

## CHAPTER 7

# DROP TEST INTO WATER

## 7.1 DEFINITION OF TEST

This procedure describes the test conditions and the operations to be carried out during the Drop Test into Water .

It respect the definition drescribed in :

- Section A8.2 of RTCM Recommended Standards for 406 MHz Satellite EPIRBs;
- Section 6.6 of ETS 300-066;
- Section A1.7 of IEC 61097-2 and
- Section 8.6.2 of EN 60945

## 7.2. GENERAL DEFINITION OF TESTS

### 7.2.1. PURPOSE

- a) Ensure that beacons are switched off, and drop them into the water from a height of 20 m in three configurations :
- Antenna vertical up
  - Antenna vertical down
  - Antenna horizontal
- b) Physically inspect beacons
- c) Do electrical tests of beacons

### 7.2.2. TEST SITE

The tests are conducted in a river lock-gate.

### 7.2.3. TEST EQUIPMENT

Beacon without stowage bracket.

The test is carried out using a hydrolic horst skiff able to reach 20 m height. The height is controlled by a calibrated halyard.

The beacon is held by the operator in the right position and released above the water area. An operator takes photographs of the test sequence in real time .

### 7.2.4. TEST SEQUENCE

The test sequence is as follows :

- 1 - Drop Test - Antenna vertical (up)
- 2 - Drop Test - Antenna vertical (down)
- 3 - Drop Test - Antenna horizontal

### 7.2.5. ORGANIZATION

- |                                     |   |
|-------------------------------------|---|
| • Conducting of the test :          | ITS                                       |
| • Crane operation :                 | ITS                                       |
| • Operation and control of beacon : | ITS / Manufacturer Representative         |
| • Recovery of beacons :             | ITS                                       |
| • Operation of camera :             | ITS                                       |
| • Height and depth checks :         | ITS                                       |
| • Signal for start of test :        | ITS (subject to agreement + manufacturer) |

### 7.3. IMPLEMENTATION OF TEST

#### 7.3.1. TIMING

##### - Preparation phase

- Obtain agreement of lock-gate staff,
- Record beacon identification,
- Lift up the operator and beacon in the hoisting skiff control the height (20 m),
- Set up camera,
- Make sure diver is ready.

##### - Test phase

- Obtain the ITS / CNES agreement for start of the test,
- Drop the beacon
- Take pictures before, during and at the end of the drop

##### - Control phase

- Diver recovers beacon,
- Mechanical and electrical checkout.

### 7.3.2. ENVIRONMENT

The tests conducted outside may therefore be subject to inclement weather such as wind, fog, icing and so on...

Decisions to postpone testing shall be taken jointly by ITS and Manufacturer Representative ( if he is present ).

### 7.2.3.3. SAFETY - QUALITY

All tests are to be conducted in the presence of ITS coordinator .

- Ensure that all personnel around the lock-gate is suitably dressed in view of the risk of slipping.

### 7.2.3.4. LOGISTICS

All tests are photographed in real time.

## 7.4. TEST RESULTS

### 7.4.1 Test implementation

Beacon Unit : 1/3  
 Name : STANDARD COMMUNICATIONS  
 Type : MT400  
 Number : C204

Place : Port Sud – 31520 Ramonville Saint Agne

	DATE/HOURS	MECHANICAL CONTROLS	ELECTRICAL CONTROLS
CONFIGURATION 1 Antenna vertical up	April 7 <sup>th</sup> , 2003 10 :15	OK	OK
CONFIGURATION 2 Antenna vertical down	April 7 <sup>th</sup> , 2003 10 :35	OK	OK
CONFIGURATION 3 Antenna horizontal	April 7 <sup>th</sup> , 2003 10 :50	OK	OK

Observations :

Nothing abnormal to note

Electrical checks after a drop test : OK

See result of alivness test next page

G. PEYROU

ITS Representative

**7.4.2 Aliveness Test Results after Drop Test into the water**

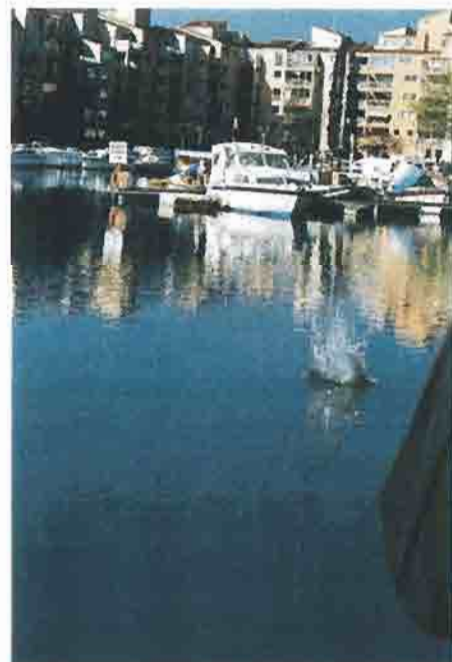
Beacon Unit : 1/2  
 Name : ACR  
 Type : RLB35  
 Number : 07  
 Date : April 7<sup>th</sup>, 2003 14 :00

406 MHZ MEASUREMENTS

<b>1 - Environmental Temperature ( ° C)</b>			+ 22° C
<b>2 – POWER OUTPUT</b>			
- Transmission power	dBm	37 ± 2	35.4
- Power risetime	ms	< 5	1.6
- Power falltime	ms	< 5	0.4
<b>3 – SPURIOUS OUTPUT</b>			OK
- In band			
- Carrier harmonics			
<b>4 –DIGITAL MESSAGE GENERATOR</b>			OK
- Repetition rate			
- Bit rate	bits/S	400 ± 4	OK
- Transmission time	ms	440 ± 4.4 / 520 ± 5.2	
- CW preamble	ms	160 ± 1.6	
<b>5 – DIGITAL MESSAGE</b>			FFFE2F
- Bit and frame sync	bits	1-24	0
- Format flag	bit	25	1
- Protocol flag	bit	26	0503
- Country code	bits	27-36	111
- Protocol	bits	37-39	01
- Homing	bits	84-85	0
- Activation type	bits	108	070010 / 070010
- BCH 1 code read / calculated	bits	86-106 / 25-85	NA
- BCH 2 code read / calculated	bits	133-144 / 107-132	
<b>6 – FREQUENCY</b>			406 027.940
- Nominal value	KHz	406 028 ± 1	OK
- Short term stability		< 2x10 <sup>-9</sup> /100 ms	

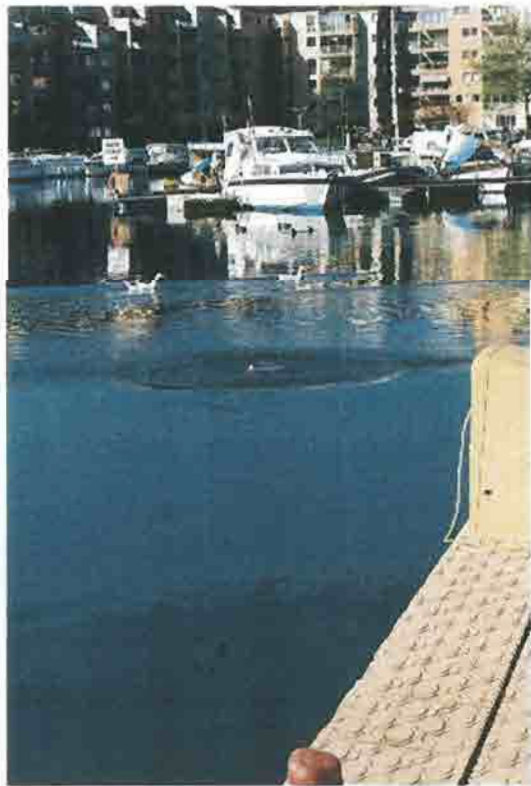
## 7.5. PHOTOGRAPHS

**FIRST DROP INTO WATER**  
**Antenna vertical up**

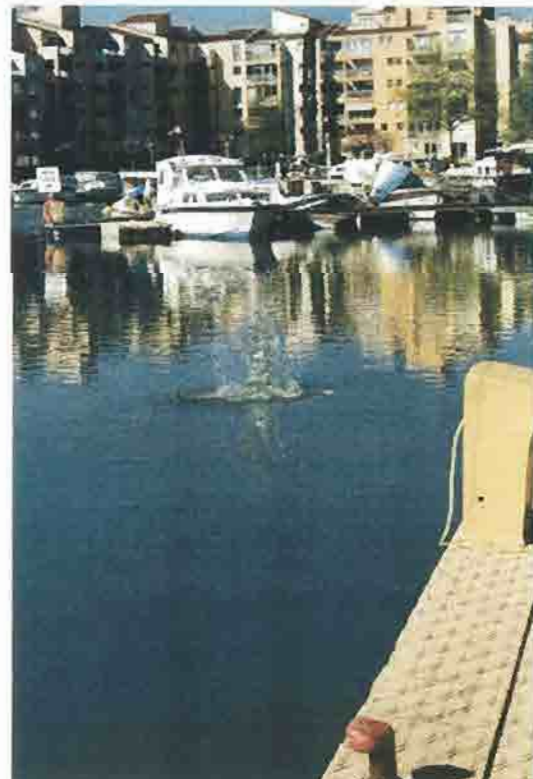
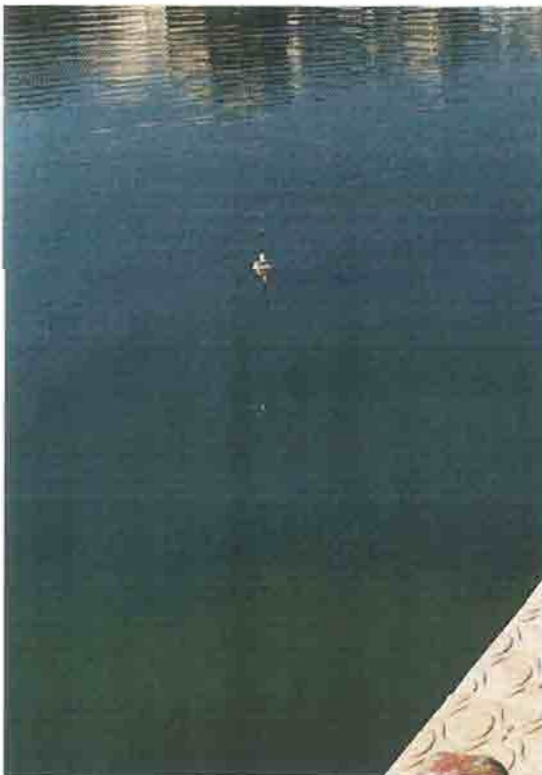




**SECOND DROP INTO WATER**  
**Antenna vertical down**



**THIRD DROP INTO WATER**  
**Antenna vertical horizontal**



## CHAPTER 8

# THERMAL SHOCK, LEAKAGE AND IMMERSION TESTS

## **8.1. TEST SPECIFICATIONS AND SEQUENCE**

### **8.1.1 Test specifications**

Following :

- Section 6.7 & 6.8 of ETS 300-066;
- Section A1.9 of IEC 61097-2 and
- Section 8.9.2 of EN 60945

### **8.1.2 Test sequence**

- Leave beacon in off position throughout test .
- Place the beacon in an atmosphere of  $+ 65 \pm 3^{\circ}\text{C}$  for one hour.
- Fully immerse beacon in water at  $+ 20 \pm 3^{\circ}\text{C}$  to a depth of  $100 \pm 5$  mm measured from it highest point to the surface of water for a period of 1 hour ( Test equipment : Pressure Chamber ).
- Set chamber to  $1 \text{ kg/cm}^2$  to simulate a 10 meter head of water .
- Leave pressure on for five minutes.
- Remove beacon from chamber, wipe it dry and perform an alivness test then check that there is no free water inside the case.

## **8.2. EQUIPMENT UNDER TEST**

Beacon Unit : 1/3  
Name : STANDARD COMMUNICATIONS  
Type : MT400  
Number : C204

## **8.3 TEST SITE**

INTESPACE Metrology.

## **8.4. TEST EQUIPMENT**

- Pressure chamber : Intespace 100 liters Pressure Chamber (see photo next page),
- Pressure sensor : BARFLEX BOURDON Electronique Type 0-2000 hPa
- Pressure reducer.
- Nitrogen cylinder.
- Argos - Cospas/Sarsat Test Bench.

## LEAKAGE AND IMMERSION TEST



## 8.5. TEST RESULTS

### 8.5.1 Test implementation

Place : INTESPACE Laboratory

Date	Hour	Events - Observations
April 7 <sup>th</sup> , 2003	11:30	Beacon leaved in thermal chamber at + 65 °C for one hour minimum
	12 :15	Beacon at + 64.5 °C
	14:15	Beacon submerged under 100 mm of water for 1 hours minimum in pressure chamber
	15 :30	End of themal shock test : Beacon self test OK
	17:27	Beacon submerged and chamber pressurized to 10 <sup>5</sup> Pascal for five minutes Remark : The EPIRB automatically run at 0.3 kPa . That is not a failure
	17:32	Chamber depressurized and then beacon removed, wiped and dried .
	18 :00	Electrical checks : See results of message control test next page
	18 :15	Beacon opened for visual inspection at ≈ 22 °C: <b>OK.</b> Nothing abnormal to note

## CHAPTER 9

# LOW TEMPERATURE, STROBE LIGHT AND BATTERY CAPACITY TESTS

## 9.1 TEST SPECIFICATIONS AND PROGRAMME

Following :

- Section 10.1 & 10.2 of ETS 300-066 and ;
- Section A1.12 & A1.13 of IEC 61097-2
  
- Using a fresh battery pack, turn ON the EUT (at the ambient temperature) for a period of time equal to the extension interval given by the constructor .
  
- Place the EUT turned OFF inside climatic chamber stabilized at - 30° C (class II ) for a period of 10 hours
  
- At the conclusion of this period the chamber is heated to -20°C. One hour after the EUT is turned ON and continually monitor the following parameters until the end of the battery life :
  - Frequency (nominal carrier, short and medium term stability),
  - RF output power,
  - Homing transmitter peak envelope output power.
  
  - Strobe light flash rate every 12 hours.

## 9.2. EQUIPMENT UNDER TEST

### Beacon

Beacon Unit : 1/3  
Name : STANDARD COMMUNICATIONS  
Type : MT400  
Number : C204  
Class : II

### Beacon Battery Type

Chemistry : Li-SO<sub>2</sub>  
Manufacturer & model n° : SAFT LO26SX  
Size & number of cells : Dx2

## 9.3. TEST SITE

INTESPACE Beacon Certification Laboratory .

## 9.4. TEST EQUIPMENT

- Climatic chamber: CLIMATS F.C.H. – Type: Austral 137H60/1,5E - S/N: S4880.
- Argos - Cospas/Sarsat Test Bench



## 9.5. RESULTS

These tests have been performed during the COSPAS-SARSAT Type Approval tests (chapter 10)  
 The strobe light test and the self test have been, also, performed with Cospas Sarsat Type Approval tests (chapter 10) at three temperature (-20° C, 22° C and 55° C)

Before these tests we have verified the manufacturer calculation of the loss in battery capacity due to self-testing as well as battery pack self-discharge during the useful lifetime of battery pack (see chapter 10 : C/S Type Approval Test Report § "OPERATING LIFE TEST RESULTS ON MT400 Std. Com. S/N 204 " page 49 )

**Manufacturer calculation of pre-conditioning activation period prior to the operating life test : 4 hrs 26 mn**

### 9.5.1 Test implementation

Date	Hour	Operations	Results
April 15 <sup>th</sup> , 2003	09:56 14 :22	Beginning of beacon activation period prior to the battery life test at 22 °C End of pre-conditioning battery	Total : 4 hrs 26 mn
April 15 <sup>th</sup> , 2003	17:00	The beacon, in the ready condition, is thermally soaked at - 30° C in the temperature-controlled oven .	
April 16 <sup>th</sup> , 2003	12 : 30 14:18	The beacon, in the ready condition, is thermally soaked at - 20° C The beacon in the oven at -20° C and connected into 50 Ohm load Argos Cospas Sarsat Test Bench is manually activated . Simultaneously an Automatic Operational Life Test begin.	OK
April 18 <sup>th</sup> , 2003	15:00	End of Automatic Operational Life Test.	
	15:30	Analysis of Operating Life Test Results :	Correct during ≈ 50 hours

9.5.2 Electrical results of Operating Life, StrobeLight and Self Tests

Measurement Temperature : -20 °C

SPECIFICATIONS	12 h	24 h	36 h	48 h	50 h
<b>1 - FREQUENCY (MHz)</b> Nominal Carrier 406.028 ± 0.001 Short term stab. < 2x10 <sup>-9</sup> /100 ms Slope < 1x10 <sup>-9</sup> /mn Sigma < 3x10 <sup>-9</sup>	406.027928 < 7 x10 <sup>-10</sup> < 1.5 x10 <sup>-10</sup> < 8 x10 <sup>-10</sup>	406.027927 < 7 x10 <sup>-10</sup> < 1.5 x10 <sup>-10</sup> < 8 x10 <sup>-10</sup>	406.027926 < 7 x10 <sup>-10</sup> < 1.5 x10 <sup>-10</sup> < 8 x10 <sup>-10</sup>	406.027925 < 7 x10 <sup>-10</sup> < 1.5 x10 <sup>-10</sup> < 8 x10 <sup>-10</sup>	406.027913 < 2 x10 <sup>-9</sup> < 5 x10 <sup>-10</sup> < 8 x10 <sup>-10</sup>
<b>2 - RF OUTPUT</b> + 2.9 5 W (37 dBm ± 2 dBm) - 1.8	36.8	36.8	36.8	36.5	35.4
<b>3 - STROBE LIGHTS</b> 20 to 30 flashes/min Intensity ≥ 0.75 cand. Duration ( ms)	- - -	20 1.9 260 ms	- - -	21 2.0 260 ms	21 - -
<b>4 - HOMING</b> Transmitter : - peak envelope output power (17 dBm ± 3 dBm)	18.8	18.9	18.8	18.8	18.8
<b>5 – DIGITAL MESSAGE</b> Correct Satellite EPIRB coding	OK	OK	OK	OK	OK

See data and graphs of results on chapter 10 “Cospas-Sarsat Type Approval Tests Reports” and graphs next pages.

