
REPORT ON

Limited Testing of the McMurdo Limited
G5 Smartfind Plus 406 GPS EPIRB - TIM-4P GPS Module
in accordance with
Cospas-Sarsat 406 MHz Distress Beacon Type Approval Standard
T.007 Issue 4 November 2005

Report No RM615489/02 Issue 2

September 2006



Product Service



Competence. Certainty. Quality.

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REPORT ON

Limited Testing of the McMurdo Limited G5 Smartfind Plus 406 GPS
EPIRB - TIM-4P GPS Module in accordance with Cospas-Sarsat 406
MHz Distress Beacon Type Approval Standard T.007 Issue 4
November 2005

Report No RM615489/02 Issue 1

September 2006

PREPARED FOR

McMurdo Limited
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PREPARED BY



N Bennett
Administrator

APPROVED BY



M Jenkins
Authorised Signatory

DATED

27th September 2006

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SECTION 1

REPORT SUMMARY

Limited Testing of the McMurdo Limited
G5 Smartfind Plus 406 GPS EPIRB - TIM-4P GPS Module
in accordance with
Cospas-Sarsat 406 MHz Distress Beacon Type Approval Standard
T.007 Issue 4 November 2005

1.1 STATUS

Manufacturer	McMurdo Limited
Type Designation	G5 Smartfind Plus 406 GPS EPIRB - TIM-4P GPS Module
TUV Reference	RM615489_06 G5 Smartfind Plus 406 GPS EPIRB RM615489_02 Battery RM615489_05 Battery RM615489_07 Battery
Number of Samples Tested	One
Test Specification	Cospas-Sarsat T.007 Issue 4 November 2005
Date of Receipt of Test Sample	4 th September 2006
Start of Test	4 th September 2006
Finish of Test	26 th September 2006
Test Engineer(s)	R Henley J Holding R Hampton

1.2 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out is shown below.

Configuration 1 – B.2				
Section	Spec Clause	Test Description	Result	Levels/Comments
	-	Table of Test Results	N/A	
2.1	A2.5	Satellite Qualitative Test	Pass	
2.2	A3.8	Navigation System	-	
2.2.1	A3.8.2	National Location Protocol 1	Pass	
2.2.2	A3.8.2	Standard Location Protocol 1	Pass	
2.2.3	A3.8.2	User Location Protocol 1	Pass	

Configuration 2 – B.4				
Section	Spec Clause	Test Description	Result	Levels/Comments
	-	Table of Test Results	N/A	
2.1	A2.5	Satellite Qualitative Test	Pass	
2.2	A3.8	Navigation System	-	
2.2.1	A3.8.2	National Location Protocol 1	Pass	
2.2.2	A3.8.2	Standard Location Protocol 1	Pass	
2.2.3	A3.8.2	User Location Protocol 1	Pass	

Configuration 3 – B.5				
Section	Spec Clause	Test Description	Result	Levels/Comments
	-	Table of Test Results	N/A	
2.1	A2.5	Satellite Qualitative Test	Pass	
2.2	A3.8	Navigation System	-	
2.2.1	A3.8.2	National Location Protocol 1	Pass	
2.2.2	A3.8.2	Standard Location Protocol 1	Pass	
2.2.3	A3.8.2	User Location Protocol 1	Pass	

1.3 APPLICATION FORM

1.3.1 Applicant Details

Company Name	McMurdo Limited
--------------	-----------------

Address Silver Point
Airport Service Road
Portsmouth
Hilsea
PO3 5PB
United Kingdom

Category of Applicant ☒ Manufacturer ☐ Importer
 ☐ Distributor ☐ Agent

Contact Name	Neil Jordan	Telephone	02392 623934
Email	neiljordan@mcmurdo.co.uk	Fax	02392 623997

