1
4	End Plate	-31.4
5	Top Plate (centre)	-31.4

Channel	Allocation	Deg C
6	Sidewall (+X)	-31.3
7	Sidewall (-X)	-31.5
10	Connector Plate	-30.1
11	Thermal Baseplate	-32.4

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	122
28V Supply mA (at 128 kbps)	134

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	2	0.06
DHU 5V	131	4.99
PROC (C)	244	-23.6
PSU (C)	255	<-31.9
PROC (I)	38	0.24

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	130
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	125
28V Supply mA (at 128 kbps)	137

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	6	0.10
DHU 5V	130	4.98
PROC (C)	250	-28.4
PSU (C)	253	-31.0
PROC (I)	33	0.21

9. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box

Cam 1	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	710	710	710	52	0.67
De-Icer Heater	605	605	603	44	0.57
Shutter Phase 0	250	250	250	13	0.19
Shutter Phase 1	250	250	250	13	0.19
Shutter Phase 2	250	250	250	13	0.19
Shutter Phase 3	250	250	250	13	0.19

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	812

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	713	712	713	56	0.71
De-Icer Heater	608	608	607	47	0.60
Shutter Phase 0	253	253	253	16	0.23
Shutter Phase 1	253	253	253	16	0.23
Shutter Phase 2	253	253	253	16	0.23
Shutter Phase 3	253	253	253	16	0.23

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	815

16. Switched Off DHU B

17. Reset EGSE and switched DHU A On; left running in 4x4 mode at 64kbps telemetry

18. Started transition to next hot case:

Time	18:20

Set Point	60 deg C

SMEI DHU Thermal Vacuum Test
Hot Cycle 3 Functional Test

Date	06-Mar-01
Time	02:40

Pressure	5.0E-06 mbar
Set Point	60 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	60.3
3	PSU Tray (+Y)	60.5
4	End Plate	60.7
5	Top Plate (centre)	60.6

Channel	Allocation	Deg C
6	Sidewall (+X)	60.5
7	Sidewall (-X)	60.8
10	Connector Plate	59.3
11	Thermal Baseplate	59.9

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	115
28V Supply mA (at 128 kbps)	128

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	8	0.13
DHU 5V	130	4.98
PROC (C)	11	67.0
PSU (C)	16	63.6
PROC (I)	43	0.26

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	83
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	83
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	128
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	117
28V Supply mA (at 128 kbps)	129

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	12	0.18
DHU 5V	130	4.98
PROC (C)	15	64.3
PSU (C)	12	66.3
PROC (I)	38	0.24

9. Recorded Camera Analog Monitor readings & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	83
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	129
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	129
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	702	702	702	56	0.71
De-Icer Heater	598	598	596	47	0.60
Shutter Phase 0	244	244	244	18	0.25
Shutter Phase 1	244	244	244	18	0.25
Shutter Phase 2	244	244	244	18	0.25
Shutter Phase 3	244	244	244	18	0.25

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	804

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	703	703	703	60	0.76
De-Icer Heater	599	599	598	51	0.65
Shutter Phase 0	247	247	247	22	0.30
Shutter Phase 1	247	247	247	22	0.30
Shutter Phase 2	247	247	247	22	0.30
Shutter Phase 3	247	247	247	22	0.30

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	805

16. Switched Off DHU B

17. Reset EGSE and switched DHU A On; left running in 4x4 mode at 64kbps telemetry

18. Started transition to next cold case:

Time	03:00

Set Point	-35 deg C

SMEI DHU Thermal Vacuum Test
Cold Cycle 4 Functional Test

Date	06-Mar-01
Time	10:57

Pressure	4.4E-06 mbar
Set Point	-35 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	-32.4
3	PSU Tray (+Y)	-32.3
4	End Plate	-31.6
5	Top Plate (centre)	-31.4

Channel	Allocation	Deg C
6	Sidewall (+X)	-31.5
7	Sidewall (-X)	-31.6
10	Connector Plate	-30.1
11	Thermal Baseplate	-32.7

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	122
28V Supply mA (at 128 kbps)	135

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	2	0.06
DHU 5V	131	4.99
PROC (C)	245	-24.4
PSU (C)	255	<-31.9
PROC (I)	38	0.24

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	130
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	127
28V Supply mA (at 128 kbps)	140

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	6	0.10
DHU 5V	130	4.98
PROC (C)	250	-28.4
PSU (C)	252	-30.1
PROC (I)	33	0.21

9. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box

Cam 1	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	130
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	710	710	710	52	0.67
De-Icer Heater	605	605	604	44	0.57
Shutter Phase 0	250	250	250	13	0.19
Shutter Phase 1	250	250	250	13	0.19
Shutter Phase 2	250	250	250	13	0.19
Shutter Phase 3	250	250	250	13	0.19