MEDIUM TERM STABILITY

TIME 0  
14:18:50

DATE  
16 Apr 03

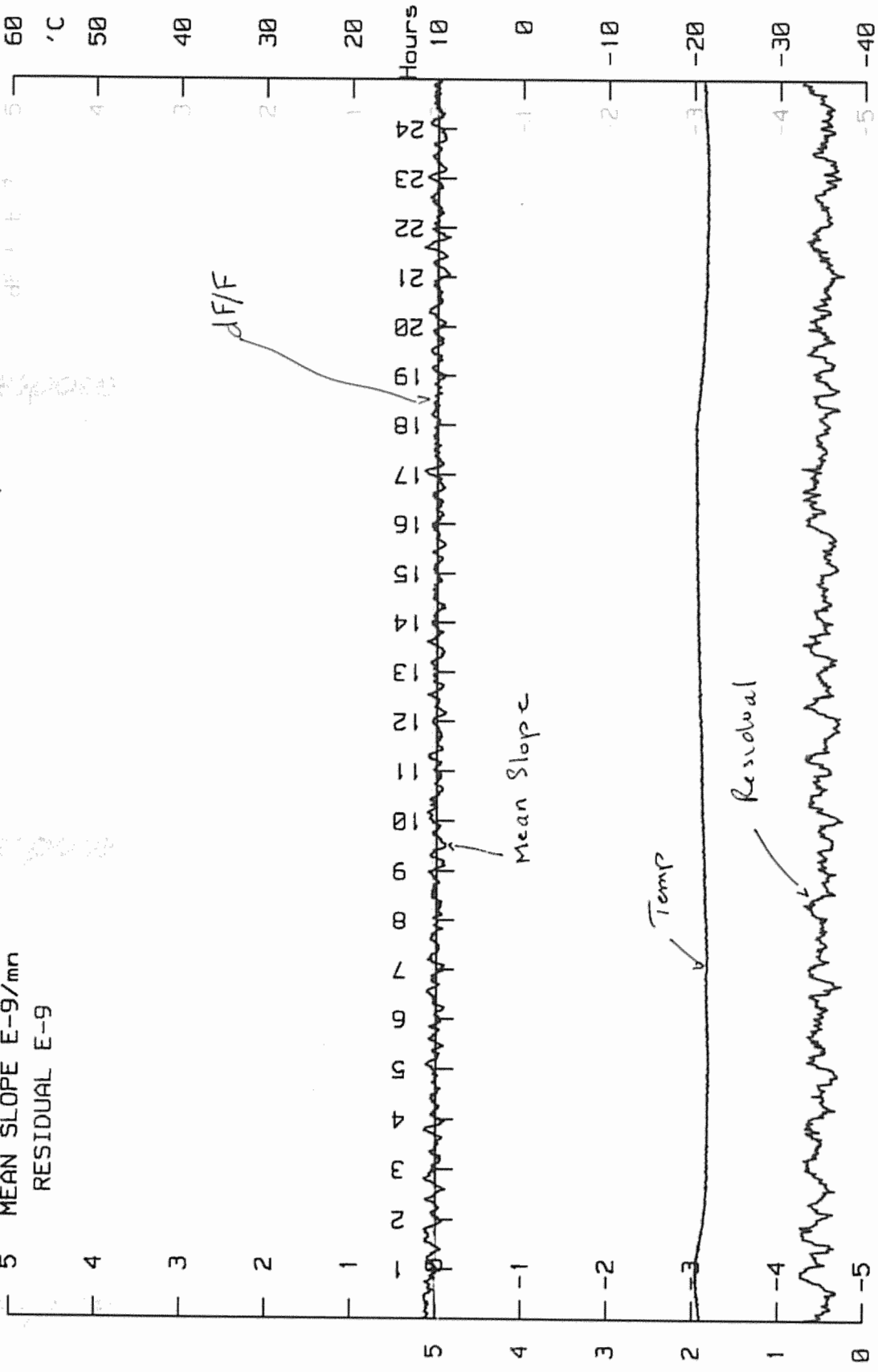
SERIAL Nr  
C204

MODEL  
MT400

MANUFACTURER  
Standard-Com

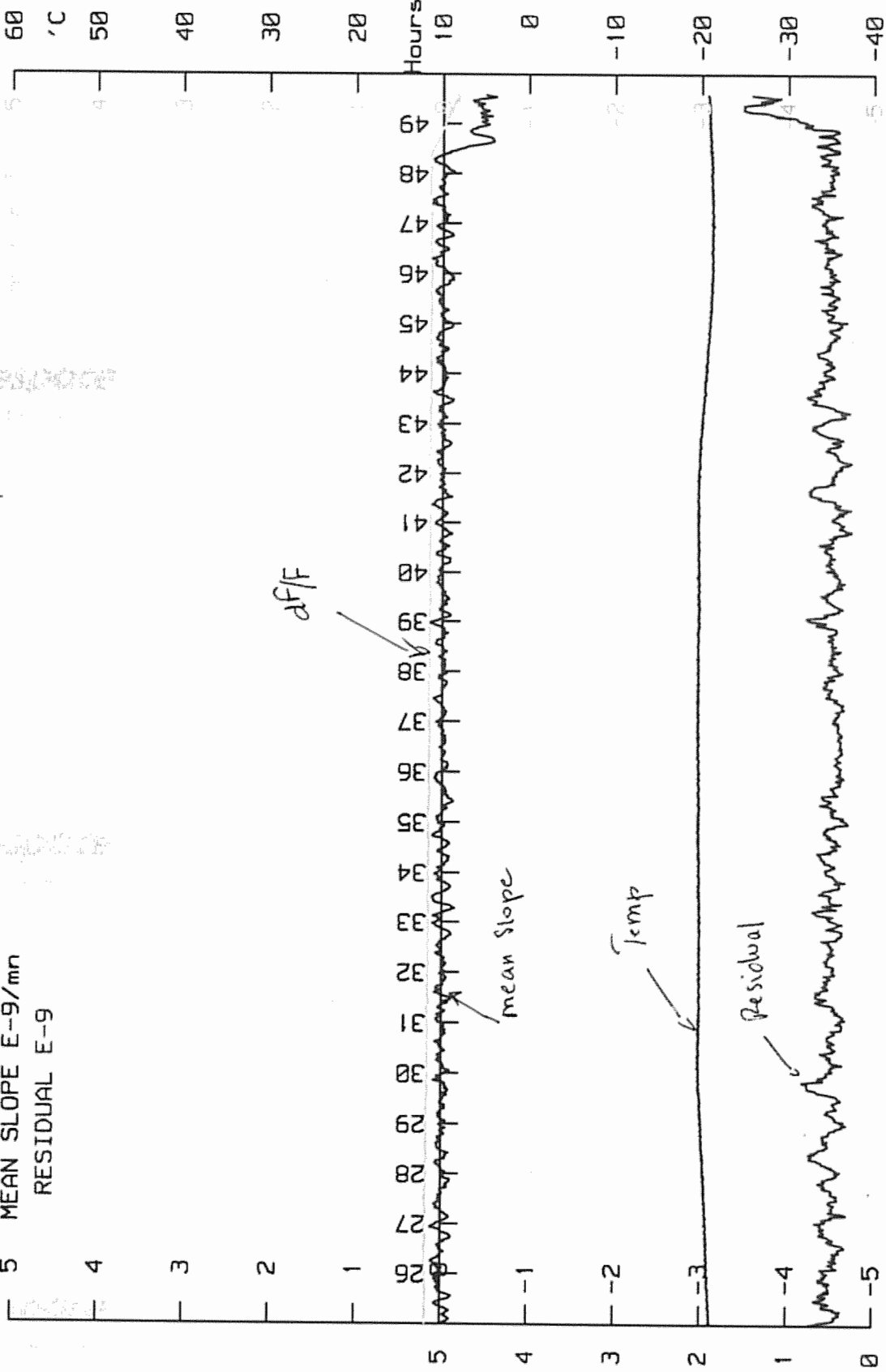
BEACON  
5

MEAN SLOPE E-9/mn  
RESIDUAL E-9



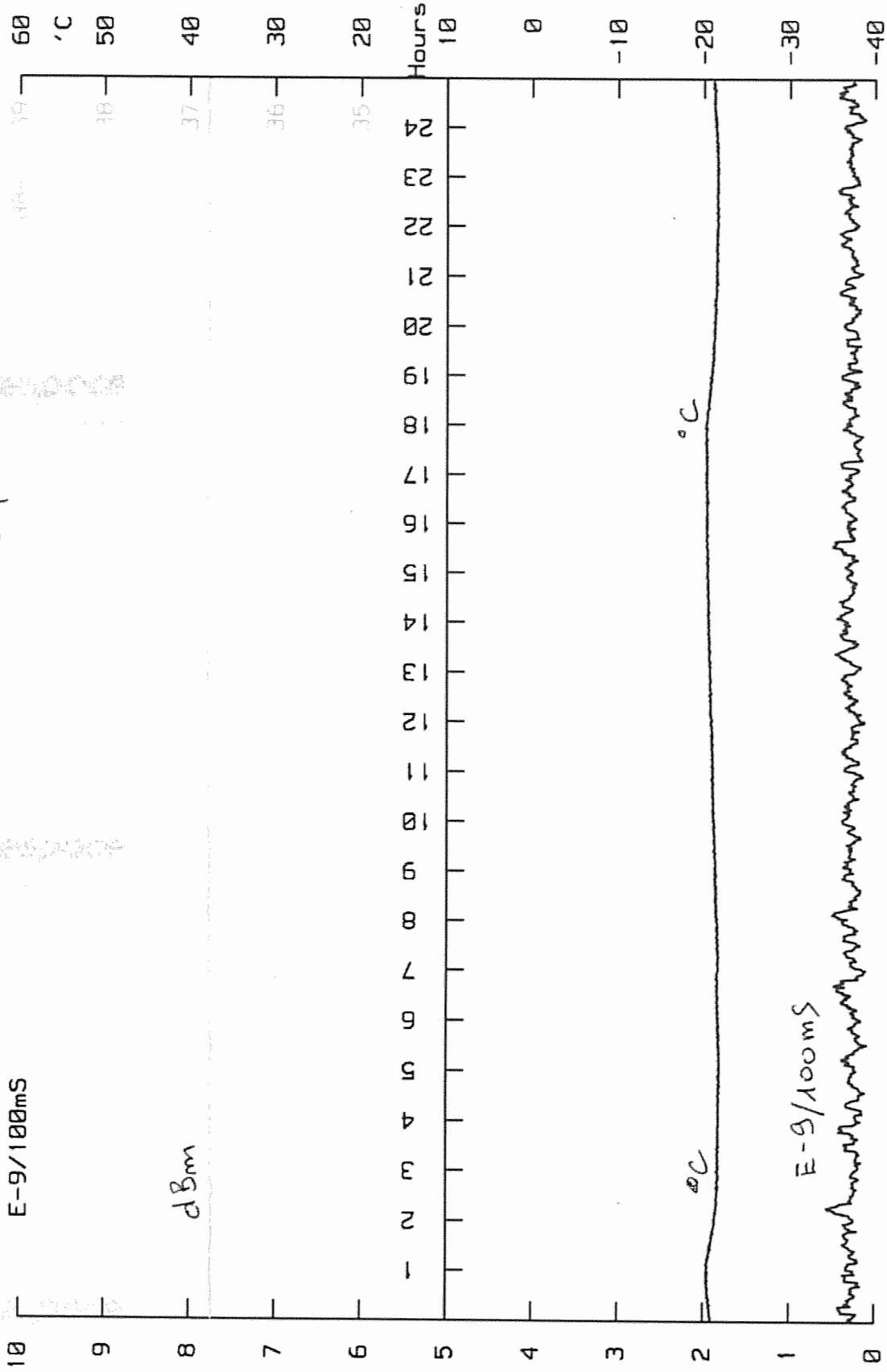
MEDIUM TERM STABILITY

BEACON 5  
 MANUFACTURER Standard-Com  
 MODEL MT400  
 SERIAL Nr C204  
 DATE 16 Apr 03  
 TIME 0 14:18:50



OUTPUT POWER and SHORT TERM STABILITY

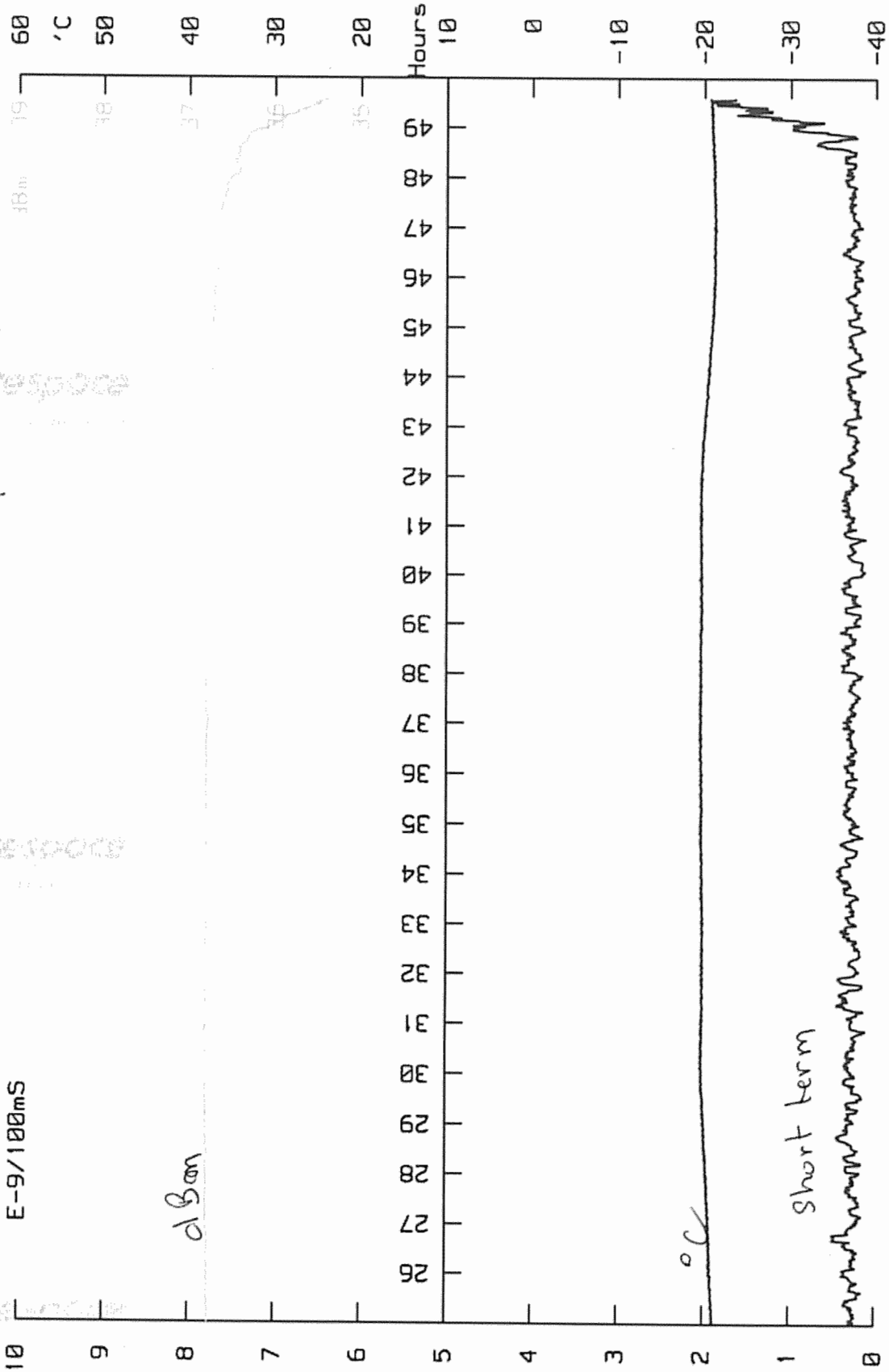
BEACON E-9/100ms  
 MANUFACTURER Standard-Com  
 MODEL MT400  
 SERIAL Nr C204  
 DATE 16 Apr 03  
 TIME 0 14:18:50



E-9/100ms

OUTPUT POWER and SHORT TERM STABILITY

BEACON E-9/100ms  
 MANUFACTURER Standard-Com  
 MODEL MT400  
 SERIAL Nr C204  
 DATE 16 Apr 03  
 TIME 0 14:18:50



**8.5.2 BEACON CONTROL TEST RESULTS AFTER IMMERSION TEST**

Beacon Unit : 1/3  
 Name : STANDARD COMMUNICATIONS  
 Type : MT400  
 Number : C204  
 Date : April 7<sup>th</sup>, 2003

**406 MHZ MEASUREMENTS**

<b>1 - Environmental Temperature ( ° C )</b>			+ 22° C
<b>2 – POWER OUTPUT</b>			
- Transmission power	dBm	37 ± 2	OK
- Power risetime	ms	< 5	-
- Power falltime	ms	< 5	-
<b>3 – SPURIOUS OUTPUT</b>			
- In band			-
- Carrier harmonics			-
<b>4 –DIGITAL MESSAGE GENERATOR</b>			
- Repetition rate			OK
- Bit rate	bits/S	400 ± 4	-
- Transmission time	ms	440 ± 4.4 / 520 ± 5.2	-
- CW preamble	ms	160 ± 1.6	-
<b>5 – DIGITAL MESSAGE</b>			
- Bit and frame sync	bits	1-24	FFFE2F
- Format flag	bit	25	0
- Protocol flag	bit	26	1
- Country code	bits	27-36	0503
- Protocol	bits	37-39	111
- Homing	bits	84-85	01
- Activation type	bits	108	0
- BCH 1 code read / calculated	bits	86-106 / 25-85	070010 / 070010
- BCH 2 code read / calculated	bits	133-144 / 107-132	NA
<b>6 – FREQUENCY</b>			
- Nominal value	KHz	406 025 ± 2	OK
- Short term stability		< 2x10 <sup>-9</sup> /100 ms	-

**CHAPTER 10**

**COSPAS – SARSAT TYPE APPROVAL  
TESTS REPORT (Ref : M4586 Std Com )  
AND  
COMPLEMENTARY C/S TEST REPORT  
(Ref : M4586-Rev2 )**



Toulouse, 25 June 2003

INTESPACE reference : M4586 Std Com

**TEST REPORT OF  
406 MHz DISTRESS BEACON**

MANUFACTURER : STANDARD COMMUNICATIONS PTY. LTD.  
BEACON MODEL : MT400 EPIRB

Written : 25 June 2003

By : Gérard PEYROU

Visa : 

Approved : 8 July 2003

By : Didier NAWS

Visa : 

Quality Control : 20-07-03

By : André LOUIT

Visa : 

Distribution :

- Mr	Craig DUNCAN	STANDARD COMMUNICATIONS PTY. LTD.	(1 copy)
- Mr	S. MIKAILOV	COSPAS/SARSAT Sec	(1 copy)
- Mr	M. SARTHOU	CNES - DSO/RC/AS	(1 copy)
- INTESPACE		ITS/AP/ET	(1 copy)

This document may not be reproduced other than in full .  
It includes 92 pages and 2 annexes . A part of reproduction  
must be submitted at the laboratory authorization .

*The COFRAC Test section accreditation proves the technical ability of  
the laboratory for tests or analysis under the authority of the accreditation*



Accréditation  
N° 1-0743  
Scope  
given  
on request

## **1 - ADMINISTRATION**

### **1.1. WORK ORDER**

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.  
Address : 6, Frank Street - GLADESVILLE NSW 2111 AUSTRALIA

Represented by : Mr Craig DUNCAN

### **1.2. INTESPACE TEST CENTER**

The test operations have been conducted by : Mr G. PEYROU

### **1.3. SCHEDULE**

Start of test:           31 mars 2003  
End of test :           20 mai 2003

### **1.4. WORK REFERENCE :           M4586**

### **1.5. EQUIPMENT UNDER TEST**

The results from this test report concern only the equipment here after referenced :

- Commercial designation :
- Model :                   MT400
- Séri al number:           C204 and C203

## **2 - TEST FACILITIES**

- ARGOS - COSPAS/SARSAT Certification Test Bench.
- Anechoic chamber for antenna test .
- Toulouse CNES MCC .

### 3 - STANDARDS AND TEST PROCEDURES APPLICABLE

COSPAS-SARSAT standards :

- "C/S T. 001- Issue 3 - Revision 4 - October 2002 "
- "C/S T. 007- Issue 3 - Revision 9 - October 2002"

INTESPACE Radio Beacon Test Procédures :

- |   |                        |
|---|------------------------|
| - " COSPAS-SARSAT Certification Test"     | Réf. ITS : 572 AP/QA   |
| - " 406 MHz Characteristic Antenna Test " | Réf. ITS : 566 AP/QA   |
| - " Radio Beacon Test Report "            | Réf. ITS : 579 AP/QA-f |

### 4 - RESULTS

See the following pages :

- application form for a COSPAS-SARSAT 406 MHz beacon Type Approval Certificate,
- summary of 406 MHz beacon test results
- test results : data and graphs
- Annex A : Antenna test results (no. COFRAC)
- and Annex B : Manufacturer technical data

**APPLICATION FOR A COSPAS - SARSAT 406 MHz  
BEACON TYPE APPROVAL CERTIFICATE**

**Beacon Manufacturer :** STANDARD COMMUNICATIONS PTY. LTD.  
**Beacon model :** MT400  
**Beacon Number :** C204  
**Name and Location of Beacon Test Facility :** INTESPACE / CNES Toulouse

**Beacon Type :** Aviation :  Land :  Maritime :

**Antenna Model :** Standard Communication

**Specified Operating Temperature Range** -20 °C to 55 °C

**Specified Operating Lifetime :** 24 hr  48 hr  Other  Specify :

**Beacon Battery Type(s)**

Chemistry : LiSO2  
 Manufacturer & model n° : SAFT / LO 26 SX  
 Size & number of cells : D Size / 2 Cells

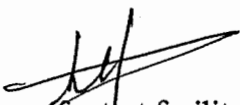
**Extra Features in Beacon**

**No Yes Details**

- |                                      |                                     |                                     |  |
|--------------------------------------|-------------------------------------|-------------------------------------|--|
| a) Auxiliary Radio-Locating Device : | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Frequency : 121.5 MHz<br>Power : 17 dBm ( 50 Ω )<br>Tx. Duty Cycle : Continious (>96%) |
| b) Transmits Encoded Position Data   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Nav. Device :<br>Type :<br>Manufacturer :<br>Model :                                   |
| c) Transmits Long Message (144 bits) | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |  |
| c) Automatic Activation :            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |  |
| d) Built-in Strobe light :           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Intensity : >0,75 Cd<br>Flash rate : 20/21 per min                                     |
| e) Self-test mode                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |  |
| f) Other                             | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Specify : Audible Annunciator  |

I hereby confirm that the 406 MHz 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/ST T.001) as demonstrated in the attached report.

Dated : 17/10/2003

Signed :   
(for test facility)

**Table C2 : SUMMARY OF 406 MHz BEACON TEST RESULTS**

PARAMÈTRES TO BE MEASURED DURING TESTS	RANGE OF SPECIFICATION	UNITS	TEST RESULTS			COMMENTS
			T <sub>min.</sub> -20°C (±3)	T <sub>amb.</sub> 22°C (±3)	T <sub>max.</sub> 55°C (±3)	
<b>1 - POWER OUTPUT</b>						
o transmitter power output	35 - 39	dBm	36,5	36,1	35,5	Graphs p, 20, 23 and 26 Graphs pages 14 to 16
o Power output rise time	< 5	ms	1,56	1,61	1,79	
o power output 1 ms before burst	must be < -10 dBm	√ *	√	√	√	
<b>2 - DIGITAL MESSAGE</b>						
o bit sync	Bits number 1-15	√	√	√	√	Data and graphs pages 17 to 26
o frame sync	16-24	√	√	√	√	
o format flag	25	√	0	0	0	
o protocol flag	26	√	1	1	1	
o identification/position code	27-85	√	√	√	√	
o BCH code	86-106	√	√	√	√	
o emerg. code/nat. use/supplem. data	107-112	data bits	000000	000000	000000	
o additional data/BCH (if applicable)	113-144	√	N/A	N/A	N/A	
o position error (if applicable)	< 5	km	N/A	N/A	N/A	

PARAMÈTRES TO BE MEASURED DURING TESTS	RANGE OF SPECIFICATION	UNITS	TEST RESULTS			COMMENTS
			T <sub>min.</sub> -20°C (±3)	T <sub>amb.</sub> 22°C (±3)	T <sub>max.</sub> 55°C (±3)	
<b>1 - POWER OUTPUT</b>						
o transmitter power output	35 - 39	dBm	36,5	36,1	35,5	
o Power output rise time	< 5	ms	1,56	1,61	1,79	Graphs p, 20, 23 and 26
o power output 1 ms before burst	must be < -10 dBm	√ *	√	√	√	Graphs pages 14 to 16
<b>2 - DIGITAL MESSAGE</b>						
o bit sync	Bits number 1-15	√	√	√	√	Data and graphs pages 17 to 26
o frame sync	16-24	√	√	√	√	
o format flag	25	√	0	0	0	
o protocol flag	26	√	1	1	1	
o identification/position code	27-85	√	√	√	√	
o BCH code	86-106	√	√	√	√	
o emerg. code/nat. use/supplem. data	107-112	data bits	000000	000000	000000	
o additional data/BCH (if applicable)	113-144	√	N/A	N/A	N/A	Not applicable
o position error (if applicable)	< 5	km	N/A	N/A	N/A	

Table C2 : SUMMARY OF 406 MHz BEACON TEST RESULTS

Ref: M4586 Std Com-Rev1

PARAMÈTRES TO BE MEASURED DURING TESTS	RANGE OF SPECIFICATION	UNITS	TEST RESULTS			COMMENTS
			T <sub>min.</sub> -20°C (±3)	T <sub>amb.</sub> 22°C (±3)	T <sub>max.</sub> 55°C (±3)	
<b>3 - DIGITAL MESSAGE GENERATOR</b>						
o repetition rate :						
minimum T <sub>R</sub> =	47,5	seconds	48,0	48,5	49,0	
maximum T <sub>R</sub> =	52,5	seconds	52,5	52,0	52,5	
o bit rate						
minimum f <sub>b</sub> =	396	bits/sec.	399,65	399,66	399,65	
maximum f <sub>b</sub> =	404	bits/sec.	399,71	399,73	399,71	
o total transmission time :						
short message =	435.6 - 444.4	ms	440,59	440,43	440,32	
long message (optional) =	514.8 - 525.2	ms				
o CW preamble						
minimum T <sub>I</sub> =	158,4	ms	160,47	160,30	160,14	
maximum T <sub>I</sub> =	161,6	ms	160,55	160,37	160,23	
o first burst delay	> 47,5	seconds	> 47,5	> 47,5	> 47,5	

Data and graphs  
pages 17 to 26

Table C2 : SUMMARY OF 406 MHz BEACON TEST RESULTS

Ref : M4586 Std Com-Rev1

PARAMÈTRES TO BE MEASURED DURING TESTS	RANGE OF SPECIFICATION	UNITS	TEST RESULTS			COMMENTS
			T <sub>min.</sub> -20°C (±3)	T <sub>amb.</sub> 22°C (±3)	T <sub>max.</sub> 55°C (±3)	
<b>4 - MODULATION</b> o biphase-L o rise time o fall time o phase deviation : positive o phase deviation : negative o symmetry measurement		√	√	√	√	Data and graphs pages 17 to 26
	50 - 250	microsec.	210	220	230	
	50 - 250	microsec.	210	210	210	
	+(1.0 to 1.2)	radians	+ 1,04	+ 1,04	+ 1,05	
	-(1.0 to 1.2)	radians	- 1,16	- 1,07	- 1,01	Overshoot just in the spec limits
≤ 0.05			+ 0,0080	4E-06		
<b>5 - 406 MHz TRANSMITTED FREQUENCY</b> o nominal value o short term stability o medium term stability o slope o residual frequency variation	as specified in C/S T.001 and C/S T.012	MHz	406,0279447	406,0279432	406,0279400	Data pages 18, 21 and 24
	≤ 2 x 10 <sup>-9</sup>	/100 ms	2,55E-10	3,41E-10	2,97E-10	
	(-1 to +1) x 10 <sup>-9</sup>	/minute	-7,62E-11	-7,45E-11	-6,86E-11	
	≤ 3 x 10 <sup>-9</sup>		3,32E-10	8,03E-10	4,78E-10	
<b>6 - SPURIOUS EMISSION **</b> (into 50 ohms) o in-band (406.0 - 406.1 MHz)	see spurious emission mask in C/S T.001	√	√	√	√	See graphs pages 27 to 30



Table C2 : SUMMARY OF 406 MHz BEACON TEST RESULTS

Ref : M4586 Std Com-Rev1

PARAMÈTRES TO BE MEASURED DURING TESTS	RANGE OF SPECIFICATION	UNITS	TEST RESULTS			COMMENTS				
			T <sub>min.</sub> -20°C (±3)	T <sub>amb.</sub> 22°C (±3)	T <sub>max.</sub> 55°C (±3)					
<b>7 - 406 MHz VSWR CHECK</b> after open circuit, short circuit, then while VSWR is 3:1, measure : o nominal transmitted frequency  Modulation : o rise time o fall time o phase deviation : positive o phase deviation : negative o symmetry measurement o digital message	as specified in C/S T.001 and C/S T.012  50 - 250 50 - 250 + (1.0 to 1.2) - (1.0 to 1.2) ≤ 0.05 must be correct	MHz  microsec. microsec. radians radians ✓ ✓	406,0279439	406,0279439	406,0279390	See data and graphs pages 31 to 37         Overshoot just in the spec limits				
			219,6	209,6	229,5					
			199,6	219,6	199,6					
			1,04	1,03	1,05					
			-1,16	-1,07	-1,02					
			+0,0120	+0,0120	+0,0080					
			✓	✓	✓					
			<b>8 - SELF-TEST MODE (if applicable)</b> o frame sync o format flag o single radiated burst o default position data (if applicable) o description provided o design data provided on protection against repetitive self-test mode transmissions o single burst verification o provides for beacon 15 Hex ID	9 bits (011010000) 1/0 ≤ 440 /520 (+1%) must be correct  protection provided  one burst must be correct	✓ bit ms ✓ ✓ ✓ ✓ ✓		✓	0	440,12	Data pages 38 to 40         Manufacturer doc. Annex B Data page 39
							✓	✓	✓	
							✓	✓	✓	
✓	✓	✓								
✓	✓	✓								
✓	✓	✓								
✓	✓	✓								
✓	✓	✓								
✓	✓	✓								
✓	✓	✓								

Table C2 : SUMMARY OF 406 MHz BEACON TEST RESULTS

Ref : M4586 Std Com

PARAMÈTRES TO BE MEASURED DURING TESTS	RANGE OF SPECIFICATION	UNITS	TEST RESULTS	COMMENTS
<b>10 - OPERATING LIFETIME AT MINIMUM TEMPERATURE **</b>				
o Duration	> 24	hours	49,5 hours at T <sub>min</sub> = -20 °C	Data and graphs pages 49 to 63
o Transmitted frequency : - nominal value	as specified in C/S T.001 and C/S T.012	MHz	406,027919 / 406,027934	
- short term stability		/100 ms	≤ 7,0E-10	
- medium term stability		/minute	-1.5E-10 / 1.5E-10	
. slope	(-1, to +1) x 10 <sup>-9</sup>		≤ 8,0E-10	
. residual frequency variation				
o Transmitted power output	35 - 39	dBm	36,5 / 36,8	
o Digital message	must be correct	√	√	
<b>11 - TEMPERATURE GRADIENT ** (5° C/hr)</b>				
o Transmitted frequency : - nominal value	as specified in C/S T.001 and C/S T.012	MHz	406,024939 / 406,024963	Data and graphs pages 64 to 73
- short term stability	≤ 2 x 10 <sup>-9</sup>	/100 ms	≤ 4,0E-10	
- medium term stability		/minute	-4E-10 / 5E-10	
. slope	(-1 to +1) x 10 <sup>-9</sup>		≤ 1,3E-9	
. residual frequency variation				
o Transmitted power output	35 - 39	dBm	35,3 / 36,5	
o Digital message	must be correct	√	√	
<b>12 - LONG TERM FREQUENCY STABILITY</b>				
o Data provided	as specified in C/S T.001 and C/S T.012	MHz		Constructor explanations on Annex B
		√		