1.3.2 Manufacturer Details

Company Name	Same as above
--------------	---------------

Address

Contact Name	Telephone
Email	Fax

1.3 APPLICATION FORM

1.3.3 Beacon Details

Beacon Model: G5 Smartfind Plus 406 GPS EPIRB

Name & Location of Test Facility: BABT, Hampshire, United Kingdom

Beacon Type: ☐ Aviation ☐ Land ☒ Maritime

Operating Temperature Range: ☐ Class 1: -40°C to +55°C ☒ Class 2: -20°C to +55°C

Specified Operating Lifetime: ☐ 24 hrs ☒ 48 hrs ☐ Other [hrs]

Beacon Battery Type:

Chemistry: Lithium Manganese Dioxide
 Manufacturer & Model No: Varta CR2/3 AH
 Size & number of cells: 3 x 3 2/3AH
 Voltage: 9V nominal 6.4V end-point

Beacon Oscillator:

Type: TCXO
 Manufacturer & Model No: CMAC E3279

Ancillary Devices & Features:

	No	Yes	Details
Self Test Mode:	☐	☒	See in Self Test Characteristics below
Auxiliary Radio-Locating Device:	☐	☒	Frequency: 121.5 MHz Power: 17 dBm for 48 hours Tx. Duty Cycle: Continuous
Encoded Position Data:	☐	☒	Nav. Device: Internal Type: GPS Manufacturer: UBlox Model: TIM-4P
Long Message (144 bits):	☐	☒	
Short Message (112 bits):	☐	☐	
Automatic Activation:	☐	☒	
Strobe Light:	☐	☒	Intensity: >0.75cd Flash Rate 21 flashes per minute
Voice Communications (PTT):	☒	☐	
Other:	☒	☐	Specify:

Protocols Supported:

User Location Protocol	☐	☒
Standard Location Protocol	☐	☒
Standard Short Location Protocol	☒	☐
National Location Protocol	☐	☒
National Short Location Protocol	☒	☐

1.3 APPLICATION FORM

1.3.3 Beacon Details

Self Test Characteristics

	Yes	No
Does self-test have a separate switch positions?	☒	☐
Does self-test switch automatically return to normal position when released?	☒	☐
If not, how long until the first 'distress' message is emitted?		
Does self-test transmit a 406MHz signal?	☒	☐
Unmodulated signal only?	☐	☒
Normal data, but with inverted frame synchronisation pattern?	☒	☐
1 burst only?	☒	☐
Does self-test transmit a 121.5MHz signal?	☒	☐
For less than 1 second?	☐	☒
Continually while self-test is activated?	☐	☒
☒ Other (specify): 15		
Does self-test transmit on any other frequency (e.g. 243MHz)	☐	☒
Result of self test is indicated by:		
Pass fail indicator light	☒	☐
Strobe light flash	☒	☐
☐ Other (specify):		
Can the self-test be performed without removing the beacon from mounting bracket?	☒	☐
What parameters are internally tested by the self-test?		
Battery voltage	☒	☐
RF power at 406MHz	☒	☐
RF power at 121.5MHz	☒	☐
Approximate RF frequency	☐	☒
Phase locked loop	☒	☐
☐ Other (specify):		
Number of self tests per year	[12	]
Duration of self test	[9 seconds	]
Do the above characteristics apply for all countries where beacon sold?	☒	☐
If No, please specify:		
Do the above characteristics apply for all production serial numbers?	☒	☐
If No, please specify:		

Battery Data

Battery replacement interval	[6 years	]
Battery capacity	[3.06 Ah	]
Battery self drain (i.e. when the battery is stored out of the beacon)	[1% per yr	]

1.3 APPLICATION FORM

1.3.4 Declaration of Build Status

Hardware Version: Issue C

Software Version: 1.2.186

1.3.5 Declarations

	Yes	No
Are the equipments submitted representative production models?	☒	☐
If No re the equipments pre-production models?	☐	☐
If pre-production, will final equipments be identical in ALL respects?	☒	☐
If No supply full details:		
Is the Test report to be used as part of a Cospas-Sarsat Type Approval Application?	☒	☐
If Yes, has the product, any direct engineering predecessor, or variant ever been granted Type Approval in any EEC member country?	☐	☒
If Yes, supply full details:		
Will the labeling of the equipment comply with the requirements of C/S T.007 Issue 4?	☒	☐
ITU Class of Emission:	121.5MHz = 3K20A3X	406.028MHz = 16K0G1D

Applicant's Declaration

I hereby declare that I am entitled to sign on the behalf of the applicant and that the information supplied is correct and complete.