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	812 / 892

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	713	713	713	56	0.71
De-Icer Heater	608	608	607	47	0.60
Shutter Phase 0	255	255	255	16	0.23
Shutter Phase 1	255	255	255	16	0.23
Shutter Phase 2	255	255	255	16	0.23
Shutter Phase 3	255	255	255	16	0.23

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	813 / 922

16. Switched Off DHU B

17. Reset EGSE and switched DHU A On; left running in 4x4 mode at 64kbps telemetry

18. Started transition to next hot case:

Time	11:51

Set Point	60 deg C

SMEI DHU Thermal Vacuum Test
Hot Cycle 4 Functional Test

Date	06-Mar-01
Time	18:02

Pressure	4.5E-06 mbar
Set Point	60 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	59.9
3	PSU Tray (+Y)	60.1
4	End Plate	60.0
5	Top Plate (centre)	60.0

Channel	Allocation	Deg C
6	Sidewall (+X)	59.9
7	Sidewall (-X)	60.1
10	Connector Plate	58.9
11	Thermal Baseplate	59.6

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	116
28V Supply mA (at 128 kbps)	128

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	8	0.13
DHU 5V	130	4.98
PROC (C)	16	63.6
PSU (C)	18	62.4
PROC (I)	43	0.26

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	84
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	83
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	128
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	118
28V Supply mA (at 128 kbps)	131

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	12	0.18
DHU 5V	130	4.98
PROC (C)	16	63.6
PSU (C)	13	65.6
PROC (I)	38	0.24

9. Recorded Camera Analog Monitor readings & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	83
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	128
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	702	702	702	56	0.71
De-Icer Heater	598	598	597	48	0.62
Shutter Phase 0	244	244	244	18	0.25
Shutter Phase 1	244	244	244	18	0.25
Shutter Phase 2	244	244	244	18	0.25
Shutter Phase 3	244	244	244	18	0.25

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	803

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	703	703	704	60	0.76
De-Icer Heater	599	599	598	51	0.65
Shutter Phase 0	246	247	246	21	0.29
Shutter Phase 1	247	246	246	22	0.30
Shutter Phase 2	246	247	246	21	0.29
Shutter Phase 3	247	246	246	21	0.29

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	805

16. Switched Off DHU B

17. Reset EGSE and switched DHU A On; left running in 4x4 mode at 64kbps telemetry

18. Started transition to next cold case:

Time	18:50

Set Point	-35 deg C

SMEI DHU Thermal Vacuum Test
Cold Cycle 5 Functional Test

Date	07-Mar-01
Time	09:07

Pressure	4.1E-06 mbar
Set Point	-35 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	-32.3
3	PSU Tray (+Y)	-32.2
4	End Plate	-31.6
5	Top Plate (centre)	-31.4

Channel	Allocation	Deg C
6	Sidewall (+X)	-31.4
7	Sidewall (-X)	-31.6
10	Connector Plate	-30.1
11	Thermal Baseplate	-32.5

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	122
28V Supply mA (at 128 kbps)	135

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	2	0.06
DHU 5V	131	4.99
PROC (C)	246	-25.1
PSU (C)	255	<-31.9
PROC (I)	38	0.24

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	130
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	126
28V Supply mA (at 128 kbps)	140

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	6	0.10
DHU 5V	130	4.98
PROC (C)	250	-28.4
PSU (C)	253	-31.0
PROC (I)	33	0.21

9. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box

Cam 1	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	710	710	710	52	0.67
De-Icer Heater	605	605	604	44	0.57
Shutter Phase 0	251	251	251	13	0.19
Shutter Phase 1	251	250	251	13	0.19
Shutter Phase 2	251	250	251	13	0.19
Shutter Phase 3	251	250	250	13	0.19

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	811

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	713	713	713	56	0.71
De-Icer Heater	607	607	607	47	0.60
Shutter Phase 0	255	255	255	16	0.23
Shutter Phase 1	255	255	255	16	0.23
Shutter Phase 2	255	255	255	16	0.23
Shutter Phase 3	255	255	255	16	0.23

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	813

16. Switched Off DHU B

17. Reset EGSE and switched DHU A On; left running in 4x4 mode at 64kbps telemetry

18. Started transition to next hot case:

Time	11:25

Set Point	60 deg C

SMEI DHU Thermal Vacuum Test
Hot Cycle 5 Functional Test

Date	07-Mar-01
Time	18:28

Pressure	4.3E-06 mbar
Set Point	60 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	60.2
3	PSU Tray (+Y)	60.5
4	End Plate	60.5
5	Top Plate (centre)	60.3