Table C2 : SUMMARY OF 406 MHz BEACON TEST RESULTS

Ref : M4586 Std Com

PARAMÈTRES TO BE MEASURED DURING TESTS	RANGE OF SPECIFICATION	UNITS	TEST RESULTS	COMMENTS
<b>13 - PROTECTION AGAINST CONTINUOUS TRANSMISSION</b> o Description provided	≤ 45	seconds	≤ 1,5 seconds	Constructor explanations on Annex B (p 2&3 of ED030703-01 Doc
<b>14 - SATELLITE QUALITATIVE TESTS **</b> o Results provided	successfully located by satellites / LUT	✓	✓	Data and graphs pages 74 to 82
<b>15 - ANTENNA CHARACTERISTICS</b>				Antenna test report Annex A page 83
o Polarization	linear or RHCP	✓	✓	
o VSWR	≤ 1.5	-	/	
o ERP max EOL	≤ 20	Watts	20,5	Just
o ERP min EOL	≥ 1.6	Watts	2,5	
o azimuth gain variation at 40° elevation angle	≤ 3	dB	0,5	
<b>16 - BEACON CODING SOFTWARE</b>				
o sample message provided for each coding option of the applicable coding protocol types	must be correct (attach to report)	✓	✓	See manufacturer doc. Annex B
o sample messages provided, if applicable, with encoded positions at least 5 km apart	must be correct (attach to report)	✓	✓	
o sample self-test message provided for each coding option of the applicable coding protocol types	must be correct (attach to report)	✓	✓	

Table C2 : SUMMARY OF 406 MHz BEACON TEST RESULTS

Ref : M4586 Std Com

PARAMÈTRES TO BE MEASURED DURING TESTS	RANGE OF SPECIFICATION	UNITS	TEST RESULTS	COMMENTS
<b>17 - NAVIGATION SYSTEM**</b> (as applicable) o position data default values o position acquisition time o encoded position data update interval o position data input update interval (as applicable) o delta offset : - positive direction - negative direction - overrange to 2 times coarse res. o last valid position : - retained after nav signal lost - cleared when beacon reactivated o design data provided on protection against beacon degradation due to navigation device, interface or signal failure or malfunction	must be correct < 30 > 20 20 / 1 must be correct must be correct must be correct 4 must be correct no degradation	✓ minutes minutes minutes ✓ ✓ ✓ hours ✓ ✓		See data page

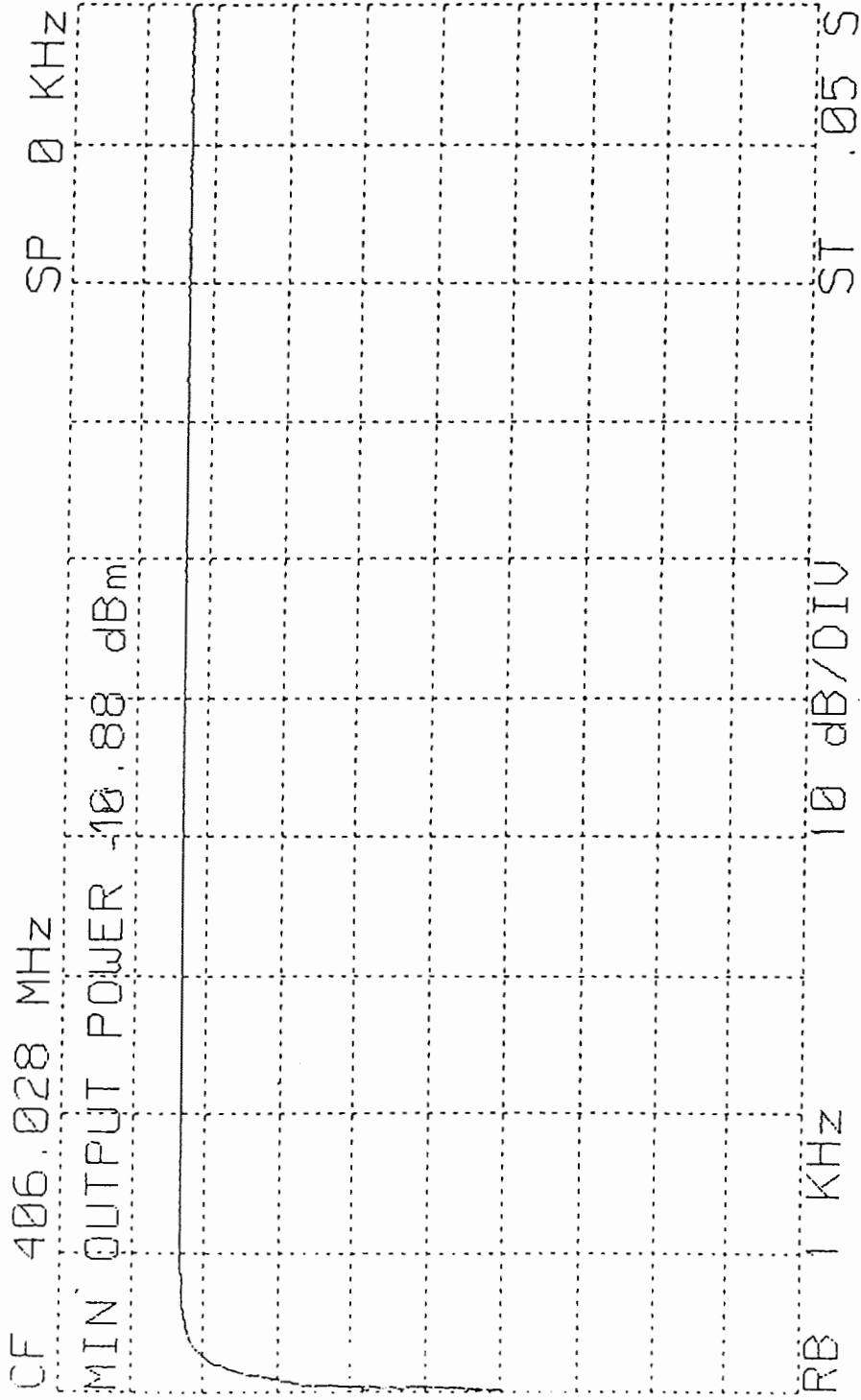
\* the ticks mark ✓ can be used where indicated to record that the requirement is met (no value needs to be shown).

\*\* attach graphs of test results for test number 6, 9, 10 and 11 and a summary table of results for test number 14, and, if applicable, test number 17.

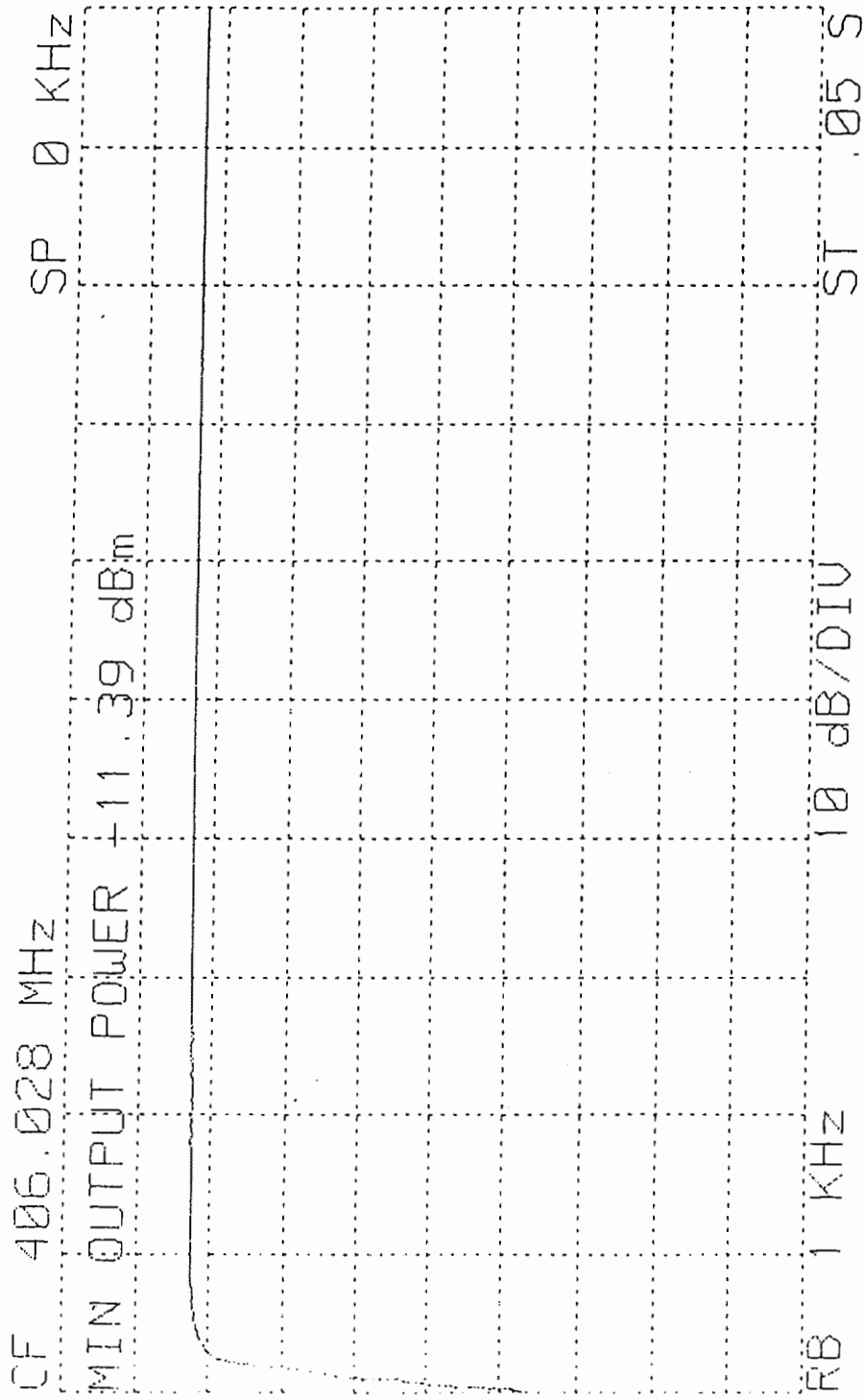
**TRANSMITTER OUTPUT POWER RISE TIME TEST RESULT ON  
MT400 STANDARD COMMUNICATIONS PTY. LTD. EPIRB  
N° C204  
(1 ms before 10 % of the burst)  
at -20° C, 22° C and 55° C**



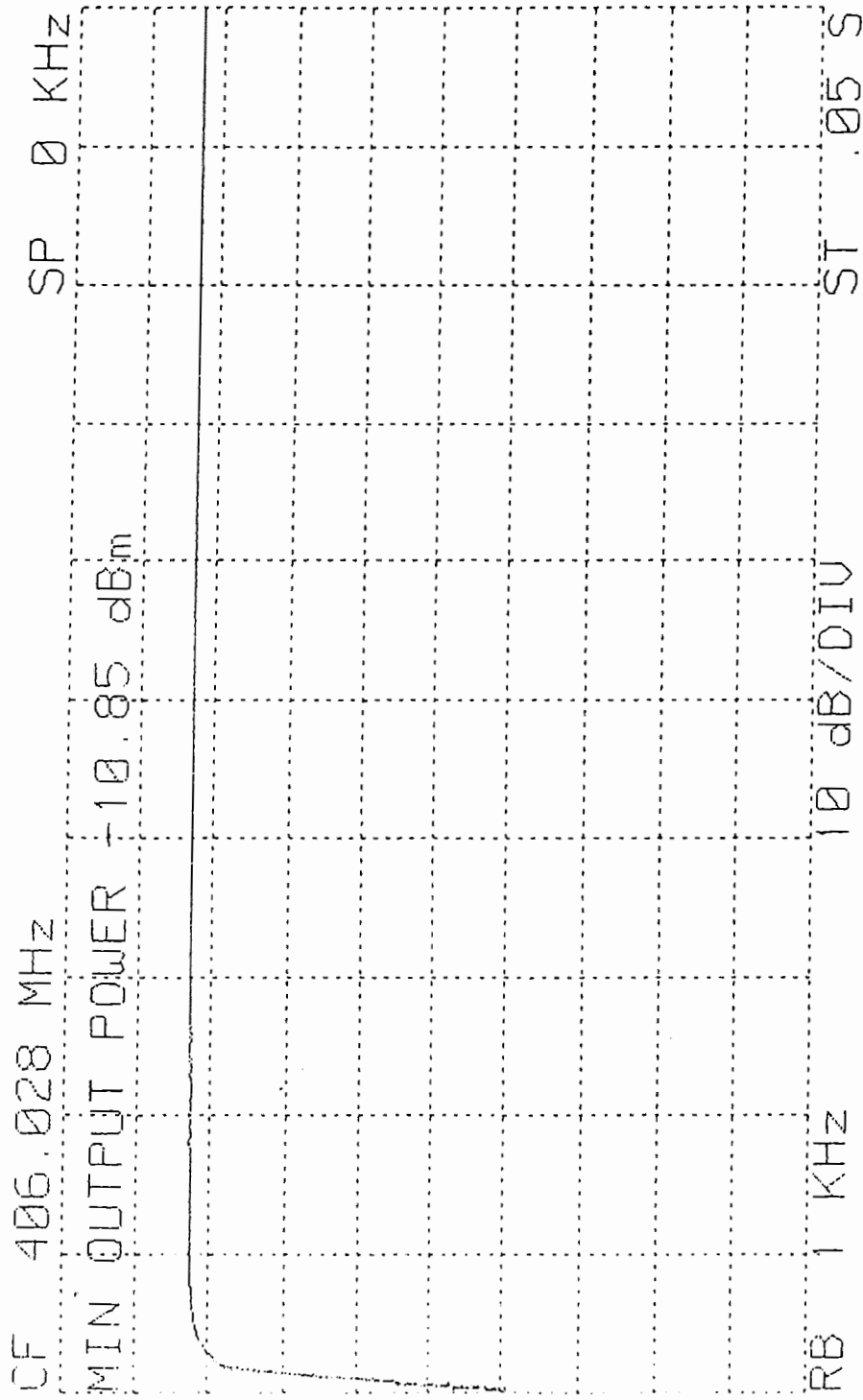
Output Power Risetime at -20°C



**Output Power Risetime at 22°C**



Output Power Risetime at 55°C





**CERTIFICATION TEST RESULTS ON  
MT400 STANDARD COMMUNICATIONS PTY. LTD. EPIRB  
N° C204**

**at -20° C, 22° C and 55° C**

**Certification Test at -20°C**

Date of test : 10 Apr 2003

Manufacturer : Standard-Communications

Beacon Type : MT400

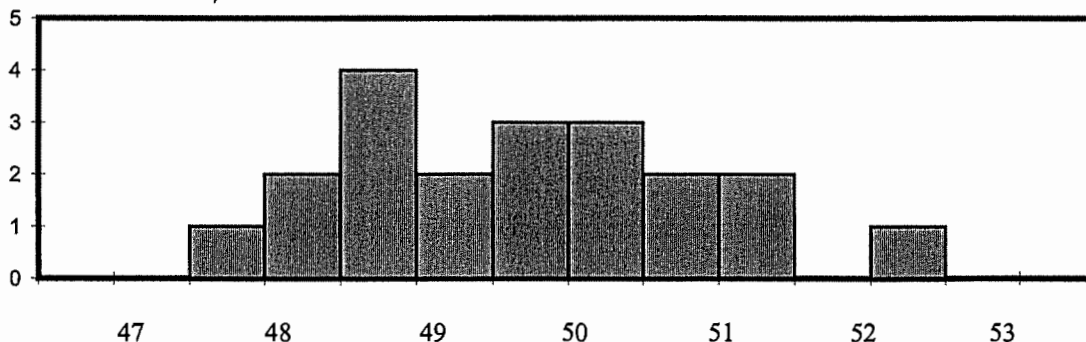
Number : C204

**Message**

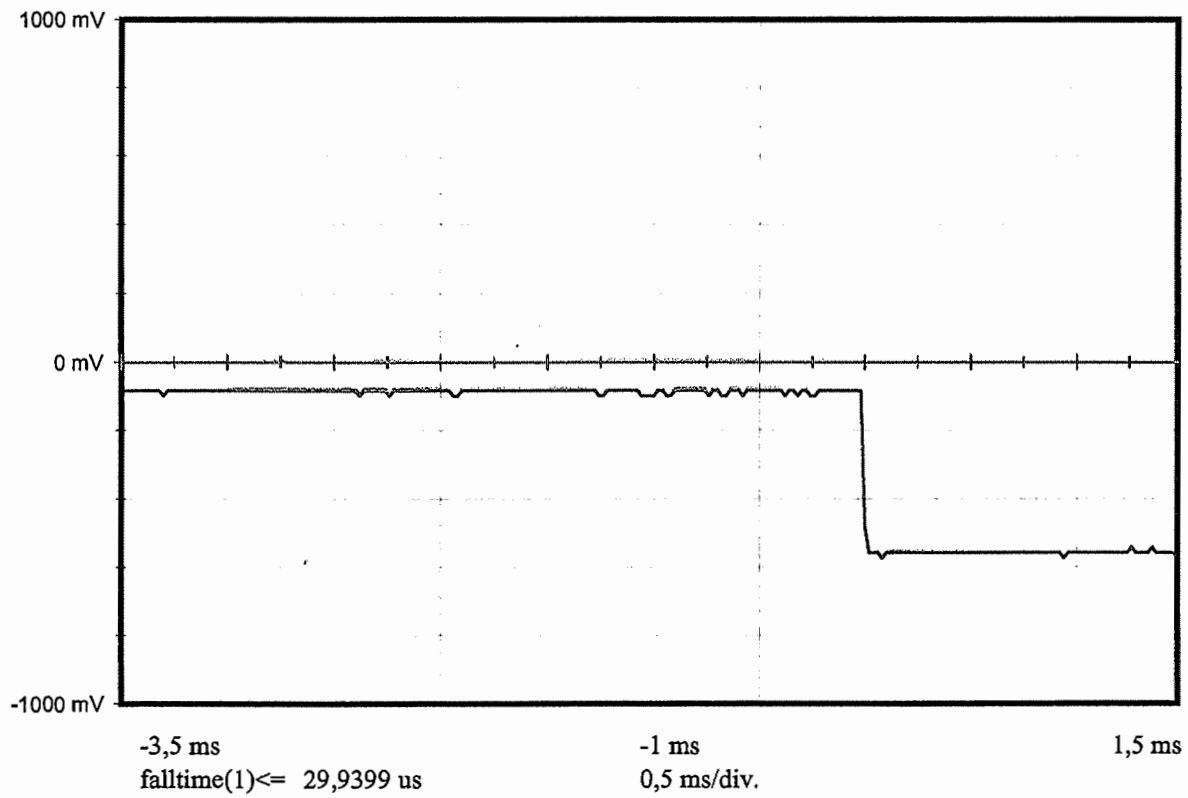
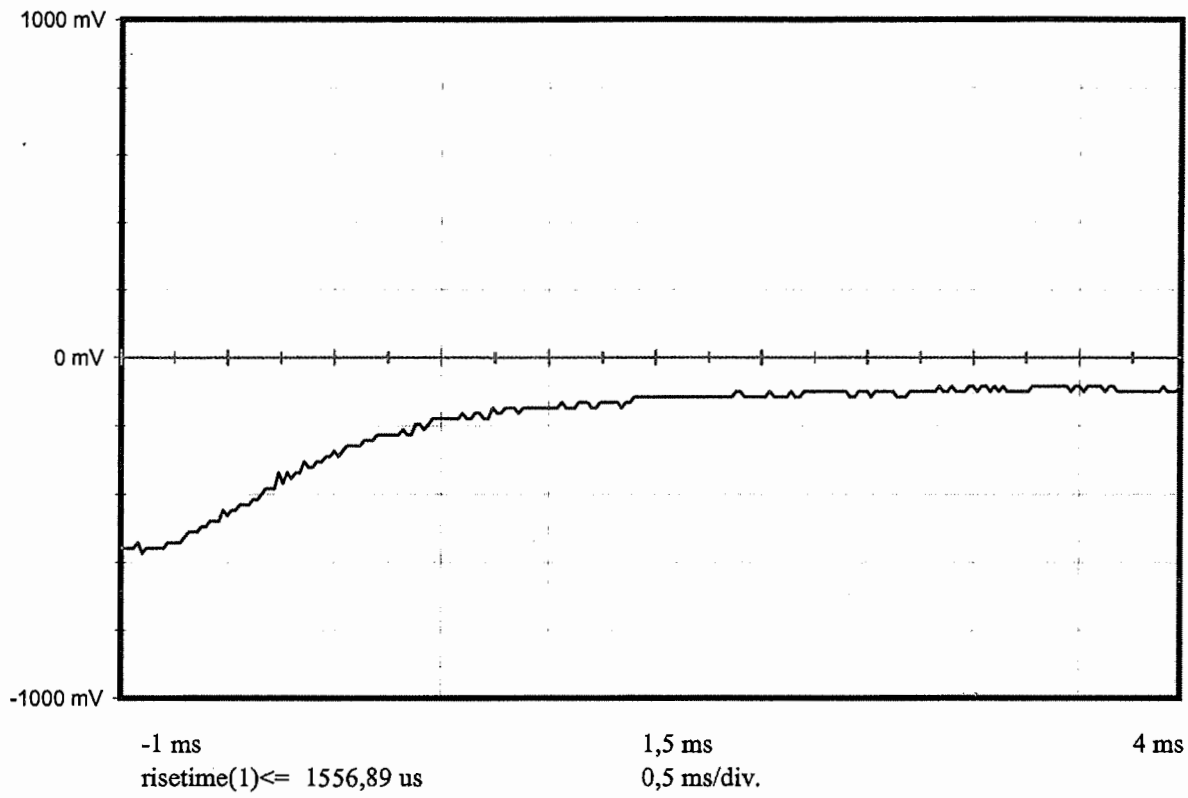
Message received		FFFE2F5F7F03C480000009C00400
Format Flag	25	0
Protocol flag	26	1
Ident./Position code	27-85	BEFE07890000001
Country Code/Country	27-36	503 /
Protocol Code : U/Std-Nat	37-39/37-40	111
Protocol Code Used	37-39/37-40	Test
Identification Data	40-85/41-64/41-58	1E
Identification Used		::::::
Calculated BCH1	25-85	70010
Readed BCH1	86-106	70010
Homing	84-85	01
Em.cod/nat.use/supp.data	107-112	000000
Emer cod / Encod pos data	107	0
Activation type	108	0 Manual
Calculated BCH2	107-132	
Readed BCH2	133-144	
Latitude position		
Longitude position		
Delta position		

**Electrical and other parameters**

CW preamble	ms	158,4 <	< 162,6	160,52
Total transmission time	ms	434,6 <	< 445,4	440,59
Modulation frequency	Hz	395,4 <	< 404,6	399,68
Phase deviation : total	rd		<=2,40	2,21
Phase deviation : positive	rd	1,00 <	< 1,20	1,04
Phase deviation : negative	rd	-1,20 <	< -1,00	-1,16
Symmetry measurement	%		<=5 %	0,80
Nominal frequency : F2	Hz			406027944,67
Short term2				3,23E-10
Short term3				2,55E-10
Slope				-7,62E-11
Residual				3,32E-10
406 MHz power output	dBm			36,5
Homing frequency	MHz			121,50008
121,5 MHz power output	dBm			18,5
Soak temperature	°C			-21,0
Extra feature				No







**Certification Test at 22°C**

Date of test : 31-mars-2003

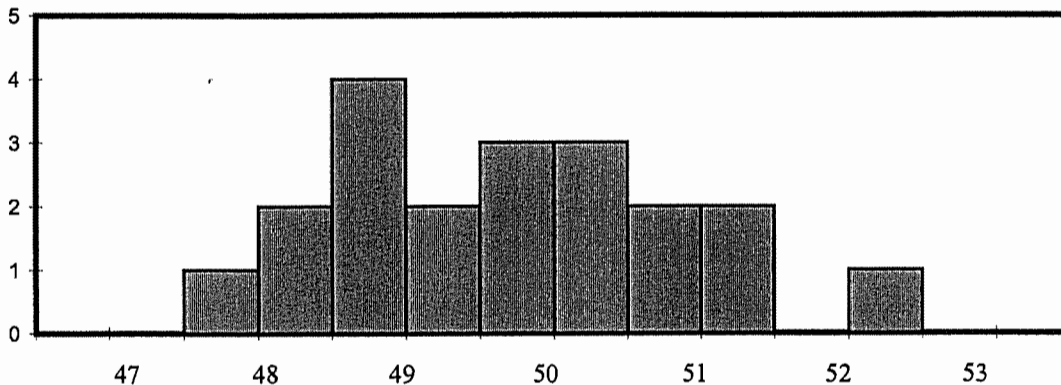
Manufacturer : Standard-Communications  
Beacon Type : MT400  
Number : C204