Signed: (when not emailing)
Name:


Neil Jordan

Position Held: Electronics Engineer

Date:

Test Facility Declaration

I hereby confirm that the 406MHz beacon described above has been successfully tested in accordance with the Cospas-Sarsat Type Approval Standard (C/S T.007) and complies with the Cospas-Sarsat Specification (C/S T.001) as demonstrated in the attached report.

Signed:
Name:


M Jenkins

Position Held: Wireless Group Leader

Date: 27th September 2006

1.4 MODIFICATIONS

No modifications were made to the test sample during testing.

1.5 REPORT MODIFICATION RECORD

Issue 1 – First Issue.

Issue 2 – Additional testing in B.2 configuration. Amendment of application form to reflect new GPS module.

SECTION 2

TEST DETAILS

Limited Testing of the McMurdo Limited
G5 Smartfind Plus 406 GPS EPIRB - TIM-4P GPS Module
in accordance with
Cospas-Sarsat 406 MHz Distress Beacon Type Approval Standard
T.007 Issue 4 November 2005

TABLE OF TEST RESULTS

Parameter	Limits	Units	Test Results			Comments
14. Satellite Qualitative Tests						
Test C2.14 Clause A2.5 – B.2 Configuration						Test sample: RM615489_06 Build state: 0 Result: Pass RM615489_05
Results provided	Y / N		Y			Test data: Page 13
Successfully located by satellites / LUT	Must be correct	P / F	P			
Position error	>=80% of results <=5 km	P / F	P			100%
Test C2.14 Clause A2.5 – B.4 Configuration						Test sample: RM615489_06 Build state: 0 Result: Pass RM615489_02
Results provided	Y / N		Y			Test data: Page 14
Successfully located by satellites / LUT	Must be correct	P / F	P			
Position error	>=80% of results <=5 km	P / F	P			100%
Test C2.14 Clause A2.5 – B.5 Configuration						Test sample: RM615489_06 Build state: 0 Result: Pass RM615489_02
Results provided	Y / N		Y			Test data: Page 15
Successfully located by satellites / LUT	Must be correct	P / F	P			
Position error	>=80% of results <=5 km	P / F	P			100%
17. Navigation System						
Location Protocol	As per C/S T.001		National	Standard	User	
Test C2.17 Clause A.3.8 – B.2 Configuration						Test data: Pages 16 to 18
Position acquisition time	<10/1 minutes	P/ F	P	P	P	
Position accuracy	C/S T.001	P/ F	P	P	P	
Test C2.17 Clause A.3.8 – B.4 Configuration						Test data: Pages 16 to 18
Position acquisition time	<10/1 minutes	P/ F	P	P	P	
Position accuracy	C/S T.001	P/ F	P	P	P	
Test C2.17 Clause A.3.8 – B.5 Configuration						Test data: Pages 16 to 18
Position acquisition time	<10/1 minutes	P/ F	P	P	P	
Position accuracy	C/S T.001	P/ F	P	P	P	

2.1 SATELLITE QUALITATIVE TESTS

Date of the Test: 21st – 22nd September 2006
 Time of the Test: 15:05 – 08:30
 Beacon Model: G5 Smartfind Plus 406 GPS EPIRB - TIM-4P GPS Module
 Antenna Part/Model Number: D016/PRESSCO 82-902
 Beacon 15 Hex ID: 193E0031BF81FE0
 Actual location of the test beacon: Latitude: 050° 49.091'N
 Longitude: 001°11.870'W
 Beacon test configuration (e.g. on dry ground floating in water etc): C/S T.007 Figure B.2