Channel	Allocation	Deg C
6	Sidewall (+X)	60.3
7	Sidewall (-X)	60.6
10	Connector Plate	59.1
11	Thermal Baseplate	60.1

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	115
28V Supply mA (at 128 kbps)	127

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	8	0.13
DHU 5V	130	4.98
PROC (C)	9	68.4
PSU (C)	16	63.6
PROC (I)	43	0.26

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	84
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	83
Elec	128
Mirror	128
Baffle	129
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	115
28V Supply mA (at 128 kbps)	129

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	12	0.18
DHU 5V	130	4.98
PROC (C)	15	64.3
PSU (C)	12	66.3
PROC (I)	38	0.24

9. Recorded Camera Analog Monitor readings & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	83
CCD	84
Elec	128
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	128
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	128
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	702	702	702	56	0.71
De-Icer Heater	598	598	596	48	0.62
Shutter Phase 0	243	243	243	18	0.25
Shutter Phase 1	243	243	243	18	0.25
Shutter Phase 2	243	243	243	18	0.25
Shutter Phase 3	243	243	243	18	0.25

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	804

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	703	703	703	60	0.76
De-Icer Heater	599	599	599	52	0.67
Shutter Phase 0	246	246	246	22	0.30
Shutter Phase 1	246	246	246	22	0.30
Shutter Phase 2	246	246	246	22	0.30
Shutter Phase 3	246	246	246	22	0.30

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	805

16. Switched Off DHU B

17. Reset EGSE and switched DHU A On; left running in 4x4 mode at 64kbps telemetry

18. Started transition to next cold case:

Time	18:48

Set Point	-35 deg C

SMEI DHU Thermal Vacuum Test
Cold Cycle 6 Functional Test

Date	08-Mar-01
Time	15:02

Pressure	3.6E-06 mbar
Set Point	-35 deg C

Note: DHU did not have a cold soak.

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	-32.3
3	PSU Tray (+Y)	-32.2
4	End Plate	-31.5
5	Top Plate (centre)	-31.4

Channel	Allocation	Deg C
6	Sidewall (+X)	-31.4
7	Sidewall (-X)	-31.6
10	Connector Plate	-29.9
11	Thermal Baseplate	-32.5

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	122
28V Supply mA (at 128 kbps)	135

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	2	0.06
DHU 5V	131	4.99
PROC (C)	246	-25.1
PSU (C)	255	<-31.9
PROC (I)	38	0.24

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	84
CCD	83
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	130
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	125
28V Supply mA (at 128 kbps)	135

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	6	0.10
DHU 5V	130	4.98
PROC (C)	252	-30.1
PSU (C)	252	-30.1
PROC (I)	33	0.21

9. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box

Cam 1	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	130
Mirror	130
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	710	710	710	52	0.67
De-Icer Heater	605	605	604	44	0.57
Shutter Phase 0	250	249	250	13	0.19
Shutter Phase 1	250	249	250	13	0.19
Shutter Phase 2	250	249	250	13	0.19
Shutter Phase 3	250	250	250	13	0.19

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	810

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	713	713	713	56	0.71
De-Icer Heater	608	608	606	48	0.62
Shutter Phase 0	252	252	252	16	0.23
Shutter Phase 1	252	252	252	16	0.23
Shutter Phase 2	252	252	252	16	0.23
Shutter Phase 3	252	252	252	16	0.23

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	814

16. Switched Off DHU B

17. Reset EGSE and switched DHU A On; left running in 4x4 mode at 64kbps telemetry

18. Started transition to next hot case:

Time	15:25	**Set Point**	60 deg C

SMEI DHU Thermal Vacuum Test
Hot Cycle 6 Functional Test

Date	08-Mar-01
Time	22:03

Pressure	3.9E-06 mbar
Set Point	60 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	60.4
3	PSU Tray (+Y)	60.7
4	End Plate	60.8
5	Top Plate (centre)	60.7

Channel	Allocation	Deg C
6	Sidewall (+X)	60.7
7	Sidewall (-X)	60.1
10	Connector Plate	59.4
11	Thermal Baseplate	59.9

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	115
28V Supply mA (at 128 kbps)	128

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	8	0.13
DHU 5V	130	4.98
PROC (C)	10	67.7
PSU (C)	16	63.6
PROC (I)	43	0.26

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	83
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	83
CCD	83
Elec	128
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	128
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	118
28V Supply mA (at 128 kbps)	131

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	12	0.18
DHU 5V	130	4.98
PROC (C)	15	64.3
PSU (C)	12	66.3
PROC (I)	38	0.24