**Message**

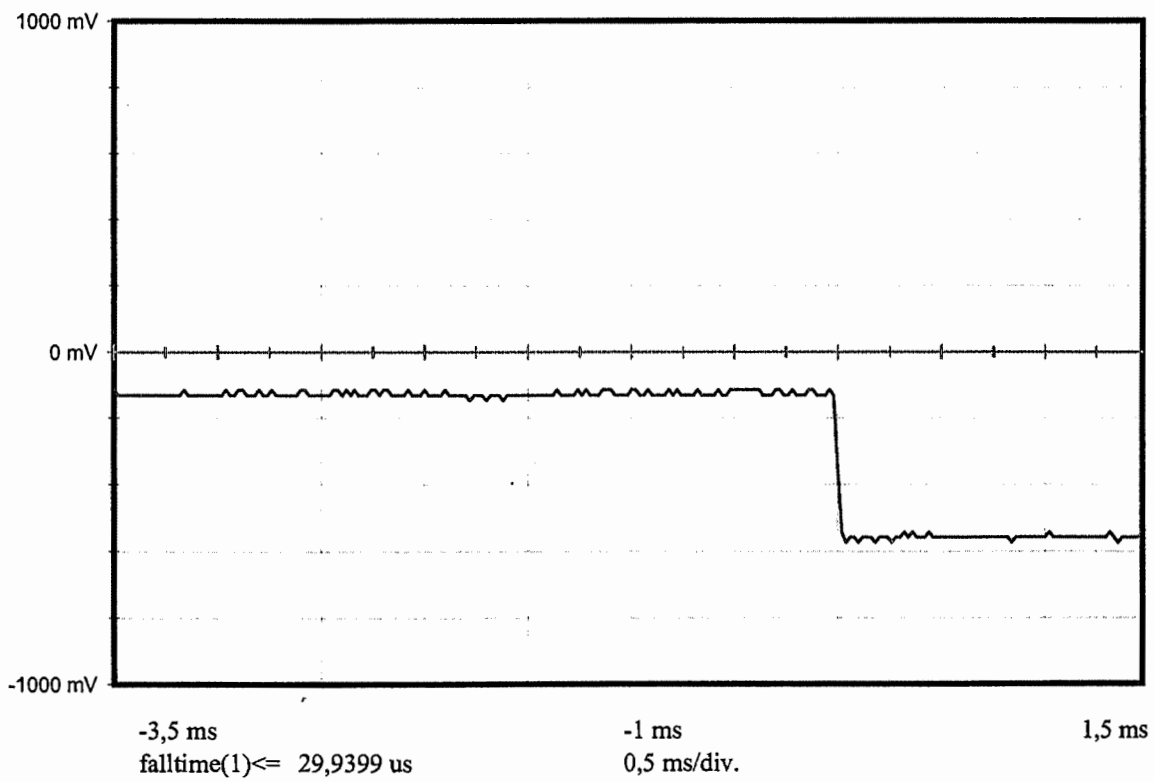
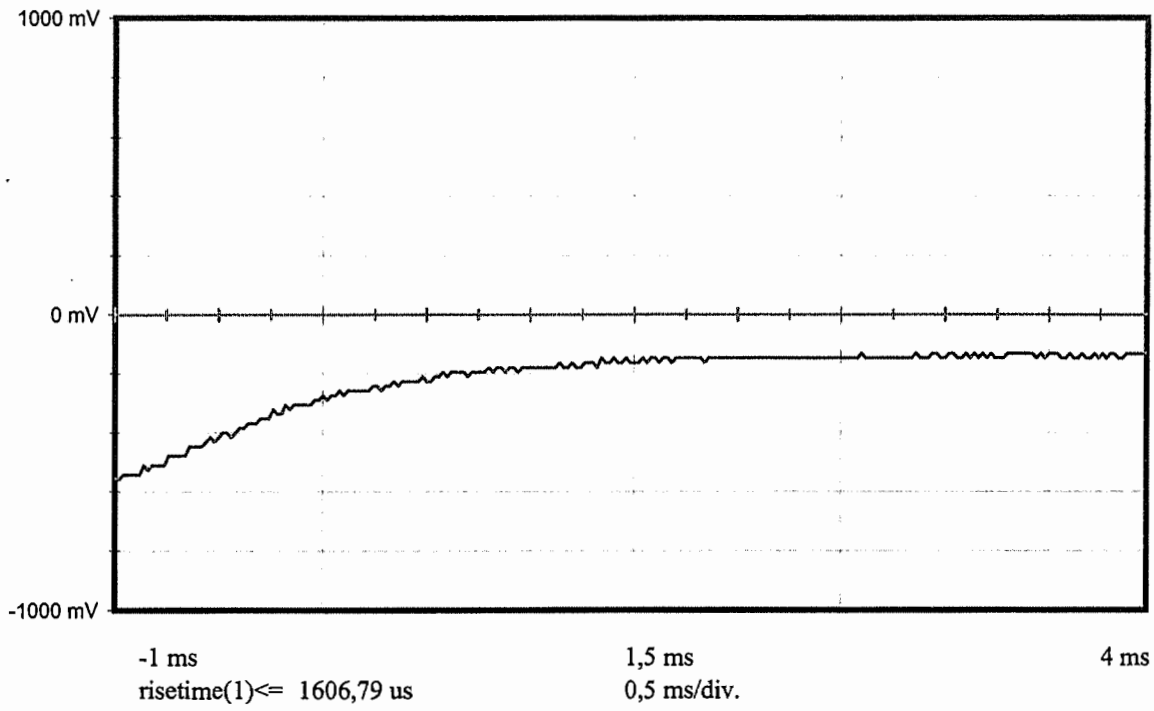
Message received		FFFE2F5F7F03C480000009C00400
Format Flag	25	0
Protocol flag	26	1
Ident./Position code	27-85	BEFE07890000001
Country Code/Country	27-36	503 /
Protocol Code : U/Std-Nat	37-39/37-40	111
Protocol Code Used	37-39/37-40	Test
Identification Data	40-85/41-64/41-58	1E
Identification Used		::::::
Calculated BCH1	25-85	70010
Readed BCH1	86-106	70010
Homing	84-85	01
Em.cod/nat.use/supp.data	107-112	000000
Emer cod / Encod pos data	107	0
Activation type	108	0
Calculated BCH2	107-132	
Readed BCH2	133-144	
Latitude position		
Longitude position		
Delta position		

**Electrical and other parameters**

CW preamble	ms	158,4 <	< 162,6	160,34
Total transmission time	ms	434,6 <	< 445,4	440,43
Modulation frequency	Hz	395,4 <	< 404,6	399,70
Phase deviation : total	rd		<=2,40	2,11
Phase deviation : positive	rd	1,00 <	< 1,20	1,04
Phase deviation : negative	rd	-1,20 <	< -1,00	-1,07
Symmetry measurement	%		<=5 %	1,20
Nominal frequency : F2	Hz			406027943,20
Short term2				2,81E-10
Short term3				3,41E-10
Slope				-7,45E-11
Residual				8,03E-10
406 MHz power output	dBm			36,1
Homing frequency	MHz			121,50
121,5 MHz power output	dBm			18,6
Soak temperature	°C			22,2
Extra feature				No







**Certification Test at 55°C**

Date of test : 1 Apr 2003

Manufacturer : Standard-Communications

Beacon Type : MT400

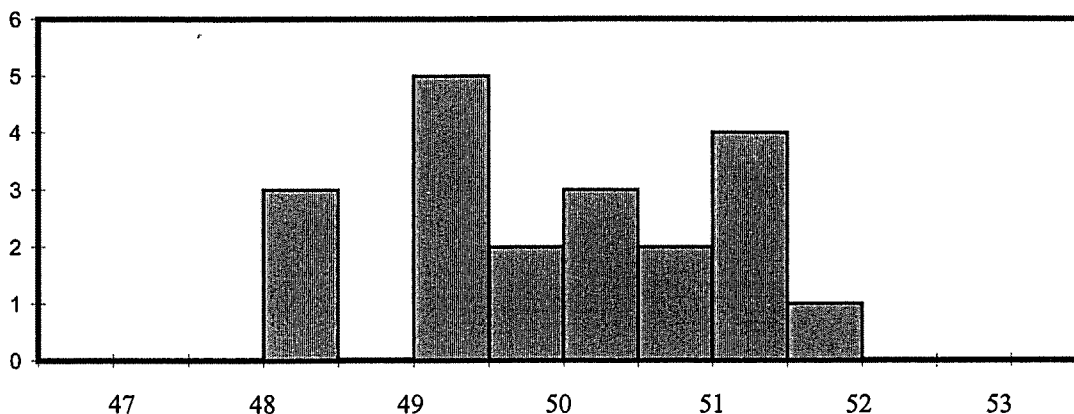
Number : C204

**Message**

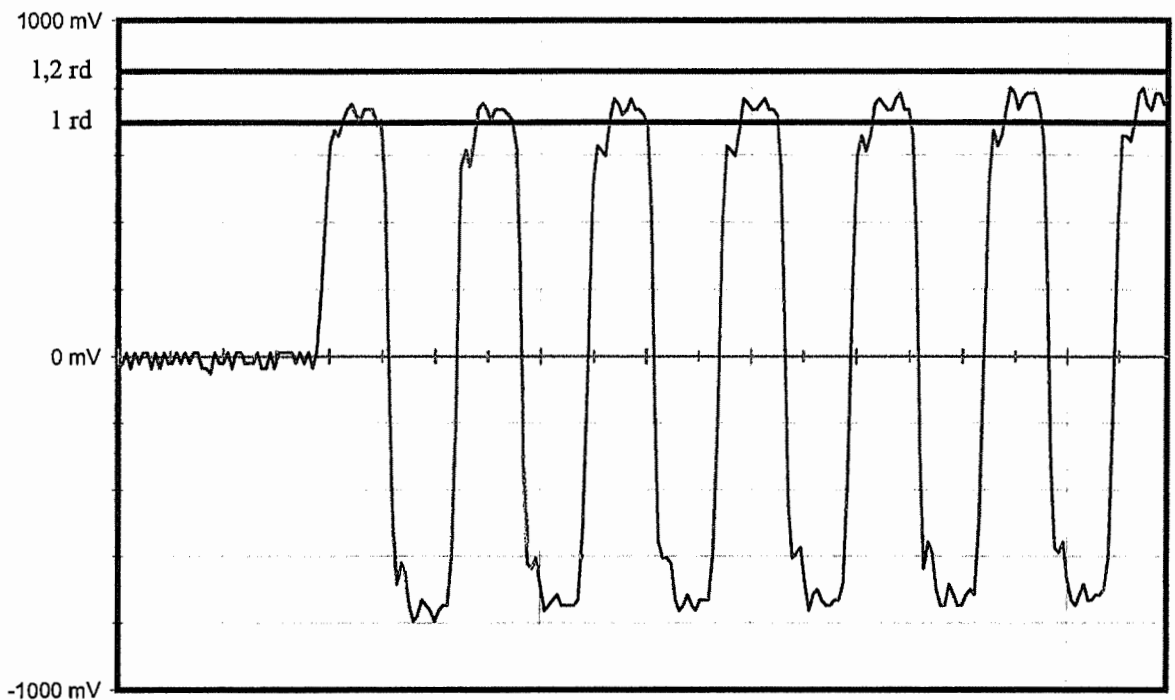
Message received		FFFE2F5F7F03C480000009C00400
Format Flag	25	0
Protocol flag	26	1
Ident./Position code	27-85	BEFE07890000001
Country Code/Country	27-36	503 /
Protocol Code : U/Std-Nat	37-39/37-40	111
Protocol Code Used	37-39/37-40	Test
Identification Data	40-85/41-64/41-58	1E
Identification Used		.....
Calculated BCH1	25-85	70010
Readed BCH1	86-106	70010
Homing	84-85	01
Em.cod/nat.use/supp.data	107-112	000000
Emer cod / Encod pos data	107	0
Activation type	108	0
Calculated BCH2	107-132	
Readed BCH2	133-144	
Latitude position		
Longitude position		
Delta position		

**Electrical and other parameters**

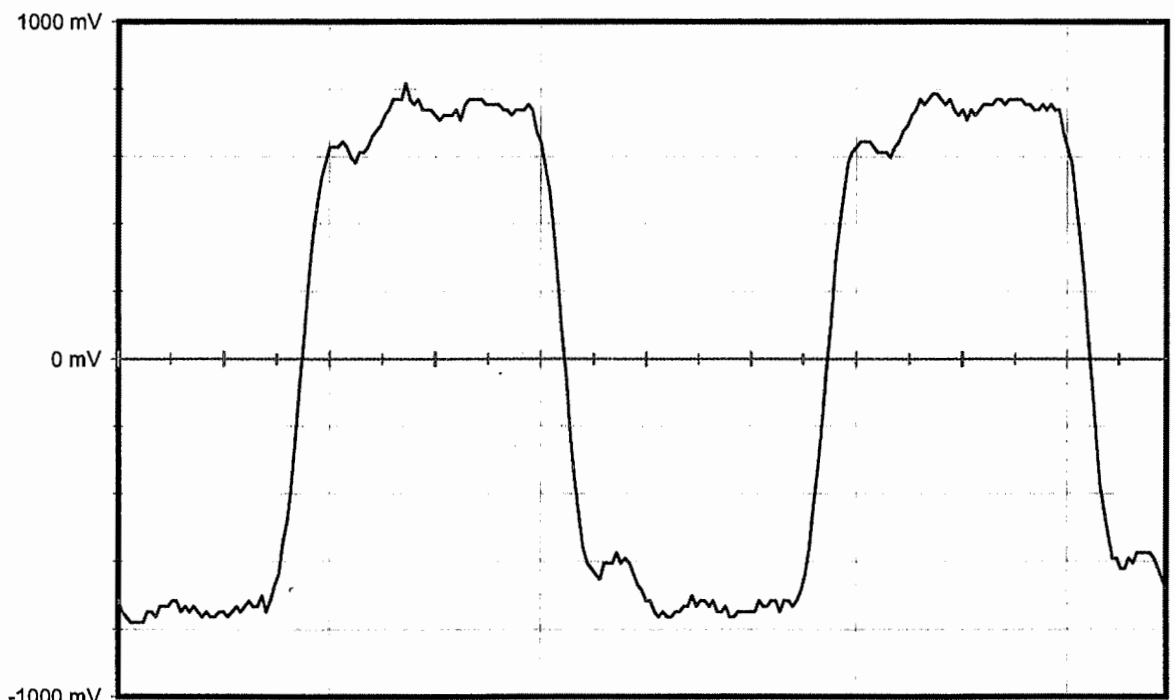
CW preamble	ms	158,4 <	< 162,6	160,18
Total transmission time	ms	434,6 <	< 445,4	440,32
Modulation frequency	Hz	395,4 <	< 404,6	399,68
Phase deviation : total	rd		<=2,40	2,06
Phase deviation : positive	rd	1,00 <	< 1,20	1,05
Phase deviation : negative	rd	-1,20 <	< -1,00	-1,01
Symmetry measurement	%		<=5 %	0,00
Nominal frequency : F2	Hz			406027940,00
Short term2				2,51E-10
Short term3				2,97E-10
Slope				-6,86E-11
Residual				4,78E-10
406 MHz power output	dBm			35,5
Homing frequency	MHz			121,50
121,5 MHz power output	dBm			17,7
Soak temperature	°C			52,8
Extra feature				No







0 ms 10 ms 20 ms  
 Vmarker1 850 mv ==> 1,2 rd 2 ms/div.  
 Vmarker2 700 mv ==> 1 rd

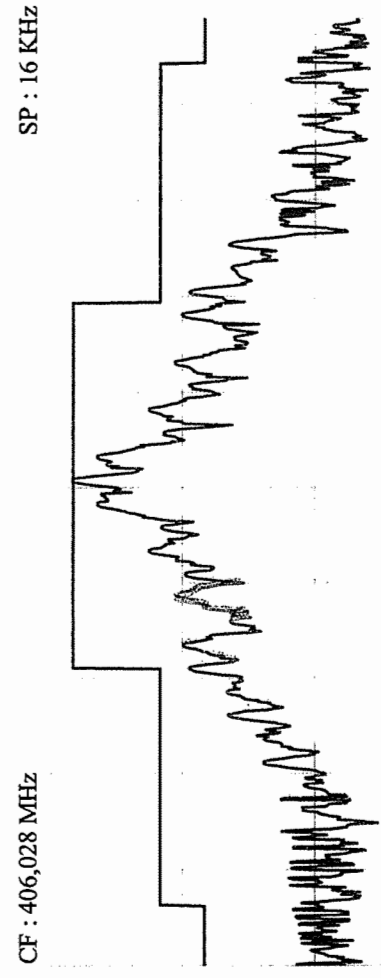


8 ms 10,5 ms 13 ms  
 Duty Cycle : 4,008E-06 0,5 ms/div.  
 falltime(1) <= 209,58 us risetime(1) <= 229,541 us  
 +width(1) 1,2475 ms -width(1) 1,24751 ms

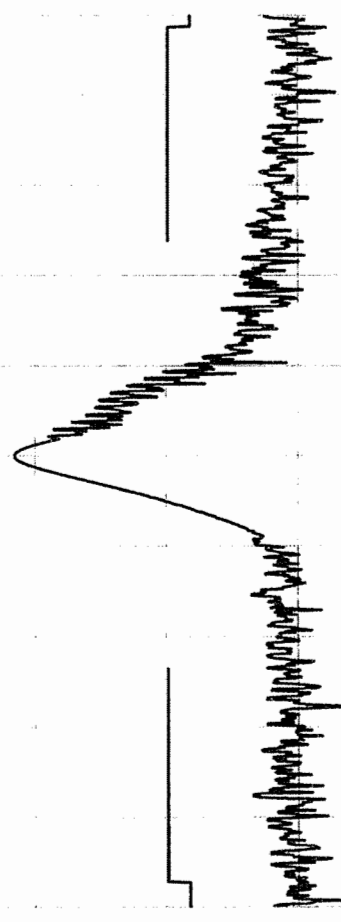


**SPURIOUS EMISSIONS RESULTS**  
**MT400 STANDARD COMMUNICATIONS PTY. LTD. EPIRB**  
**N° C204**  
**at -20° C, 22° C and 55° C**

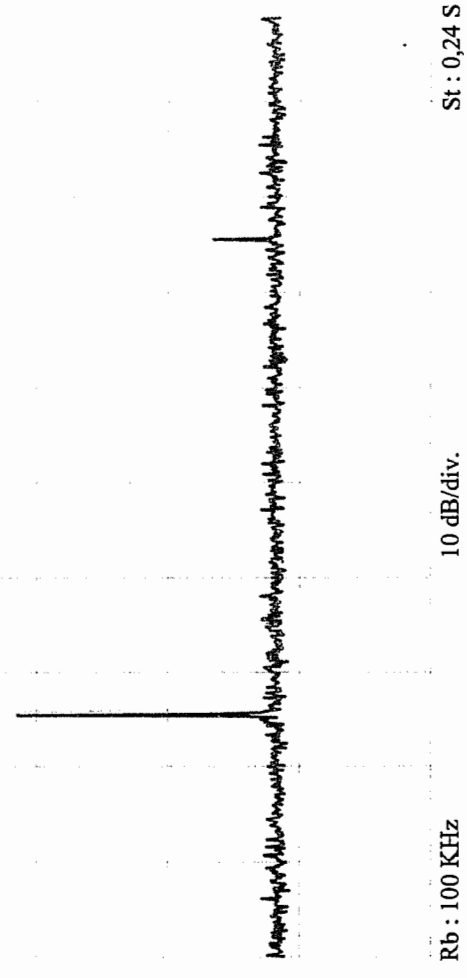
**STANDARD COMMUNICATIONS PTY. LTD.**  
 MT400  
 C204  
 Certification nominale  
 406 MHz  
 -20 °C



CF : 406,028 MHz  
 SP : 16 KHz  
 Rb : 0,1 KHz  
 Delta : -44,83 dB  
 St : 4,8 S  
 SP : 800000 KHz



CF : 406,028 MHz  
 SP : 50 KHz  
 Rb : 1 KHz  
 St : 0,305 S



CF : 600 MHz  
 Rb : 100 KHz  
 St : 0,24 S



**intespace**

Intelligence de l'Environnement

Ref : M4586, Suu Com

**STANDARD COMMUNICATIONS PTY. LTD.**

MT400

C204

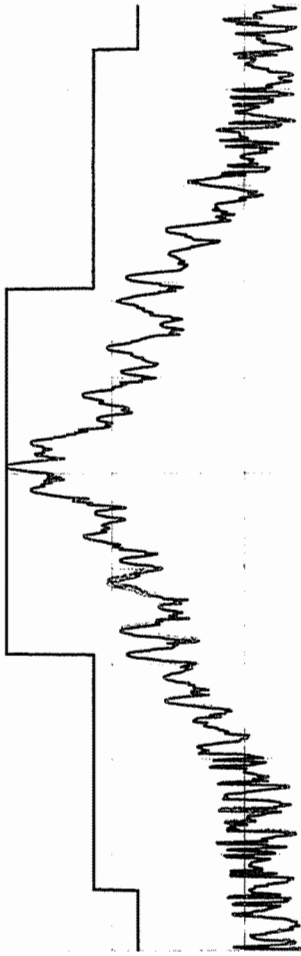
Certification nominale

406 MHz

22 °C

CF : 406,028 MHz

SP : 16 KHz



Rb : 0,1 KHz

10 dB/div.

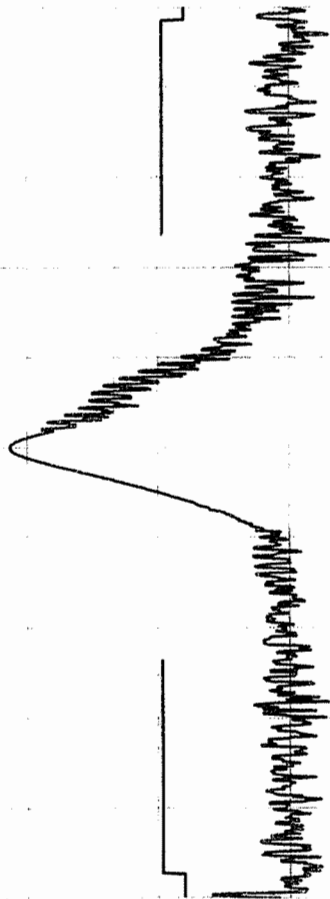
St : 4,8 S

CF : 406,028 MHz

SP : 50 KHz

Delta : -43,34 dB

SP : 80000 KHz



Rb : 1 KHz

10 dB/div.

St : 0,305 S

Rb : 100 KHz

10 dB/div.

St : 0,24 S



**STANDARD COMMUNICATIONS PTY. LTD.**

MT400

C204

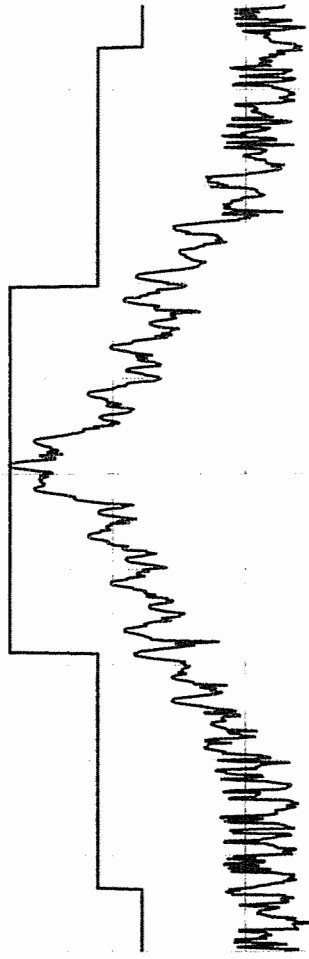
Certification nominale

406 MHz

55 °C

CF : 406,028 MHz

SP : 16 KHz



Rb : 0,1 KHz

10 dB/div.

St : 4,8 S

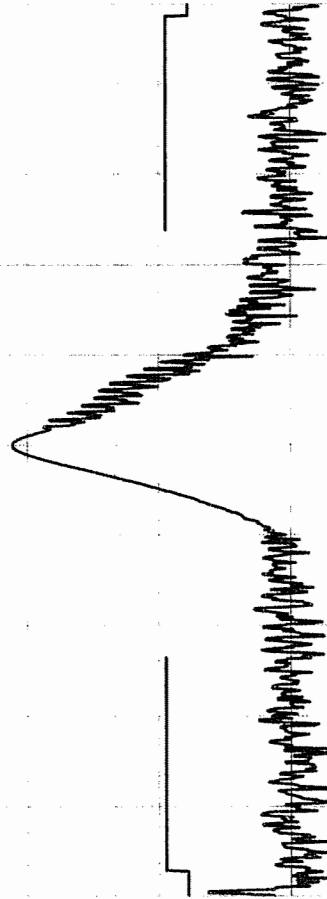
CF : 406,028 MHz

SP : 50 KHz

CF : 600 MHz

Delta : -44,13 dB

SP : 80000 KHz



Rb : 1 KHz

10 dB/div.