Satellite ID	Satellite Pass Number	15 Hex ID Provided by LUT	Doppler Latitude	Doppler Longitude	Mean Rx Power (dBm)	TCA	CTA (deg)	Location Error (km)
S6	60479	193E0 031BF 81FE0	50.83071	-1.17311	-135.62	08:38:26	-16.541	2.225
S7	43455	193E0 031BF 81FE0	50.81840	-1.19553	-124.97	07:46:03	12.364	0.163
S7	43454	193E0 031BF 81FE0	50.82059	-1.20418	-123.66	06:06:37	-2.353	0.520
S7	43453	193E0 031BF 81FE0	50.81823	-1.19210	-119.70	04:25:45	-18.262	0.403
S8	30927	193E0 031BF 81FE0	50.82020	-1.20783	-123.91	05:23:16	9.627	0.737
S10	6905	193E0 031BF 81FE0	50.81542	-1.19815	-125.26	04:02:22	13.368	0.308
S8	30926	193E0 031BF 81FE0	50.81691	-1.19737	-124.83	03:42:46	-5.501	0.145
S10	6904	193E0 031BF 81FE0	50.81825	-1.20494	-124.62	02:22:08	-1.273	0.499
S10	6903	193E0 031BF 81FE0	50.81074	-1.19765	-127.52	00:40:27	-17.302	0.827
S9	22054	193E0 031BF 81FE0	50.82549	-1.19067	-123.61	22:46:23	-10.341	0.955
S9	22053	193E0 031BF 81FE0	50.82321	-1.20187	-117.82	21:06:12	5.204	0.626
S6	60473	193E0 031BF 81FE0	50.83573	-1.20141	-130.76	22:04:06	-10.954	1.966
S6	60472	193E0 031BF 81FE0	50.83366	-1.21247	-131.60	20:23:12	4.694	2.003
S9	22052	193E0 031BF 81FE0	50.82801	-1.21682	-129.58	19:27:25	18.618	1.723
S6	60471	193E0 031BF 81FE0	50.83246	-1.22567	-137.07	18:43:44	18.192	2.517
S7	43447	193E0 031BF 81FE0	50.82465	-1.18839	-121.67	17:56:25	-9.240	0.978
S8	30919	193E0 031BF 81FE0	50.82136	-1.18987	-117.88	15:26:08	-5.915	0.661
S7	43446	193E0 031BF 81FE0	50.82994	-1.20847	-124.00	16:16:23	6.223	1.505
S7	43445	193E0 031BF 81FE0	50.82011	-1.21154	-127.04	14:37:43	19.439	0.986
S10	6897	193E0 031BF 81FE0	50.83600	-1.21666	-122.88	14:04:53	-9.631	2.380

$$\begin{aligned}
 \text{Ratio of Successful Solutions} &= \frac{\text{number of Doppler solutions within 5km with } 1^\circ < \text{CTA} < 21^\circ}{\text{number of satellite passes over test duration with } 1^\circ < \text{CTA} < 21^\circ} \\
 &= \frac{20}{20} = 100 \%
 \end{aligned}$$

2.1 SATELLITE QUALITATIVE TESTS

Date of the Test: 14th and 15th September 2006
 Time of the Test: 16:55 to 07:20
 Beacon Model: G5 Smartfind Plus 406 GPS EPIRB - TIM-4P GPS Module
 Antenna Part/Model Number: D016/PRESSCO 82-902
 Beacon 15 Hex ID: 193E0031BF81FE0
 Actual location of the test beacon: Latitude: 052° 14.447' N
 Longitude: 001° 43.970' W
 Beacon test configuration (e.g. on dry ground floating in water etc): C/S T.007 Figure B.4