9. Recorded Camera Analog Monitor readings & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	83
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	128
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	129
Mirror	129
Baffle	128
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	702	702	702	56	0.71
De-Icer Heater	598	598	596	48	0.62
Shutter Phase 0	243	243	243	18	0.25
Shutter Phase 1	243	243	243	18	0.25
Shutter Phase 2	243	243	243	18	0.25
Shutter Phase 3	243	243	243	18	0.25

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	803

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	703	703	703	60	0.76
De-Icer Heater	599	599	598	52	0.67
Shutter Phase 0	245	244	245	22	0.30
Shutter Phase 1	245	245	244	22	0.30
Shutter Phase 2	245	245	245	22	0.30
Shutter Phase 3	245	245	245	22	0.30

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	806

16. Switched Off DHU B

17. Reset EGSE and switched DHU A On; left running in 4x4 mode at 64kbps telemetry

18. Started transition to ambient:

Time	22:21

Set Point	22 deg C

SMEI DHU Thermal Vacuum Test
Final Ambient Functional Test

Date	09-Mar-01
Time	09:45

Pressure	ambient mbar
Set Point	22 deg C

1. Recorded external temperature monitor readings:

Channel	Allocation	Deg C
1	Interface Plate	23.2
3	PSU Tray (+Y)	23.4
4	End Plate	23.9
5	Top Plate (centre)	23.7

Channel	Allocation	Deg C
6	Sidewall (+X)	23.9
7	Sidewall (-X)	23.9
10	Connector Plate	23.6
11	Thermal Baseplate	22.9

2. Checked Ch 1 and Ch 3 readings are within +/-3 deg C of spec and have been stable to < 3 deg C / hr for > 30 min: OK

3. Switched Off DHU A, reset EGSE and switched DHU A On again; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

1553B Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	117
28V Supply mA (at 128 kbps)	128

4. Recorded DHU A Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	7	0.12
DHU 5V	130	4.98
PROC (C)	101	29.1
PSU (C)	114	25.0
PROC (I)	42	0.26

5. Recorded Camera Analog Monitors & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	84
CCD	84
Elec	129
Mirror	128
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	129
Mirror	130
Baffle	129
Shutter	OK
Door	OK
BOS	OK

6. Switched Off DHU A

7. Switched On DHU B; recorded EGSE 28V supply current; verified telemetry & command functionality via 1553B sides A & B:

Telemetry	SOH	OK
	Science	OK
	Eng	OK
Command Functionality		OK

28V Supply mA (at 64 kbps)	118
28V Supply mA (at 128 kbps)	129

8. Recorded DHU B Analog Monitor readings:

An Mon	ADU	Eng Units
SMEI (I)	11	0.17
DHU 5V	130	4.98
PROC (C)	108	26.9
PSU (C)	108	26.9
PROC (I)	37	0.23

9. Recorded Camera Analog Monitor readings & checked Digital Monitors, using DHU test box:

Cam 1	ADU
Rad	84
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 2	ADU
Rad	84
CCD	84
Elec	129
Mirror	129
Baffle	84
Shutter	OK
Door	OK
BOS	OK

Cam 3	ADU
Rad	84
CCD	84
Elec	130
Mirror	129
Baffle	129
Shutter	OK
Door	OK
BOS	OK

10. Switched Off DHU B

11. Switched On DHU A with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	Cam 2	Cam 3	ADU	Amp
HOP_TEST	704	704	705	56	0.71
De-Icer Heater	600	600	599	47	0.60
Shutter Phase 0	245	246	246	17	0.24
Shutter Phase 1	246	246	246	17	0.24
Shutter Phase 2	246	246	246	17	0.24
Shutter Phase 3	246	246	246	17	0.24

12. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	805

13. Switched Off DHU A

14. Switched On DHU B with 1553B telemetry running at 64 kbps; checked 28V outputs to cameras using DHU test box; recorded EGSE 28V supply current and typical SMEI current monitor readings:

	EGSE (mA)			SMEI (I) typical	
	Cam 1	**Cam 2**	**Cam 3**	**ADU**	**Amp**
HOP_TEST	705	705	705	60	0.76
De-Icer Heater	601	601	600	51	0.65
Shutter Phase 0	248	248	248	21	0.29
Shutter Phase 1	248	248	248	21	0.29
Shutter Phase 2	248	248	248	21	0.29
Shutter Phase 3	248	248	248	21	0.29

15. Checked camera command and data interfaces using camera simulator; recorded EGSE 28V supply current:

Cam 1	OK
Cam 2	OK
Cam 3	OK

EGSE (mA)	806

16. Switched Off DHU B

17. Vented chamber and opened.

***** END OF TEST *****