St : 0,305 S

Rb : 100 KHz

10 dB/div.

St : 0,24 S



**406 MHz VSWR 3:1 TEST RESULTS ON  
MT400 STANDARD COMMUNICATIONS PTY. LTD. EPIRB  
N° C204**

**at -20° C, 22° C and 55° C**

**Certification Test VSWR at -20°C**

Date of test : 10 Apr 2003

Manufacturer : Standard-Communications

Beacon Type : MT400

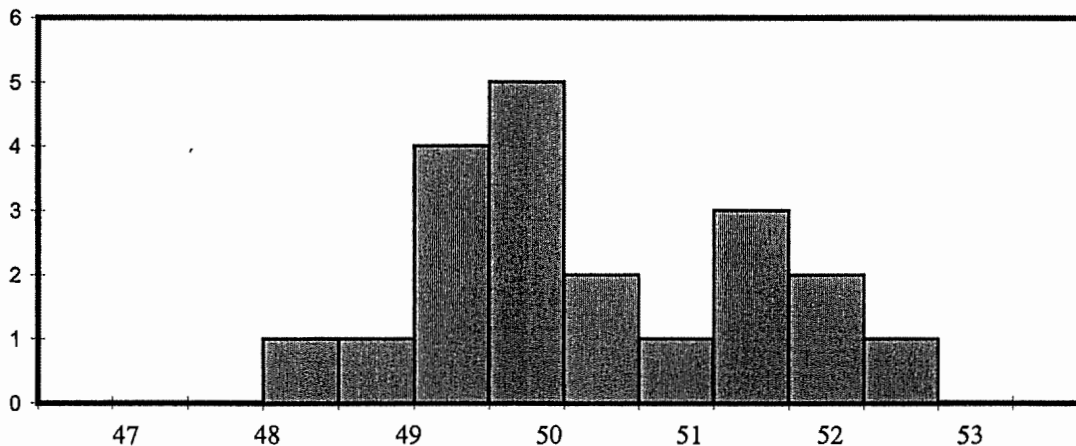
Number : C204

**Message**

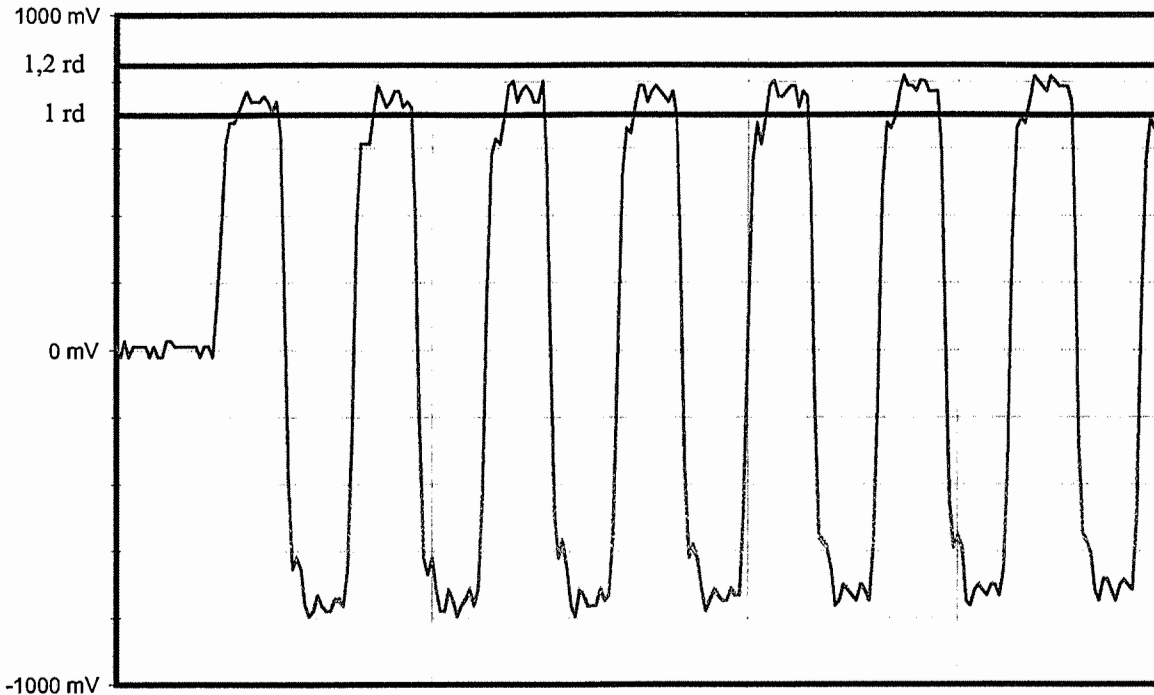
Message received		FFFE2F5F7F03C480000009C00400
Format Flag	25	0
Protocol flag	26	1
Ident./Position code	27-85	BEFE07890000001
Country Code/Country	27-36	503 /
Protocol Code : U/Std-Nat	37-39/37-40	111
Protocol Code Used	37-39/37-40	Test
Identification Data	40-85/41-64/41-58	1E
Identification Used		::::::
Calculated BCH1	25-85	70010
Readed BCH1	86-106	70010
Homing	84-85	01
Em.cod/nat.use/supp.data	107-112	000000
Emer cod / Encod pos data	107	0
Activation type	108	0
Calculated BCH2	107-132	
Readed BCH2	147-144	
Latitude position		
Longitude position		
Delta position		

**Electrical and other parameters**

Rise time Modulation	ms		0,2196
Fall time Modulation	ms		0,1996
Phase deviation : positive	rd 1,00 <	< 1,20	1,04
Phase deviation : negative	rd -1,20 <	< -1,00	-1,16
Symmetry measurement	%	<=5 %	1,20
Nominal frequency : F2	Hz		406027943,88

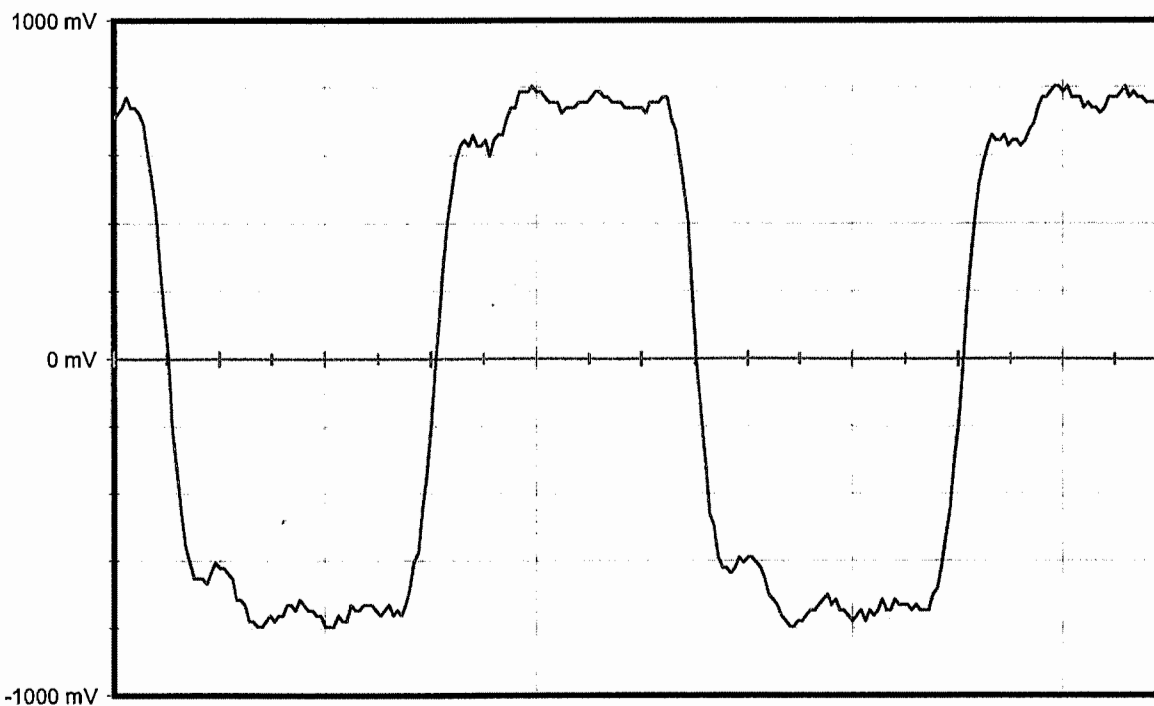






Vmarker1 850 mv ==> 1,2 rd  
Vmarker2 700 mv ==> 1 rd

2 ms/div.



Duty Cycle : 0,01204412  
falltime(1) <= 199,601 us  
+width(1) 1,22755 ms

0,5 ms/div.  
risetime(1) <= 219,561 us  
-widht(1) 1,25748 ms

**Certification Test VSWR at 22°C**

Date of test : 31 mars 2003

Manufacturer : Standard-Communications

Beacon Type : MT400

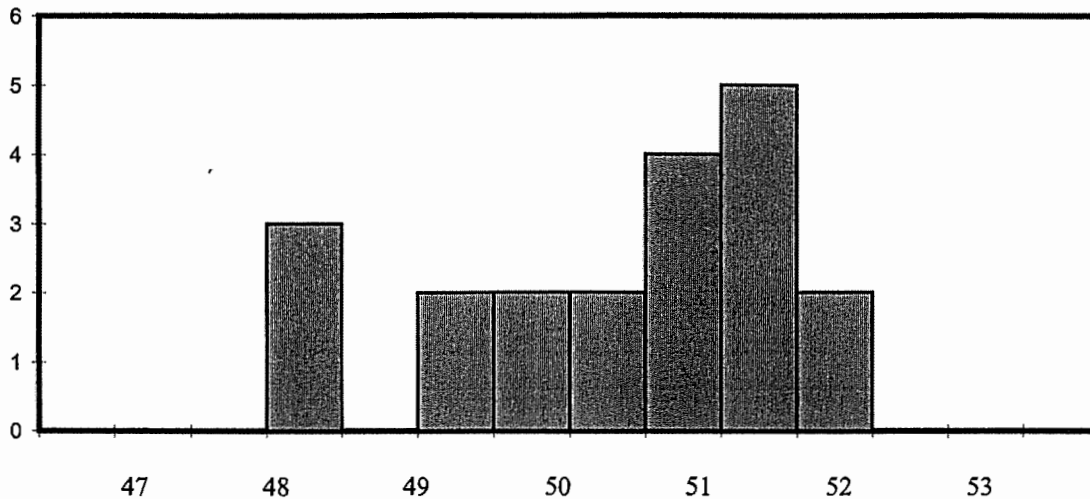
Number : C204

**Message**

Message received		FFFE2F5F7F03C480000009C00400
Format Flag	25	0
Protocol flag	26	1
Ident./Position code	27-85	BEFE07890000001
Country Code/Country	27-36	503 /
Protocol Code : U/Std-Nat	37-39/37-40	111
Protocol Code Used	37-39/37-40	Test
Identification Data	40-85/41-64/41-58	1E
Identification Used		::::::
Calculated BCH1	25-85	70010
Readed BCH1	86-106	70010
Homing	84-85	01
Em.cod/nat.use/supp.data	107-112	000000
Emer cod / Encod pos data	107	0
Activation type	108	0
Calculated BCH2	107-132	
Readed BCH2	147-144	
Latitude position		
Longitude position		
Delta position		

**Electrical and other parameters**

Rise time Modulation	ms		0,2096
Fall time Modulation	ms		0,2196
Phase deviation : positive	rd 1,00 <	< 1,20	1,03
Phase deviation : negative	rd -1,20 <	< -1,00	-1,07
Symmetry measurement	%	<=5 %	1,20
Nominal frequency : F2	Hz		406027943,88





**Certification Test VSWR at 55°C**

Date of test : 11 Apr 2003

Manufacturer : Standard-Communications

Beacon Type : MT400

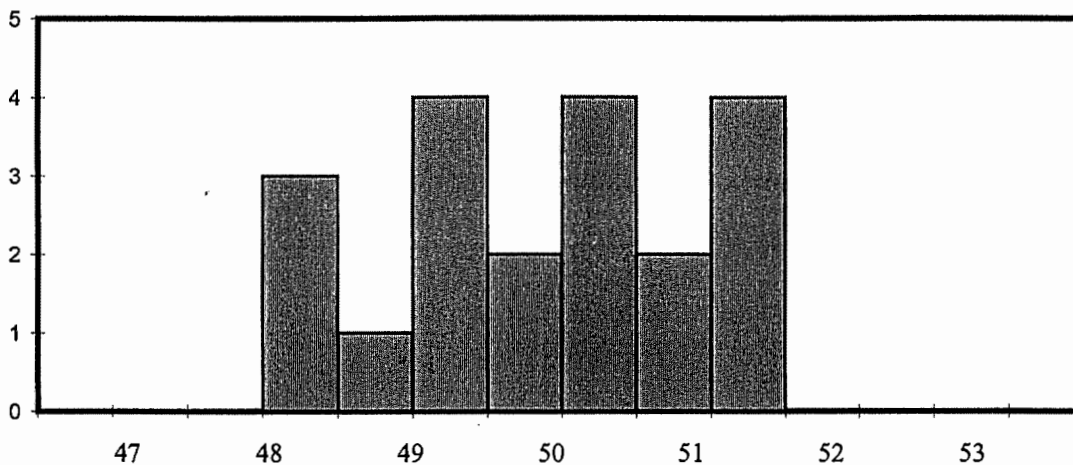
Number : C204

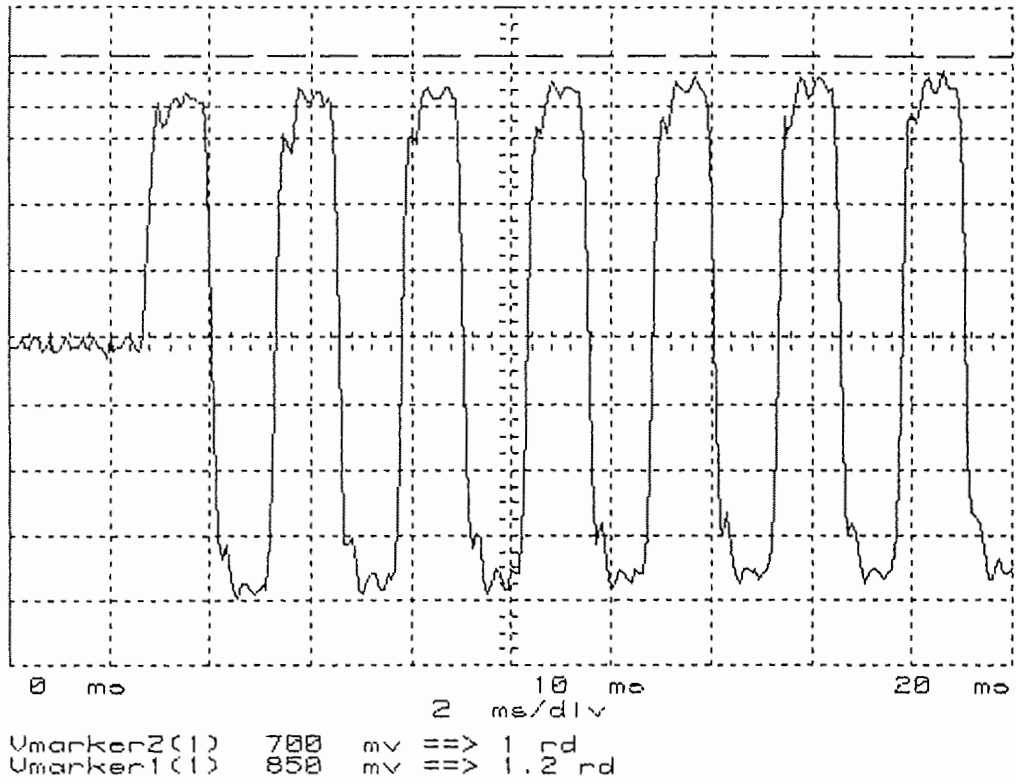
**Message**

Message received		FFFE2F5F7F03C480000009C00400
Format Flag	25	0
Protocol flag	26	1
Ident./Position code	27-85	BEFE07890000001
Country Code/Country	27-36	503 /
Protocol Code : U/Std-Nat	37-39/37-40	111
Protocol Code Used	37-39/37-40	Test
Identification Data	40-85/41-64/41-58	1E
Identification Used		::::::
Calculated BCH1	25-85	70010
Readed BCH1	86-106	70010
Homing	84-85	01
Em.cod/nat.use/supp.data	107-112	000000
Emer cod / Encod pos data	107	0
Activation type	108	0
Calculated BCH2	107-132	
Readed BCH2	147-144	
Latitude position		
Longitude position		
Delta position		

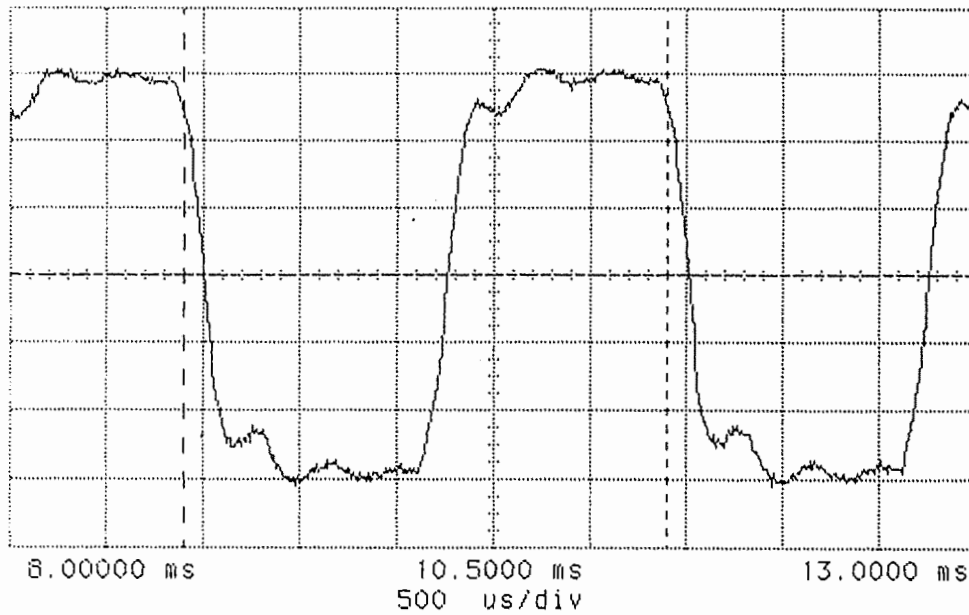
**Electrical and other parameters**

Rise time Modulation	ms		0,1996
Fall time Modulation	ms		0,2295
Phase deviation : positive	rd 1,00 <	< 1,20	1,05
Phase deviation : negative	rd -1,20 <	< -1,00	-1,02
Symmetry measurement	%	<=5 %	0,80
Nominal frequency : F2	Hz		406027938,97





hp awaiting trigger



TIMEBASE

500 us/div

delay \_\_\_\_\_

8.00000 ms

reference \_\_\_\_\_

left cntr right

window \_\_\_\_\_

off on

falltime(1) ≤ 229.541us      risetime(1) ≤ 199.601us  
+width(1)    1.23752ms      -width(1)    1.25748ms  
duty cycle(1) 49.402%      duty cycle(1) 49.402%

**SELF-TEST MODE CONTROL ON  
MT400 STANDARD COMMUNICATIONS PTY. LTD. EPIRB  
N° C204  
at 22° C**

**Message at 22°C**

Manufacturer	Standard-Communications
Beacon model	MT400
Serial number	C204
Date of test	2 Apr 2003
Temperature	23,4
Message received	FF FED05F7F03C480000009C00400
Frame synchro. pattern	011010000

Total transmission time	ms 434.6<	ms 445.4<	440,12
-------------------------	-----------	-----------	--------

## 406 MHz BEACON SELF-TEST CHARACTERISTICS

406 MHz beacon Model(s) : MT400

### Answer (X)

**1. Does beacon have a self-test mode ?**

Yes    No

|

If yes :

♦ does self-test have a separate switch position ?  |

♦ 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 406 MHz signal ?  |

if yes :

- unmodulated signal only  |

- normal data, but with inverted frame synchronization pattern  |

- 1 burst only  |

♦ does self-test transmit a 121.5 MHz signal ?  |

if yes :

- for less than 1 second  |

- continually while self-test switch is activated  |

- other (please specify) : Unmodulated at peak RF power  |

♦ does self-test transmit any other frequency (e.g. 243 MHz) ?  |

**2. Result of self-test is indicated by :**

♦ pass/fail display indicator light  |

♦ strobe light flash  |

♦ other (please specify) : Audible annunciator  |

**3. Can the self-test be performed without removing the beacon from its mounting bracket ?**

|

**4. What parameters are internally tested by the self-test ?**

♦ battery voltage  |

♦ RF power  |

♦ approximate RF frequency  |

♦ phase locked loop  |

♦ other (please specify) : System User data (eg UIN) memory parity check  |

**5. Do the above characteristics apply to this beacon model :**

♦ for all countries where beacon is sold ,  |   
 if no, please specify :

♦ for all production serial numbers ?  |   
 if no, specify :

**6. Comments**



**THERMAL SHOCK TEST RESULT ON  
MT400 STANDARD COMMUNICATIONS PTY. LTD. EPIRB  
N° C204**

**22°C to -8°C**

Temperature Soak : 22°C  
 Temperature Measure : -8°C

No	Δ Frequency ( Hz )	Temp. ( °C )	P406 ( dBm )	P121.5 ( dBm )
1	49945,48	-8,9	36,3	18,5
2	49944,90	22,8	36,3	18,5
3	49945,58	22,9	36,2	18,5
4	49945,61	22,9	36,3	18,4
5	49945,79	22,9	36,2	18,5
6	49946,40	22,9	36,2	18,5
7	49946,00	22,9	36,2	18,4
8	49946,29	22,9	36,1	18,4
9	49947,18	23,0	36,2	18,3
10	49947,55	22,9	36,1	18,2
11	49947,33	23,0	36,1	18,3
12	49946,87	22,9	36,1	18,4
13	49947,88	23,0	36,1	18,4
14	49947,30	22,0	36,1	18,3
15	49948,10	22,1	36,0	18,4
16	49948,15	22,0	36,1	18,4
17	49948,16	22,1	36,0	17,9
18	49949,03	22,1	36,0	17,8

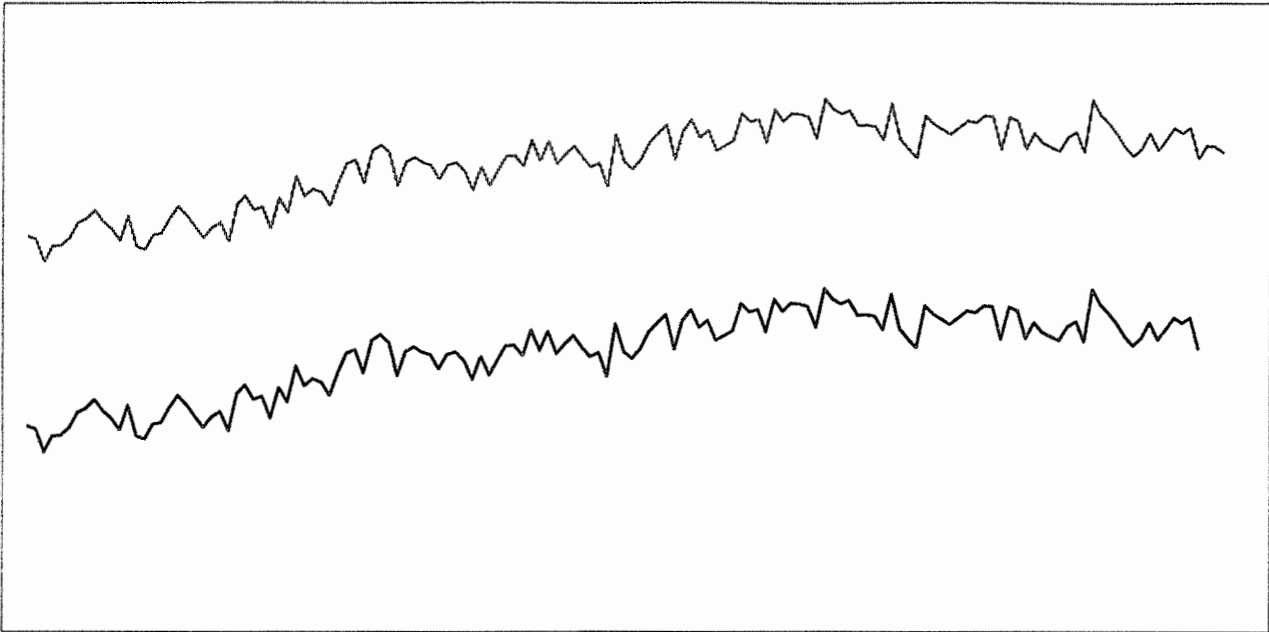
No	Temp.	Slope	Sigma	P406	Short term	P121.5
1	22,2	6,3E-10	7,8E-10	36,1	1,8E-10	18,4
18	22,1	6,3E-10	7,8E-10	35,9	1,8E-10	18,5
31	22,1	1,2E-10	6,5E-10	35,9	2,5E-10	18,0
61	22,0	2,3E-11	6,3E-10	35,8	1,7E-10	18,3
91	21,8	8,9E-11	6,4E-10	35,8	2,6E-10	18,3
121	22,0	2,5E-12	7,4E-10	35,8	1,9E-10	18,3