Satellite ID	Satellite Pass Number	15 Hex ID Provided by LUT	Doppler Latitude	Doppler Longitude	Mean Rx Power (dBm)	TCA	CTA (deg)	Location Error (km)
S7	43355	193E0 031BF 81FE0	52.24372	-1.72526	-126.18	07:12:39	6.716	0.610
S8	30829	193E0 031BF 81FE0	52.24146	-1.72303	-133.58	06:43:31	18.744	0.671
S7	43354	193E0 031BF 81FE0	52.23961	-1.72782	-125.50	05:32:40	-8.173	0.365
S8	30828	193E0 031BF 81FE0	52.24070	-1.72476	-125.31	05:04:04	6.127	0.549
S10	6806	193E0 031BF 81FE0	52.23952	-1.71088	-126.61	03:33:34	8.449	1.500
S8	30827	193E0 031BF 81FE0	52.23956	-1.72263	-125.75	03:23:14	-8.880	0.707
S10	6805	193E0 031BF 81FE0	52.24186	-1.72378	-125.12	01:52:51	-6.361	0.628
S9	21955	193E0 031BF 81FE0	52.24123	-1.71701	-133.03	23:48:40	-19.533	1.078
S9	21954	193E0 031BF 81FE0	52.25212	-1.72038	-125.33	22:07:34	-4.074	1.518
S6	60374	193E0 031BF 81FE0	52.25303	-1.74033	-130.38	21:54:39	-9.297	1.453
S9	21953	193E0 031BF 81FE0	52.24686	-1.73171	-126.22	20:27:55	10.370	0.680
S6	60373	193E0 031BF 81FE0	52.25678	-1.73604	-131.36	20:13:52	5.733	1.791
S7	43348	193E0 031BF 81FE0	52.24514	-1.72016	-131.73	19:04:15	-19.276	0.989
S6	60372	193E0 031BF 81FE0	52.25800	-1.75436	-135.47	18:34:28	18.448	2.409
S7	43347	193E0 031BF 81FE0	52.24114	-1.72304	-124.85	17:23:13	-3.825	0.668
S8	30821	193E0 031BF 81FE0	52.24560	-1.71520	-134.60	16:49:12	-18.607	1.314

$$\begin{aligned}
 \text{Ratio of Successful Solutions} &= \frac{\text{number of Doppler solutions within 5km with } 1^\circ < \text{CTA} < 21^\circ}{\text{number of satellite passes over test duration with } 1^\circ < \text{CTA} < 21^\circ} \\
 &= \frac{16}{16} = 100 \%
 \end{aligned}$$

2.1 SATELLITE QUALITATIVE TESTS

Date of the Test: 13th and 14th September 2006
 Time of the Test: 17:06 to 09:04
 Beacon Model: G5 Smartfind Plus 406 GPS EPIRB -
 TIM-4P GPS Module
 Antenna Part/Model Number: D016/PRESSCO 82-902
 Beacon 15 Hex ID: 193E0031BF81FE0
 Actual location of the test beacon: Latitude: 052° 14.447' N
 Longitude: 001° 43.970' W
 Beacon test configuration (e.g. on dry ground floating in water etc): C/S T.007 Figure B.5