Beacon message at the end of Thermal Shock Test :

**FFFE2F5F7F03C48000009C00400**

### Frequency variation

406024958



406024946

— Initial tracing    — Smoothed tracing

**THERMAL SHOCK TEST / 30 °C change ( 22 °C to -8 °C )**

Date : 8 Apr 2003

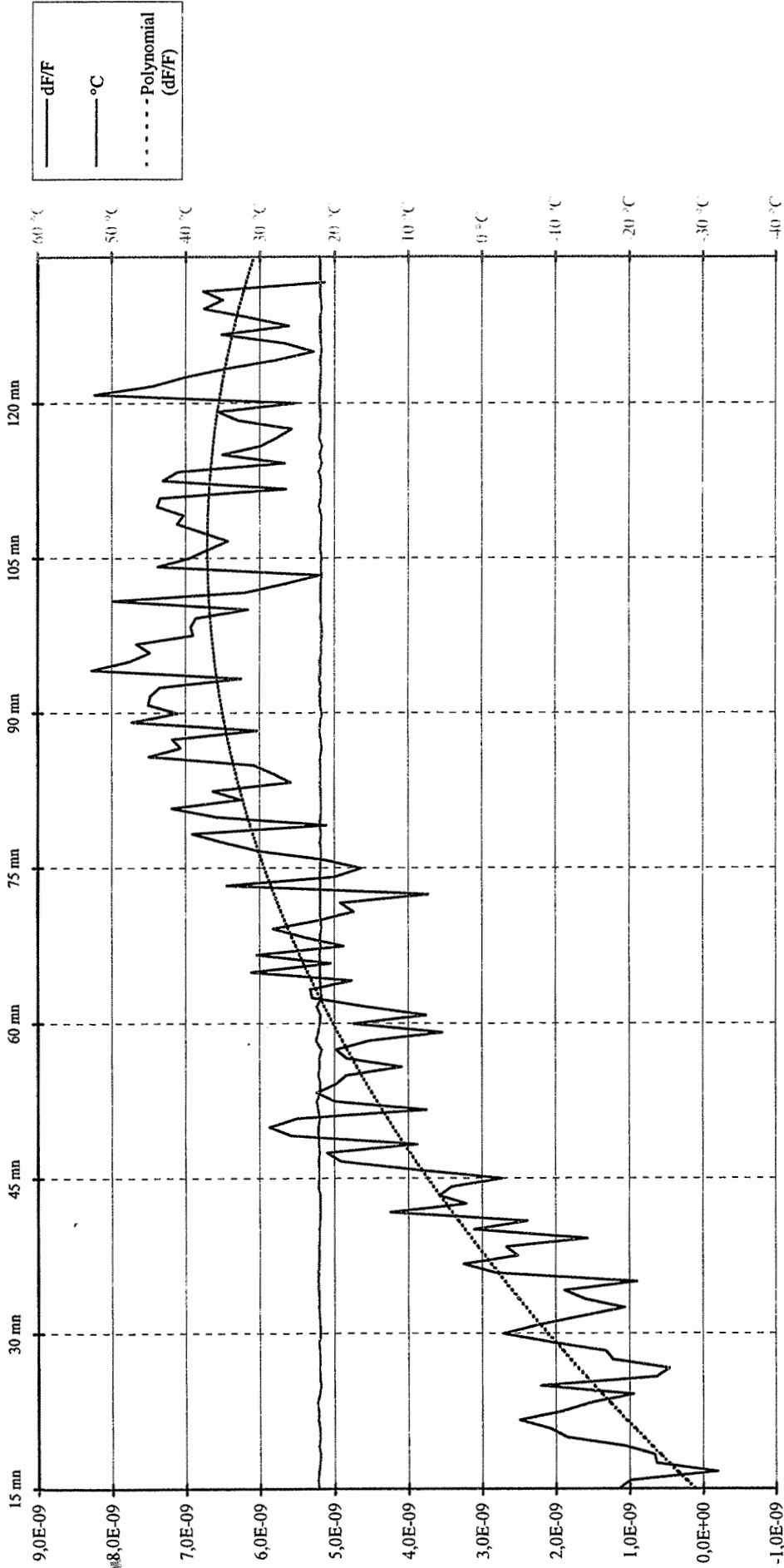
Time : 11:02:36

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

Model : MT400

Number : C204

**FREQUENCY VARIATION**

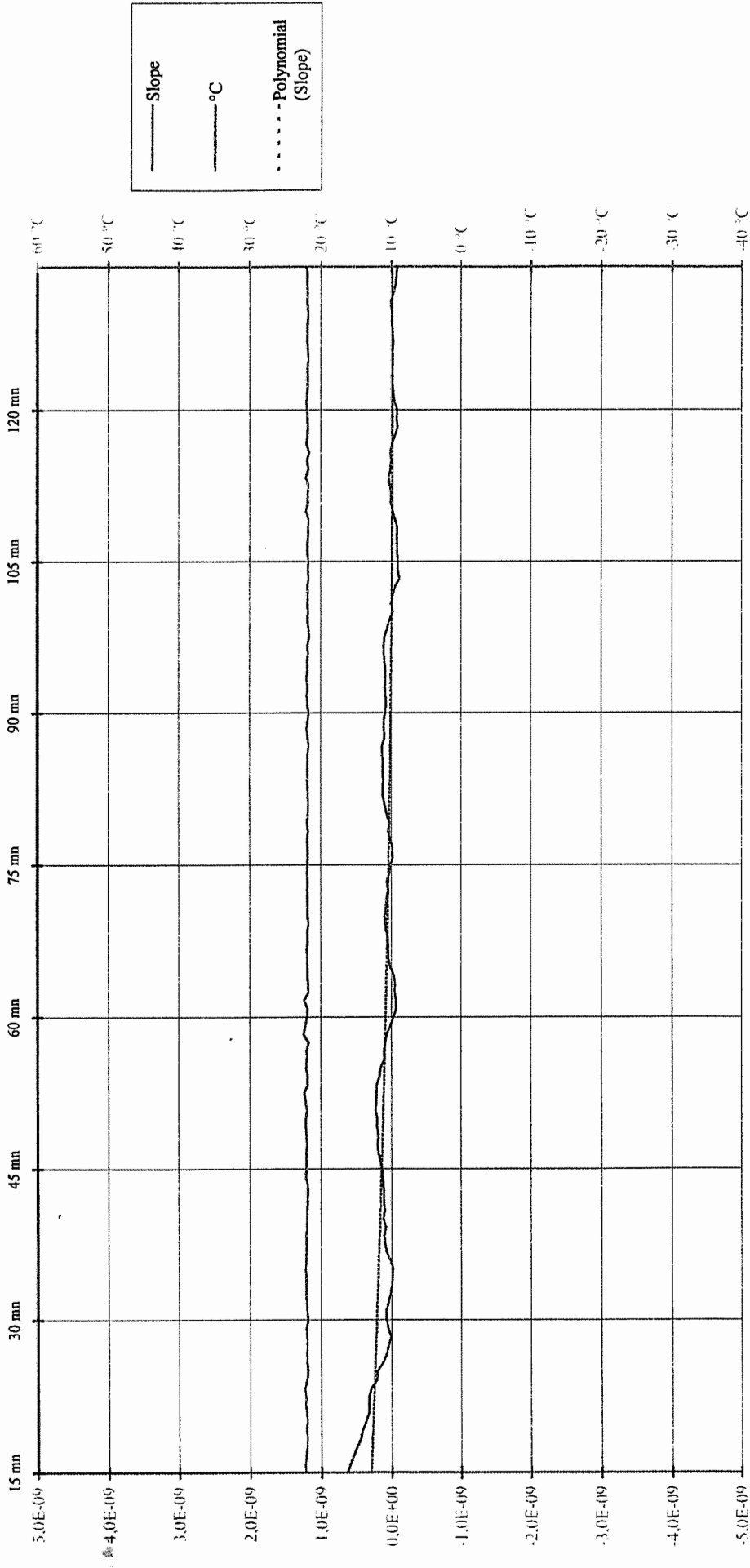


**THERMAL SHOCK TEST / 30 °C change ( 22 °C to -8 °C )**

Date : 8 Apr 2003  
Time : 11:02:36

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.  
Model : MT400  
Number : C204

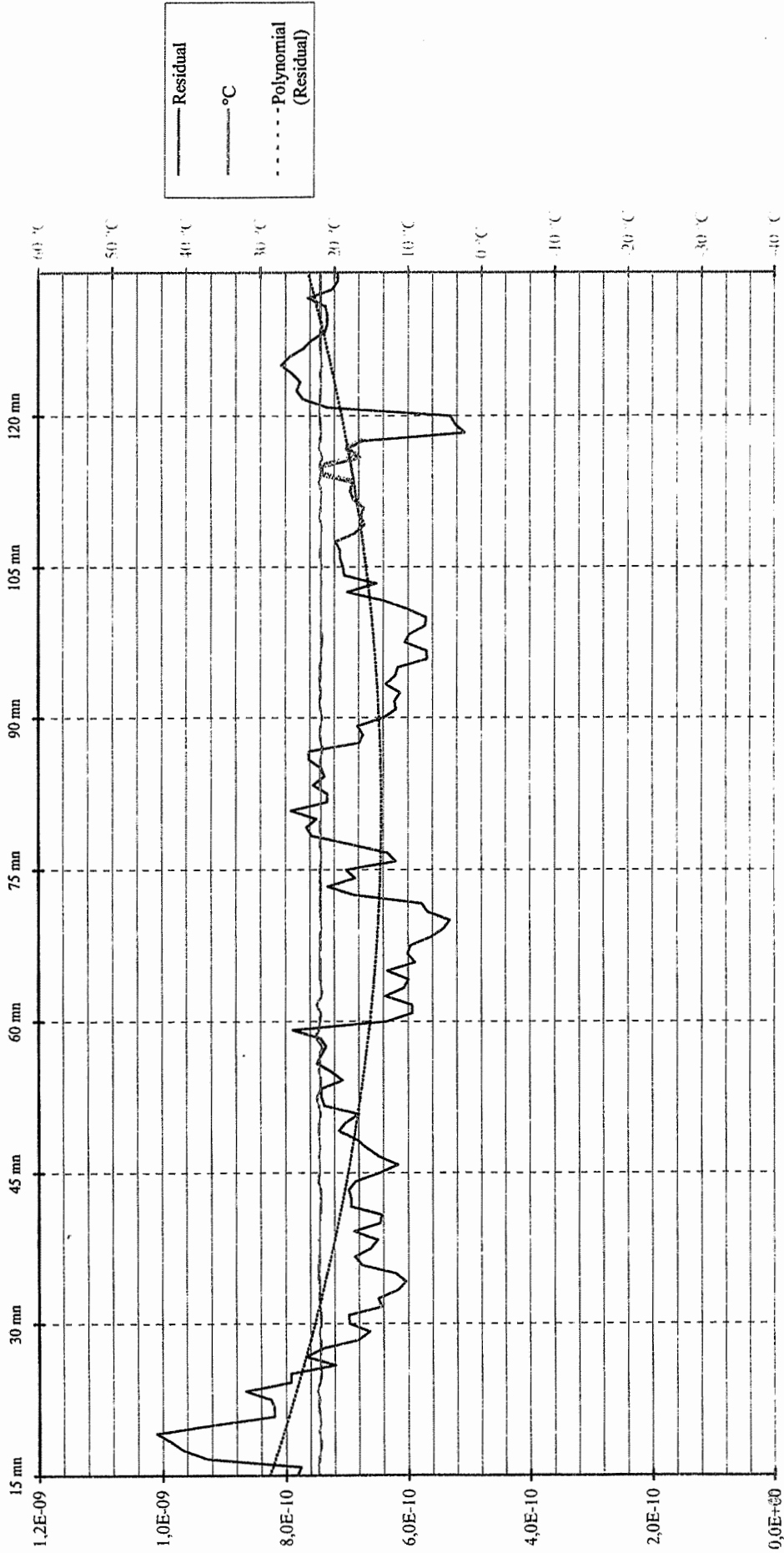
**MEDIUM TERM STABILITY : MEAN SLOPE /mm ( -1,0E-9 to 1,0E-9 )**



**THERMAL SHOCK TEST / 30 °C change ( 22 °C to -8 °C )**

 Date : 8 Apr 2003  
 Time : 11:02:36

 Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.  
 Model : MT400  
 Number : C204

**MEDIUM TERM STABILITY : RESIDUAL (  $\leq 3,0E-9$  )**


**THERMAL SHOCK TEST / 30 °C change ( 22 °C to -8 °C )**

Date : 8 Apr 2003

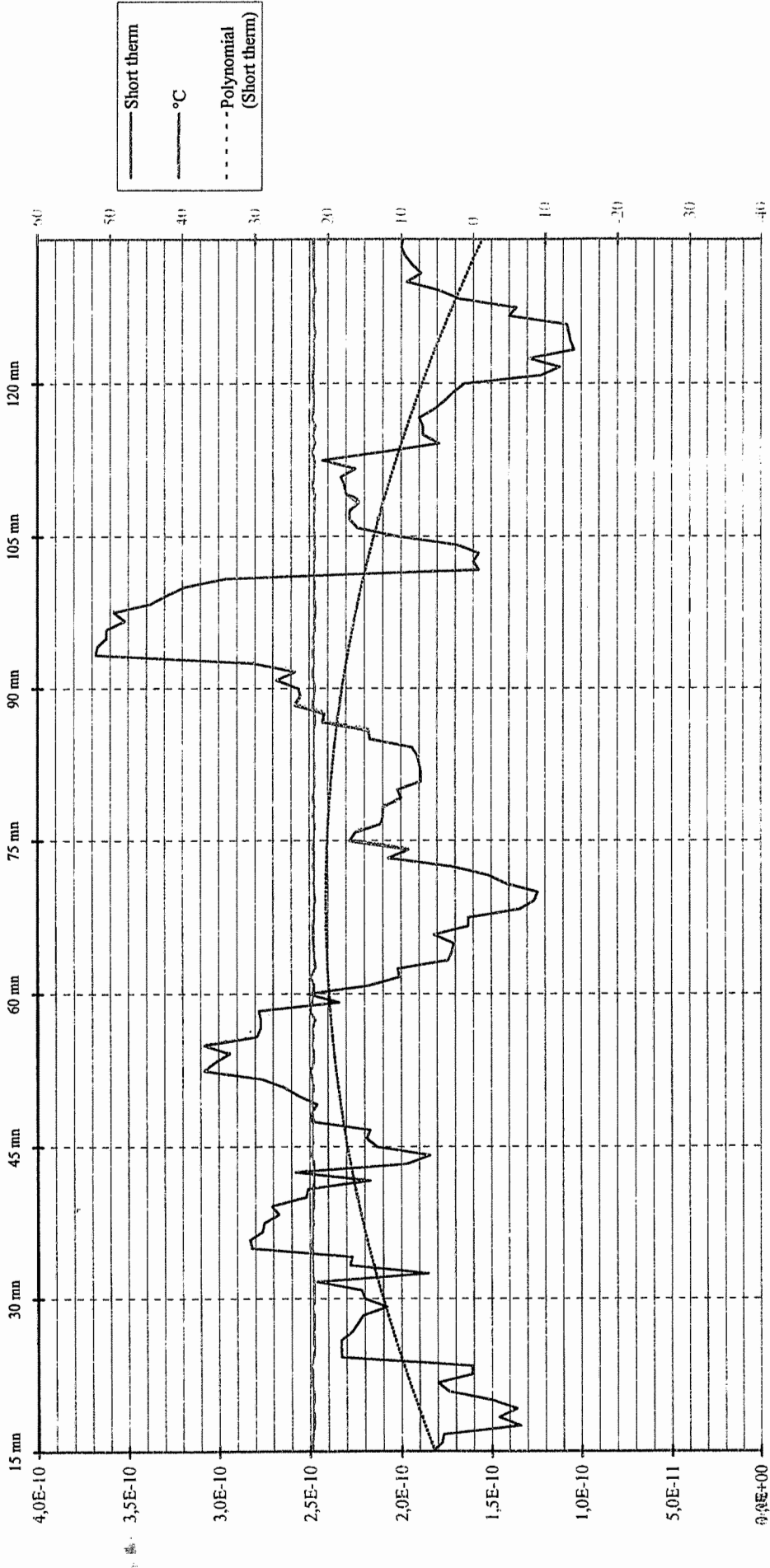
Time : 11:02:36

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

Model : MT400

Number : C204

**SHORT TERM STABILITY / 100 mS ( ≤ 2,0E-9 )**



**THERMAL SHOCK TEST / 30 °C change ( 22 °C to -8 °C )**

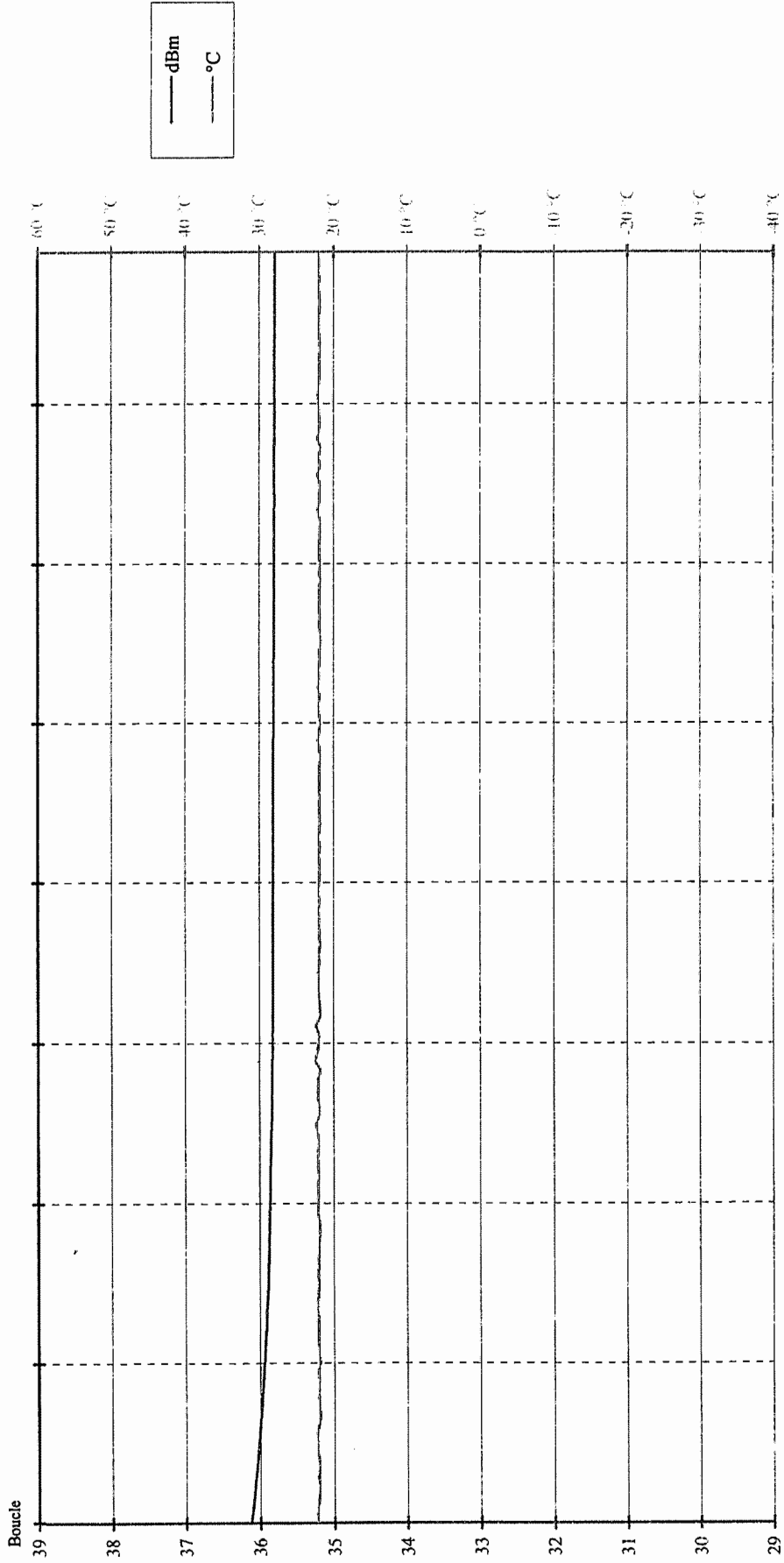
Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

Model : MT400

Number : C204

Date : 8 Apr 2003

Time : 11:02:36

**OUTPUT POWER ( 35 to 39 dBm )**




**OPERATING LIFE TEST RESULTS ON  
MT400 STANDARD COMMUNICATIONS PTY. LTD. EPIRB  
N° C204  
-20 °C**

Note : Before the Operating Life Test the batteries have been discharged during 4hrs 26minutes with beacon on normal operation at ambient temperature following manufacturer note : "MT400 Qualification Testing" joint in Annex B

No	Δ Frequency ( Hz )	Temp. ( °C )	P406 ( dBm )	P121.5 ( dBm )
1	49922,42	-20,9	36,8	18,8
2	49922,40	-20,9	36,7	18,3
3	49922,72	-20,9	36,7	18,3
4	49923,27	-20,8	36,8	18,8
5	49922,89	-21,0	36,8	18,6
6	49923,59	-20,9	36,7	18,8
7	49923,31	-21,0	36,8	18,8
8	49923,46	-20,9	36,8	18,8
9	49923,13	-20,9	36,8	18,8
10	49923,48	-20,9	36,8	18,8
11	49923,80	-21,0	36,8	18,8
12	49923,18	-21,0	36,8	18,8
13	49923,59	-21,0	36,8	18,8
14	49923,39	-20,9	36,8	18,8
15	49923,75	-20,9	36,8	18,8
16	49923,21	-20,8	36,8	18,8
17	49923,83	-20,8	36,8	18,8
18	49923,68	-20,9	36,7	18,8

No	Temp.	Slope	Sigma	P406	Short term	P121.5
1	-20,8	1,6E-10	6,5E-10	36,7	2,7E-10	18,7
18	-20,8	1,1E-10	3,8E-10	36,7	4,0E-10	18,7
31	-20,6	1,3E-10	4,0E-10	36,7	3,1E-10	18,8
61	-20,4	1,4E-11	6,2E-10	36,7	3,4E-10	18,8
91	-20,5	8,6E-11	5,6E-10	36,7	2,0E-10	18,8
121	-21,0	8,3E-11	7,0E-10	36,7	3,2E-10	18,8
151	-21,3	3,5E-11	4,2E-10	36,7	2,8E-10	18,8
181	-21,6	7,0E-12	4,5E-10	36,7	2,7E-10	18,7
211	-21,7	7,8E-11	5,7E-10	36,8	2,7E-10	18,8
241	-21,7	5,6E-11	5,4E-10	36,7	2,1E-10	18,8
271	-21,7	8,8E-11	6,3E-10	36,7	2,5E-10	18,8
301	-21,7	9,0E-12	4,3E-10	36,7	1,4E-10	18,9
331	-21,9	-3,2E-11	4,7E-10	36,8	1,3E-10	18,8
361	-21,8	3,4E-11	3,4E-10	36,8	2,4E-10	18,8
391	-21,7	-3,3E-11	4,5E-10	36,7	2,4E-10	18,8
421	-21,6	5,5E-11	5,2E-10	36,8	2,5E-10	18,8
451	-21,6	-6,7E-11	4,9E-10	36,8	2,3E-10	18,8
481	-21,6	-1,3E-11	3,1E-10	36,8	4,4E-10	18,8
511	-21,6	-9,3E-11	5,7E-10	36,8	2,5E-10	18,9
541	-21,6	-1,8E-11	4,3E-10	36,8	2,3E-10	18,8
571	-21,6	-2,5E-12	4,8E-10	36,8	3,1E-10	18,9
601	-21,4	-2,3E-11	6,8E-10	36,8	3,0E-10	18,8
631	-21,3	-2,8E-11	4,6E-10	36,8	2,6E-10	18,8
661	-21,3	-7,2E-11	4,8E-10	36,8	3,2E-10	18,8
691	-21,2	-6,7E-11	3,6E-10	36,8	2,8E-10	18,8
721	-21,2	3,9E-11	3,3E-10	36,8	3,7E-10	18,7
751	-21,0	7,4E-11	5,9E-10	36,8	3,1E-10	18,8
781	-20,9	-1,7E-11	5,8E-10	36,8	2,5E-10	18,8
811	-21,0	6,6E-11	6,7E-10	36,8	2,3E-10	18,5
841	-20,9	-2,7E-11	4,5E-10	36,8	2,1E-10	18,9

No	Temp.	Slope	Sigma	P406	Short term	P121.5
871	-20,8	1,1E-11	3,2E-10	36,8	2,0E-10	18,8
901	-20,7	4,0E-11	5,9E-10	36,8	2,4E-10	18,8
931	-20,7	3,0E-11	5,1E-10	36,8	3,7E-10	18,8
961	-20,6	-5,7E-11	4,4E-10	36,8	3,9E-10	18,9
991	-20,5	-7,8E-12	6,2E-10	36,8	4,0E-10	18,8
1021	-20,5	2,3E-11	5,5E-10	36,8	4,1E-10	18,7
1051	-20,5	1,5E-11	4,8E-10	36,8	2,7E-10	18,8
1081	-20,3	5,9E-12	5,0E-10	36,8	3,0E-10	18,8
1111	-20,4	3,1E-11	4,3E-10	36,8	3,6E-10	18,8
1141	-20,3	-1,2E-11	4,1E-10	36,8	2,9E-10	18,8
1171	-20,3	-1,6E-11	4,7E-10	36,8	3,4E-10	18,4
1201	-20,4	-3,4E-11	7,2E-10	36,8	3,1E-10	18,8
1231	-20,3	1,3E-10	5,6E-10	36,8	2,1E-10	18,4
1261	-20,2	3,7E-11	4,5E-10	36,8	2,0E-10	18,8
1291	-20,3	1,1E-11	4,7E-10	36,8	3,0E-10	18,9
1321	-20,5	2,1E-11	3,4E-10	36,8	2,5E-10	18,7
1351	-20,7	-2,4E-11	3,5E-10	36,8	2,9E-10	18,9
1381	-20,9	6,5E-11	3,9E-10	36,8	3,1E-10	18,8
1411	-21,0	2,8E-11	5,8E-10	36,8	2,2E-10	18,8
1441	-21,2	-6,8E-11	5,1E-10	36,8	3,6E-10	18,8
1471	-21,3	2,4E-11	5,8E-10	36,8	2,2E-10	18,8
1501	-21,4	4,1E-11	4,4E-10	36,8	2,7E-10	18,9
1531	-21,4	3,6E-11	4,3E-10	36,8	2,0E-10	18,8
1561	-21,4	7,4E-11	6,4E-10	36,8	3,8E-10	18,6
1591	-21,6	4,8E-11	4,3E-10	36,8	2,4E-10	18,8
1621	-21,6	5,0E-11	5,1E-10	36,8	3,0E-10	18,8
1651	-21,5	-1,0E-11	3,5E-10	36,8	1,9E-10	18,8
1681	-21,5	1,7E-11	3,7E-10	36,8	3,3E-10	18,8
1711	-21,4	-5,7E-11	5,2E-10	36,8	2,0E-10	18,8
1741	-21,3	6,6E-11	4,5E-10	36,8	1,3E-10	18,9
1771	-21,2	1,8E-11	5,0E-10	36,8	2,5E-10	18,8
1801	-21,1	-4,7E-11	6,1E-10	36,8	2,6E-10	18,6
1831	-21,1	-3,1E-11	3,7E-10	36,8	2,4E-10	18,9
1861	-21,0	-8,4E-11	5,7E-10	36,8	2,0E-10	18,4
1891	-20,8	5,9E-11	5,3E-10	36,8	3,5E-10	18,8
1921	-20,8	-2,4E-12	4,3E-10	36,8	2,3E-10	18,8
1951	-20,6	-6,8E-12	5,5E-10	36,8	3,0E-10	18,8
1981	-20,6	-1,3E-11	4,9E-10	36,8	2,7E-10	18,8
2011	-20,5	1,2E-11	4,8E-10	36,8	3,2E-10	18,5
2041	-20,3	-1,8E-12	4,3E-10	36,8	3,3E-10	18,8
2071	-20,2	2,3E-11	6,2E-10	36,8	2,0E-10	18,8
2101	-20,2	-5,0E-11	4,1E-10	36,8	3,6E-10	18,8
2131	-19,9	-3,3E-11	4,3E-10	36,8	2,3E-10	18,8
2161	-19,8	-4,2E-11	7,6E-10	36,8	2,6E-10	18,7
2191	-19,8	-2,3E-11	4,5E-10	36,8	3,1E-10	18,6
2221	-19,8	3,2E-11	5,0E-10	36,8	2,4E-10	18,9
2251	-19,8	6,7E-12	4,0E-10	36,8	2,8E-10	18,8
2281	-19,8	-4,1E-11	6,3E-10	36,8	4,3E-10	18,8
2311	-19,8	-3,7E-11	5,6E-10	36,8	3,4E-10	18,8
2341	-19,8	-1,8E-11	5,5E-10	36,8	2,9E-10	18,7
2371	-19,9	-4,5E-11	4,2E-10	36,8	2,4E-10	18,8

24h

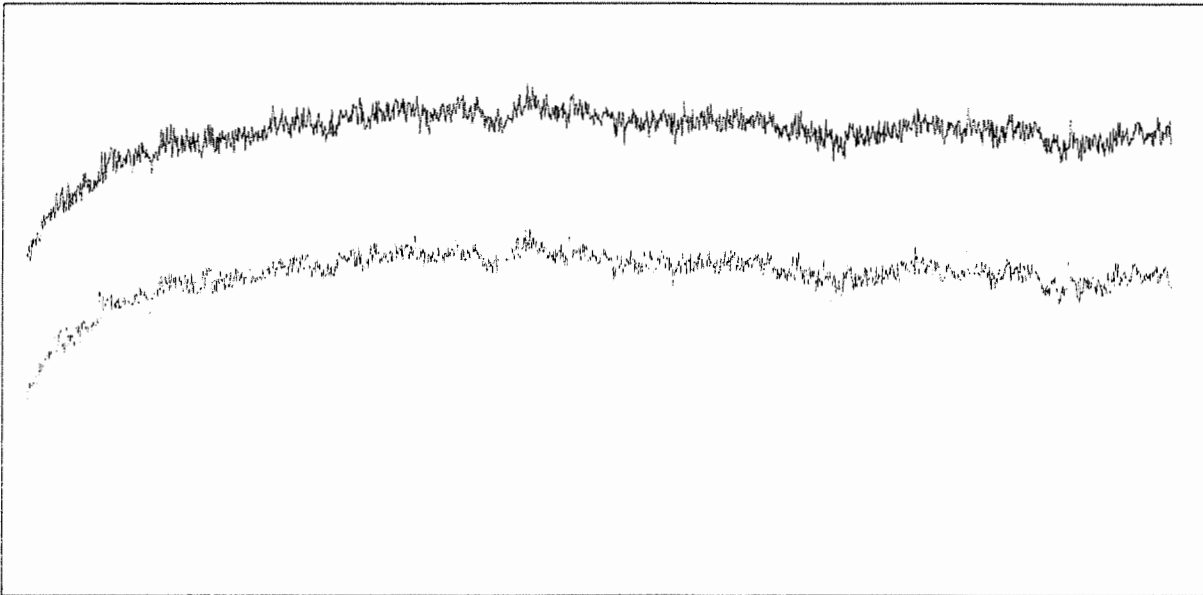
No	Temp.	Slope	Sigma	P406	Short term	P121.5
2401	-19,8	3,8E-11	5,0E-10	36,8	3,0E-10	18,4
2431	-19,8	1,0E-10	7,2E-10	36,8	2,6E-10	18,8
2461	-19,8	4,2E-11	4,6E-10	36,8	4,1E-10	18,6
2491	-19,6	-6,8E-11	6,0E-10	36,8	3,3E-10	18,6
2521	-19,7	9,5E-11	5,2E-10	36,8	1,8E-10	18,8
2551	-19,7	-4,5E-12	4,6E-10	36,8	2,8E-10	18,9
2581	-19,7	-2,3E-11	4,4E-10	36,8	2,8E-10	18,8
2611	-19,8	2,0E-11	3,9E-10	36,8	2,8E-10	18,2
2641	-19,7	-2,0E-11	3,7E-10	36,8	2,5E-10	18,9
2671	-19,5	-1,3E-11	4,1E-10	36,8	3,1E-10	18,8
2701	-19,7	-1,5E-11	3,4E-10	36,8	2,5E-10	18,8
2731	-19,6	6,0E-12	4,6E-10	36,8	2,7E-10	18,8
2761	-19,7	-3,5E-11	4,6E-10	36,8	3,7E-10	18,8
2791	-19,6	-2,9E-12	4,7E-10	36,8	3,9E-10	18,8
2821	-19,8	6,0E-11	5,9E-10	36,8	3,3E-10	18,8
2851	-19,7	-3,8E-11	4,4E-10	36,8	3,5E-10	18,8
2881	-19,7	1,8E-11	4,1E-10	36,8	3,9E-10	18,8
2911	-19,7	-2,7E-11	5,3E-10	36,8	1,6E-10	18,3
2941	-19,6	-3,9E-13	5,6E-10	36,8	2,7E-10	18,8
2971	-19,6	7,0E-11	4,0E-10	36,8	3,0E-10	18,8
3001	-19,6	8,0E-11	4,5E-10	36,8	3,3E-10	18,8
3031	-19,6	-1,7E-11	4,8E-10	36,8	2,9E-10	18,3
3061	-19,8	6,0E-11	3,6E-10	36,8	3,3E-10	18,4
3091	-19,9	-2,6E-11	3,9E-10	36,7	2,4E-10	18,8
3121	-20,0	-6,0E-12	5,2E-10	36,7	3,7E-10	18,9
3151	-20,3	-8,5E-11	7,0E-10	36,7	2,4E-10	18,6
3181	-20,5	-5,8E-11	4,4E-10	36,7	3,4E-10	18,8
3211	-20,6	4,6E-11	5,8E-10	36,7	2,6E-10	18,8
3241	-20,9	5,5E-11	4,1E-10	36,7	3,0E-10	18,8
3271	-20,9	1,3E-11	4,7E-10	36,7	3,1E-10	18,8
3301	-21,1	5,3E-11	4,8E-10	36,7	3,3E-10	18,9
3331	-21,1	-9,6E-11	4,4E-10	36,7	1,8E-10	18,8
3361	-21,2	3,4E-11	3,8E-10	36,7	2,8E-10	18,9
3391	-21,2	-5,4E-11	5,5E-10	36,6	2,6E-10	18,6
3421	-21,1	2,3E-12	5,9E-10	36,6	2,6E-10	18,8
3451	-21,1	1,3E-12	6,0E-10	36,6	2,5E-10	18,8
3481	-21,1	-6,3E-11	5,0E-10	36,4	3,4E-10	18,8
3511	-21,0	-2,2E-10	5,0E-10	36,4	2,5E-10	18,8
3541	-20,9	-4,0E-10	7,3E-10	36,2	5,7E-10	18,8
3571	-20,8	-4,3E-10	1,5E-09	35,7	1,2E-9	18,8
3601						
3631						
3661						

48h

Beacon message after 48 hours of Operating Lifetime Test :  
**FFFE2F5F7F03C48000009C00400**

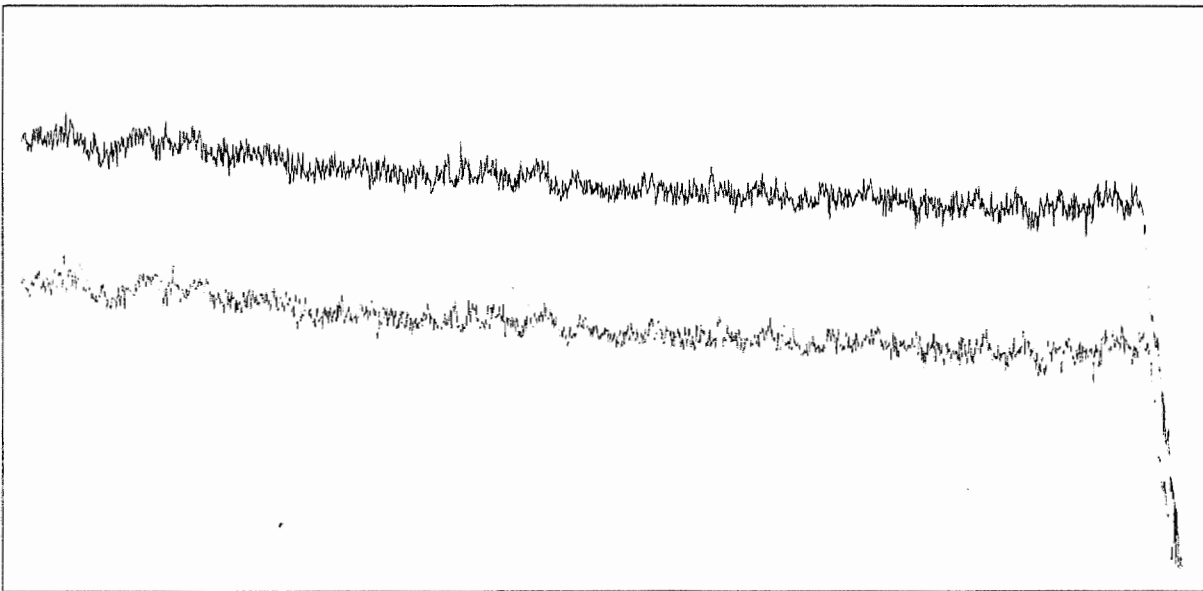
**Frequency variation**

406024,934 kHz



406024,919 kHz

406024,934 kHz



406024,919 kHz

— Initial tracing      — Smoothed tracing

**LIFE TEST AT -20 °C**

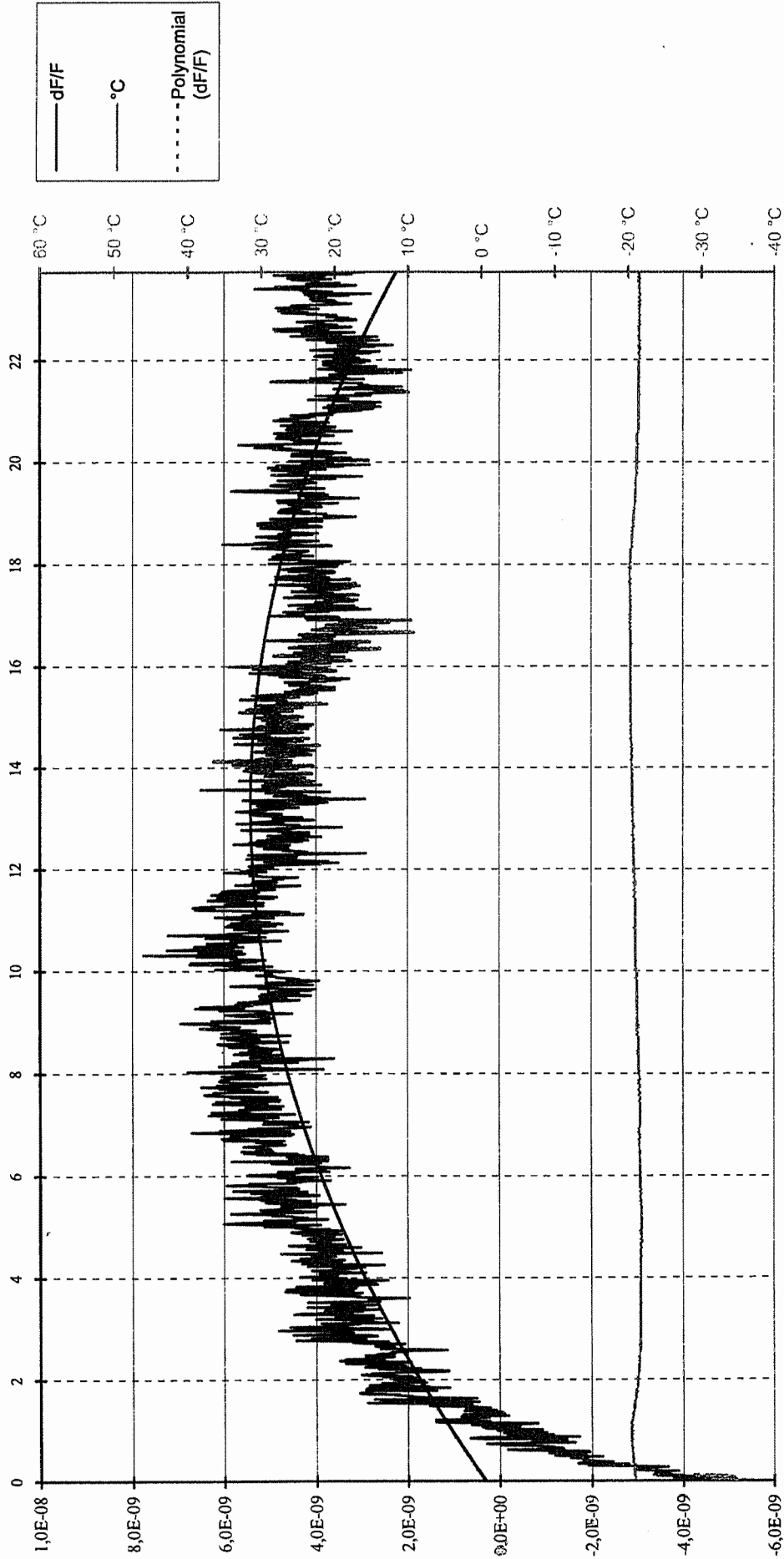
Date: 16 Apr 2003  
Time: 14:18:50

Manufacturer: STANDARD COMMUNICATIONS PTY. LTD.

Model: MT400

Number: C204

**FREQUENCY VARIATION**



**LIFE TEST AT -20 °C**

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

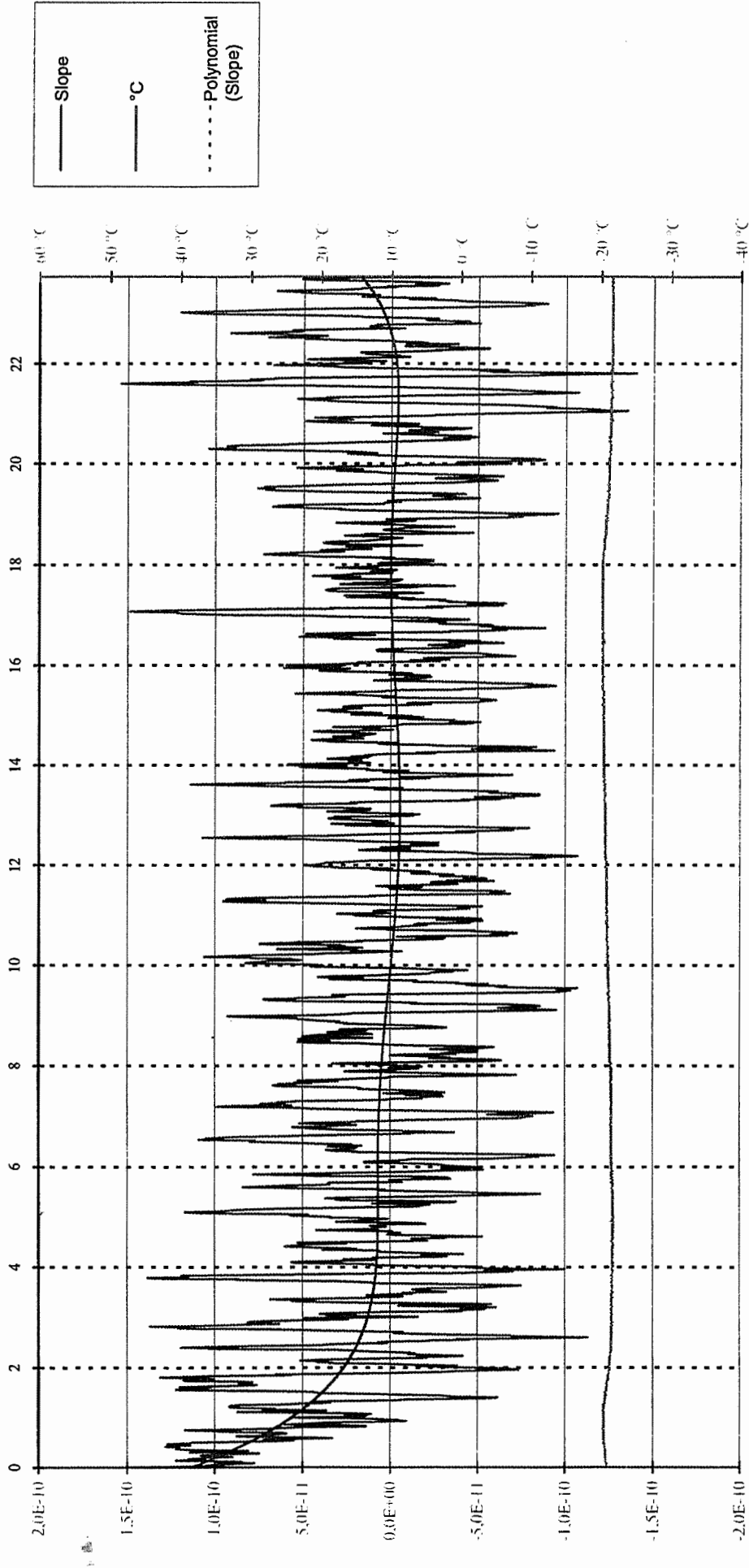
Model : MT400

Number : C204

Date : 16 Apr 2003

Time : 14:18:50

**MEDIUM TERM STABILITY : MEAN SLOPE /mn ( -1,0E-9 to 1,0E-9 )**



**LIFE TEST AT -20 °C**

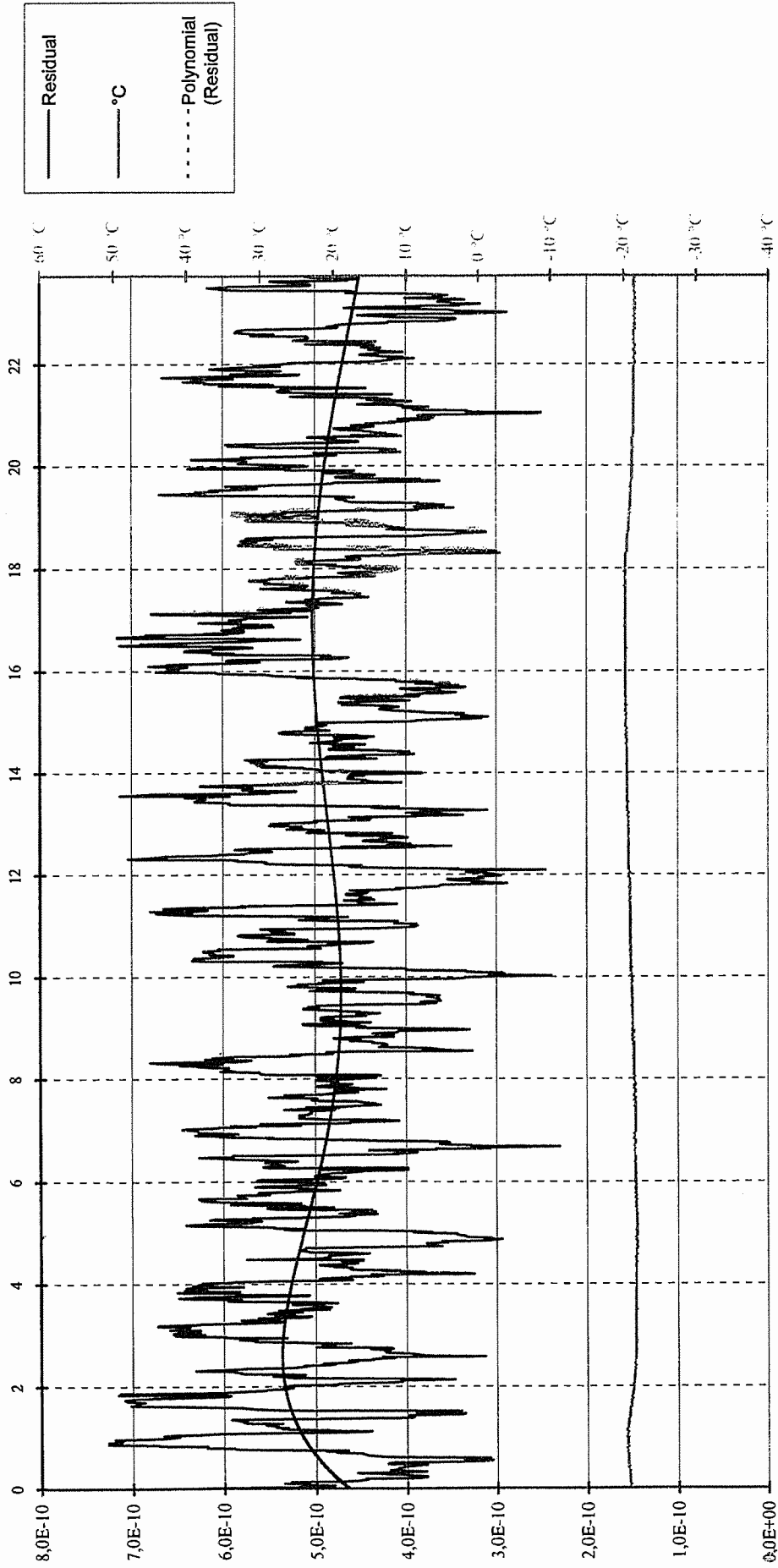
Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