Satellite ID	Satellite Pass Number	15 Hex ID Provided by LUT	Doppler Latitude	Doppler Longitude	Mean Rx Power (dBm)	TCA	CTA (deg)	Location Error (km)
S7	43341	193E0 031BF 81FE0	52.23100	-1.70066	-127.53	07:36:14	9.997	2.445
S8	30815	193E0 031BF 81FE0	52.23967	-1.72871	-135.59	06:54:57	19.969	0.307
S7	43340	193E0 031BF 81FE0	52.24052	-1.72053	-126.20	05:56:35	-4.520	0.838
S7	43339	193E0 031BF 81FE0	52.24135	-1.72514	-121.54	04:15:29	-19.977	0.527
S8	30814	193E0 031BF 81FE0	52.24276	-1.72581	-127.05	05:15:39	7.761	0.526
S10	6792	193E0 031BF 81FE0	52.24102	-1.71213	-126.62	03:43:46	9.837	1.409
S8	30813	193E0 031BF 81FE0	52.23965	-1.72277	-126.16	03:35:00	-7.063	0.696
S10	6791	193E0 031BF 81FE0	52.24111	-1.72504	-128.71	02:03:11	-4.789	0.532
S10	6790	193E0 031BF 81FE0	52.23513	-1.71668	-127.92	00:21:07	-20.386	1.266
S9	21940	193E0 031BF 81FE0	52.24384	-1.72650	-127.01	22:30:41	-7.594	0.549
S9	21939	193E0 031BF 81FE0	52.24511	-1.72663	-121.59	20:50:43	7.234	0.640
S6	60360	193E0 031BF 81FE0	52.26084	-1.73421	-132.87	22:07:46	-11.327	2.231
S6	60359	193E0 031BF 81FE0	52.25904	-1.73285	-133.03	20:26:48	3.867	2.029
S7	43333	193E0 031BF 81FE0	52.24683	-1.71729	-117.93	17:47:07	-7.467	1.253
S9	21938	193E0 031BF 81FE0	52.24571	-1.74056	-132.27	19:12:06	19.634	0.759
S6	60358	193E0 031BF 81FE0	52.25282	-1.74274	-135.18	18:47:13	16.997	1.498
S8	30807	193E0 031BF 81FE0	52.24833	-1.71430	-134.50	17:01:05	-20.421	1.514

Ratio of Successful Solutions = $\frac{\text{number of Doppler solutions within 5km with } 1^{\circ} < \text{CTA} < 21^{\circ}}{\text{number of satellite passes over test duration with } 1^{\circ} < \text{CTA} < 21^{\circ}}$

$$= \frac{17}{17} = 100 \%$$

2.2 NAVIGATION SYSTEM

2.2.1 NATIONAL LOCATION PROTOCOL 1

Position Acquisition Time and Position Accuracy

A3.8.2.1: Location: 50° 52.131' N 1° 14.694' W ①

A3.8.2.1: Location: 50° 52.163' N 1° 14.605' W ①

Position used for Resting on Dry Ground Configuration

A3.8.2.2: Location: 51° 22.583' N 1° 49.833' W ②

① Known Location (GPS Surveyed)

② Input from navigation simulator

Operation Configuration	C/S T.007 Section A3.8.2.1		C/S T.007 Section A.3.8.2.2	
	Time to Acquire Position (sec)	Location Error in metres	Time to Acquire Position (sec)	Location Error in metres
Floating in Water	51	357.1	51	49.5
Resting on Dry Ground	51	55.3	51	159.1
Other (C/S T.007 Fig B.5)	104	168.8	51	49.5

Positional accuracy was estimated using the Haversine Formula, earth's radius taken as 6367Km.

2.2 NAVIGATION SYSTEM

2.2.2 STANDARD LOCATION PROTOCOL 1

Position Acquisition Time and Position Accuracy

A3.8.2.1: Location: 50° 52.131' N 1° 14.694' W ①

A3.8.2.1: Location: 50° 52.163' N 1° 14.605' W ①
Position used for Resting on Dry Ground Configuration

A3.8.2.2: Location: 51° 22.583' N 1° 49.833' W ②

① Known Location (GPS Surveyed)

② Input from navigation simulator

Operation Configuration	C/S T.007 Section A3.8.2.1		C/S T.007 Section A.3.8.2.2	
	Time to Acquire Position (sec)	Location Error in metres	Time to Acquire Position (sec)	Location Error in metres
Floating in Water	51	201.3	51	50.1
Resting on Dry Ground	51	68.6	51	49.8
Other (C/S T.007 Fig B.5)	52	32.8	51	50.1

2.2 NAVIGATION SYSTEM

2.2.3 USER LOCATION PROTOCOL 1

Position Acquisition Time and Position Accuracy

A3.8.2.1: Location: 50° 52.131' N 1° 14.694' W ①

A3.8.2.1: Location: 50° 52.163' N 1° 14.605' W ①
Position used for Resting on Dry Ground Configuration

A3.8.2.2: Location: 51° 22.583' N 1° 49.833' W ②

① Known Location (GPS Surveyed)

② Input from navigation simulator

Operation Configuration	C/S T.007 Section A3.8.2.1		C/S T.007 Section A.3.8.2.2	
	Time to Acquire Position (sec)	Location Error in metres	Time to Acquire Position (sec)	Location Error in metres
Floating in Water	103	1545.2	104	3372.8
Resting on Dry Ground	51	1658.3	51	3372.7
Other (C/S T.007 Fig B.5)	52	1545.2	51	3372.8

Positional accuracy was estimated using the Haversine Formula, earth's radius taken as 6367Km.

SECTION 3

TEST EQUIPMENT

3.1 TEST EQUIPMENT

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No	TE Number	Calibration Due
Section 2.1 Beacons - Navigation System				
GPS Simulator	Spirent	STR4500	3056	19/01/2007
Beacon Tester	WS Technologies	BT 100S	87	TU
Antenna (Bilog)	Schaffner	CBL 6143	316	TU
Screened Room (1)	Rainford	Rainford	1541	TU
Stop Clock	R.S Components	RS328 061	2674	TU
Cospas-Sarsat Beacon Tester & Peripherals.	Arg Electro Design	ARG 5410	2759	TU
20dB/20W Attenuator	JFW	50FHC-020-20	2774	18/02/2007
20dB/2W Attenuator	Pasternack	PE 7004-20	2943	18/02/2007
GPS/SBAS Simulator	Spirent	STR4500	3056	19/01/2007

SECTION 4

PHOTOGRAPHS

4.1 PHOTOGRAPHS OF EQUIPMENT UNDER TEST (EUT)



Photograph of EUT with Antenna

SECTION 5

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

5.1 ACCREDITATION, DISCLAIMER AND COPYRIGHT



This report relates only to the actual item/items tested.

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation.

Results of tests not covered by our UKAS Accreditation Schedule are marked NUA
(Not UKAS Accredited).

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ANNEX A

**APPLICANT SUPPLIED INFORMATION
CHANGE NOTICE FORM (Annex H)**

ANNEX H

CHANGE NOTICE FORM

The Manufacturer of the Cospas-Sarsat Type Approved 406 MHz Distress Beacons:

Manufacturer: McMurdo LTD

(name and address) SILVER POINT, AIRPORT SERVICE ROAD

PORTSMOUTH, PO3 5PB,

406 MHz Beacon Model numbers: G5 SMARTFIND Plus (a) + (m)

Cospas-Sarsat Type Approval Certificate Numbers: 163

Proposed New Model Numbers Beacon: _____

hereby informs Cospas-Sarsat of the following changes to production beacons

planned date of change NOVEMBER 2006

Oscillator type: _____

Battery: _____ (specify): _____

Antenna type: _____

Homing transmitter: _____

Strobe light: _____

Size or shape of beacon package: _____

Other physical characteristics: _____ (specify): _____

Significant change to circuit design: _____

Internal navigation device: Yes (specify): TIM-4P (ublox)

Other _____ (specify): _____

and substantiates these changes with the attached technical documentation and beacon test results (if applicable).

I hereby confirm that with these changes the above 406 MHz beacon models are technically equivalent to the type approved beacon and continue to meet the Cospas-Sarsat requirements.

Dated: 19/9/06

Signed: N. JORDAN (N. JORDAN - ELECTRONICS ENGINEER)

(Name, Position and Signature of Beacon Manufacturer Representative)