Model : MT400

Number : C204

Date : 16 Apr 2003

Time : 14:18:50

**MEDIUM TERM STABILITY : RESIDUAL (  $\leq 3,0E-9$  )**




**LIFE TEST AT -20 °C**

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

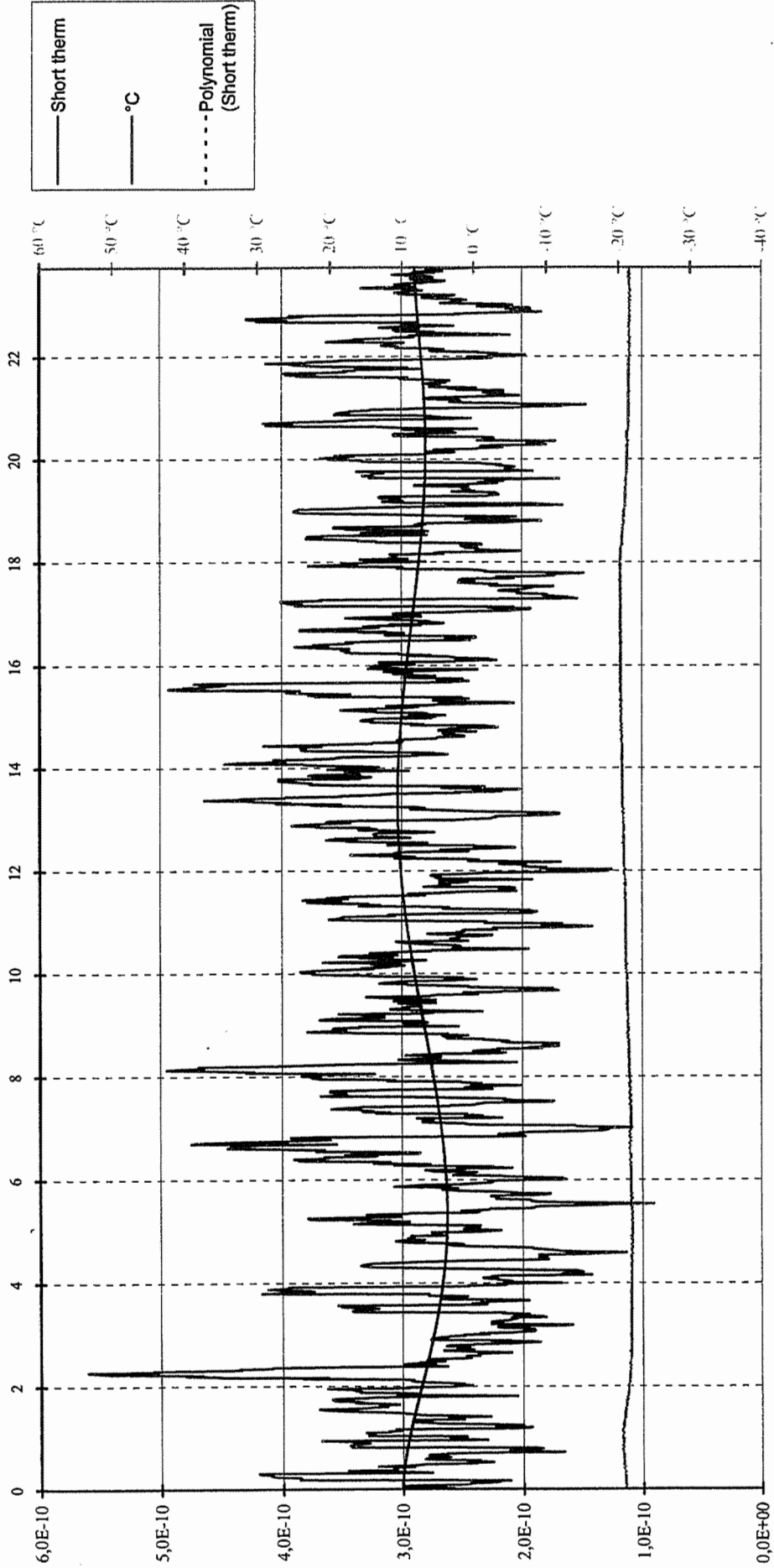
Model : MT400

Number : C204

Date : 16 Apr 2003

Time : 14:18:50

**SHORT TERM STABILITY /100 mS ( ≤ 2,0E-9 )**

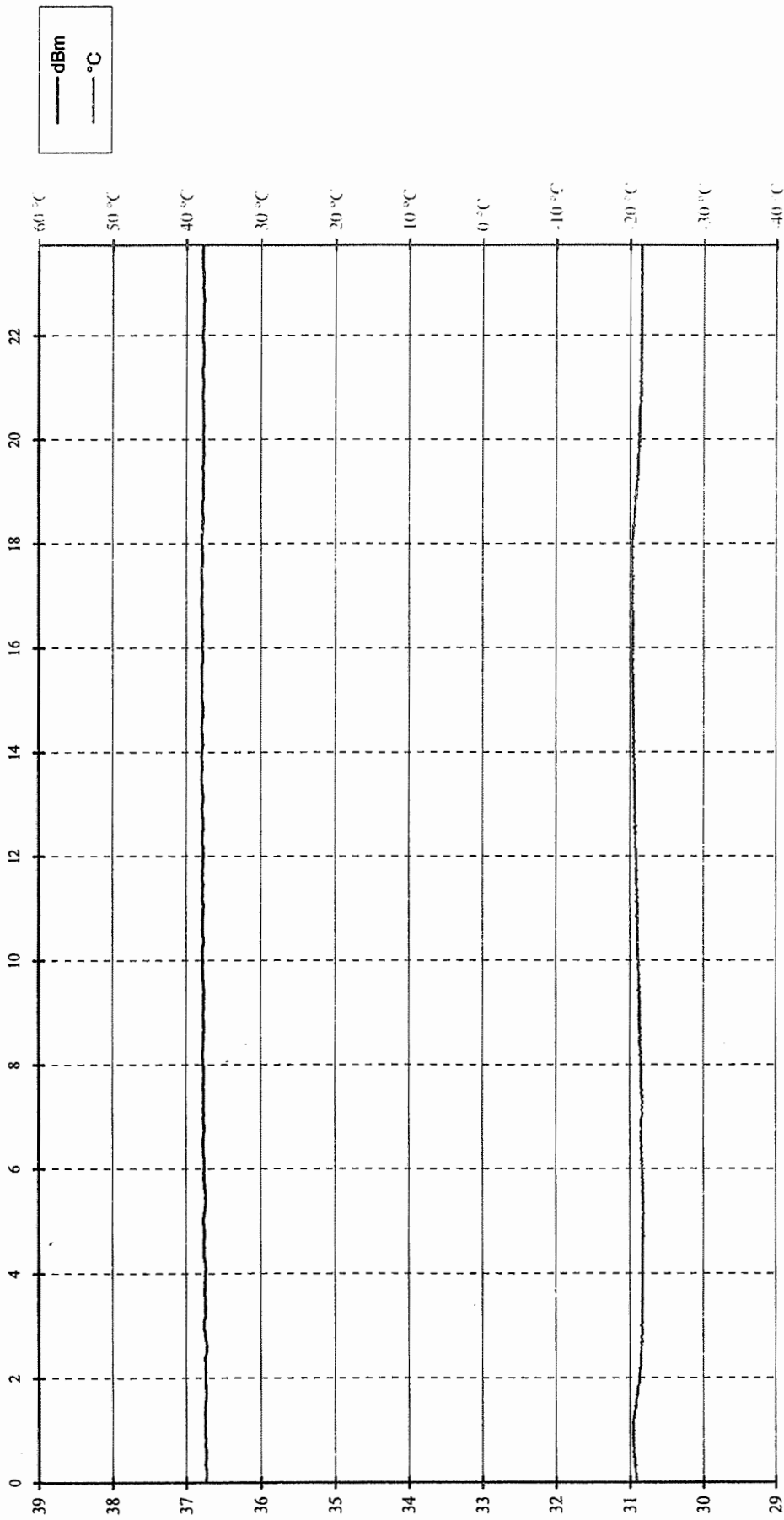


**LIFE TEST AT -20 °C**

Date : 16 Apr. 2003  
Time : 14:18:50

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.  
Model : MT400  
Numero : C204

**OUTPUT POWER ( 35 to 39 dBm )**



**LIFE TEST AT -20 °C**

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

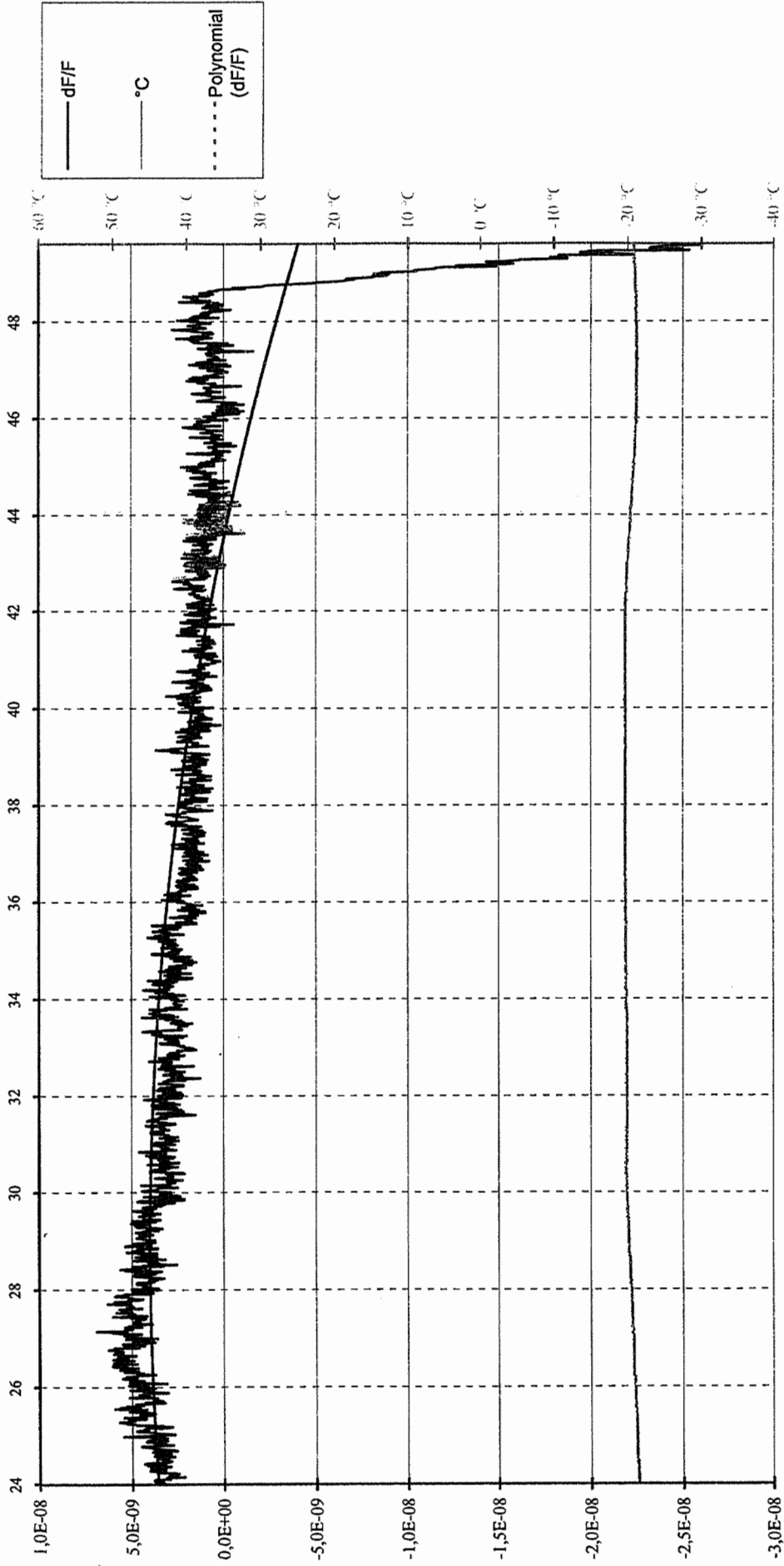
Model : MT400

Numero : C204

Date : 16 Apr 2003

Time : 14:18:50

**FREQUENCY VARIATION**



**LIFE TEST AT -20 °C**

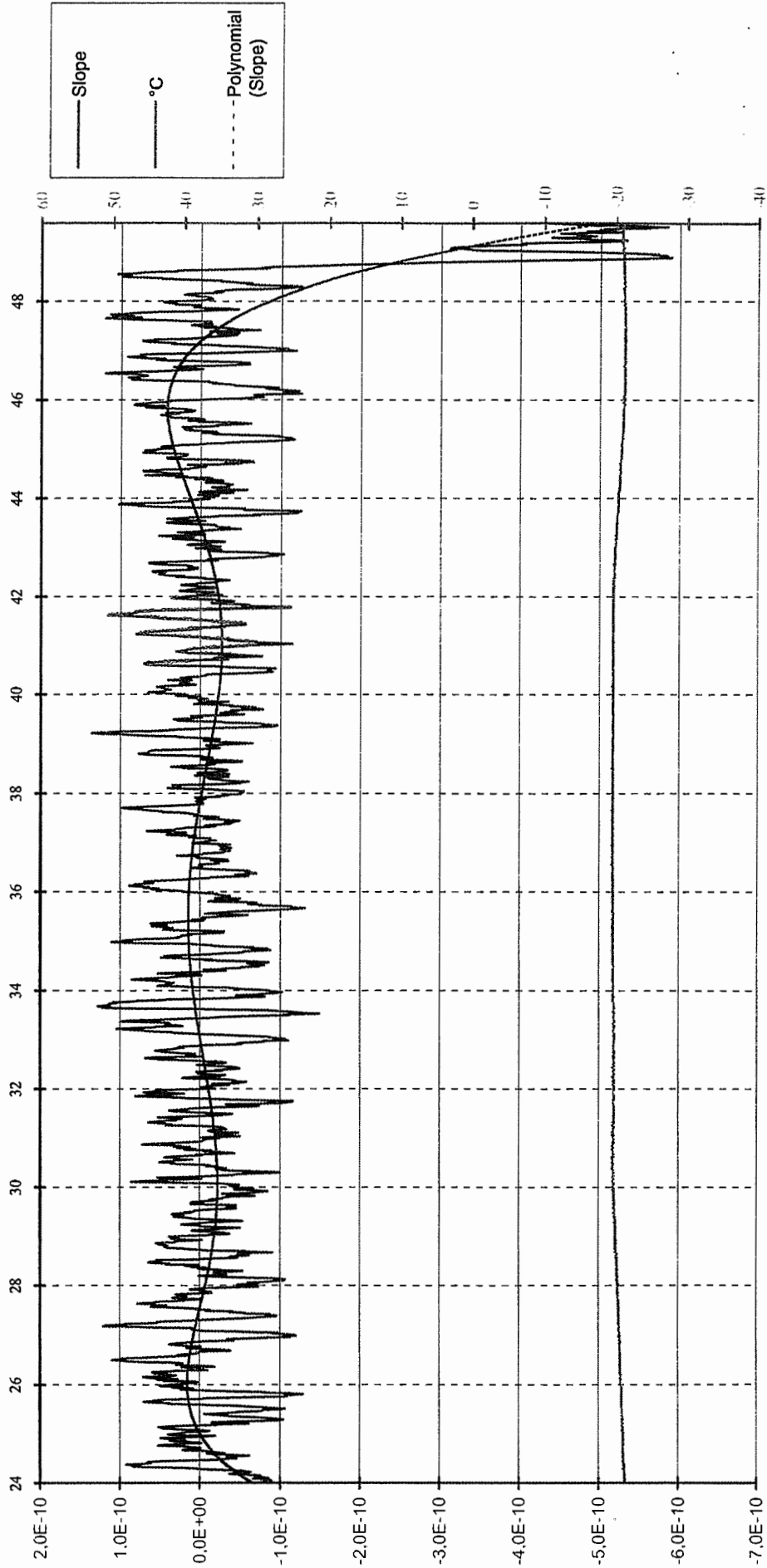
Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

Model : MT400

Numero : C204

Date : 16 Apr 2003

Time : 14:18:50

**MEDIUM TERM STABILITY : MEAN SLOPE /mm ( -1,0E-9 to 1,0E-9 )**


**LIFE TEST AT -20 °C**

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

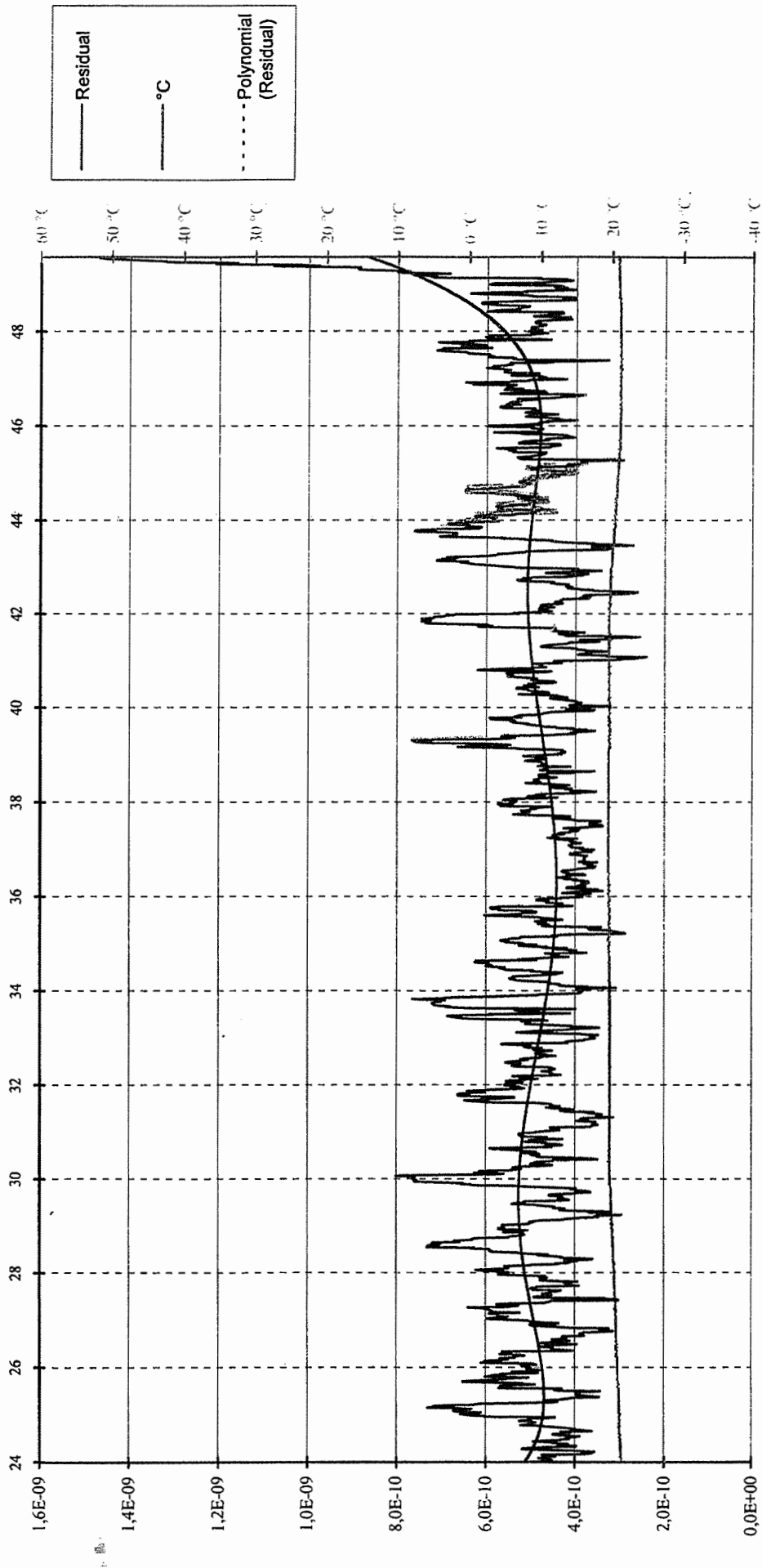
Model : MT400

Numero : C204

Date : 16 Apr 2003

Time : 14:18:50

**MEDIUM TERM STABILITY : RESIDUAL ( ≤ 3,0E-9 )**



**LIFE TEST AT -20 °C**

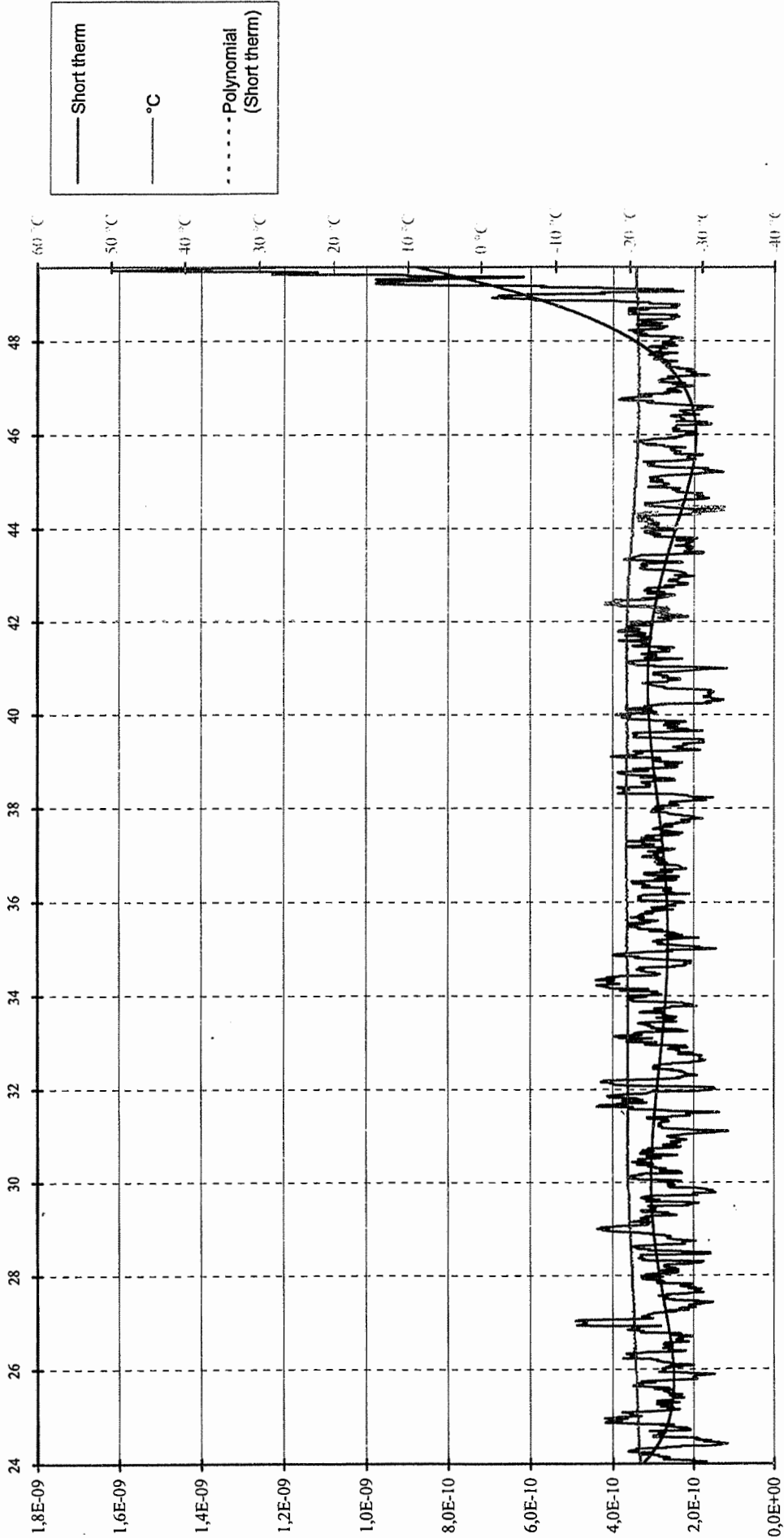
Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

Model : MT400

Numero : C204

Date : 16 Apr 2003

Time : 14:18:50

**SHORT TERM STABILITY /100 mS ( ≤ 2,0E-9 )**


**LIFE TEST AT -20 °C**

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

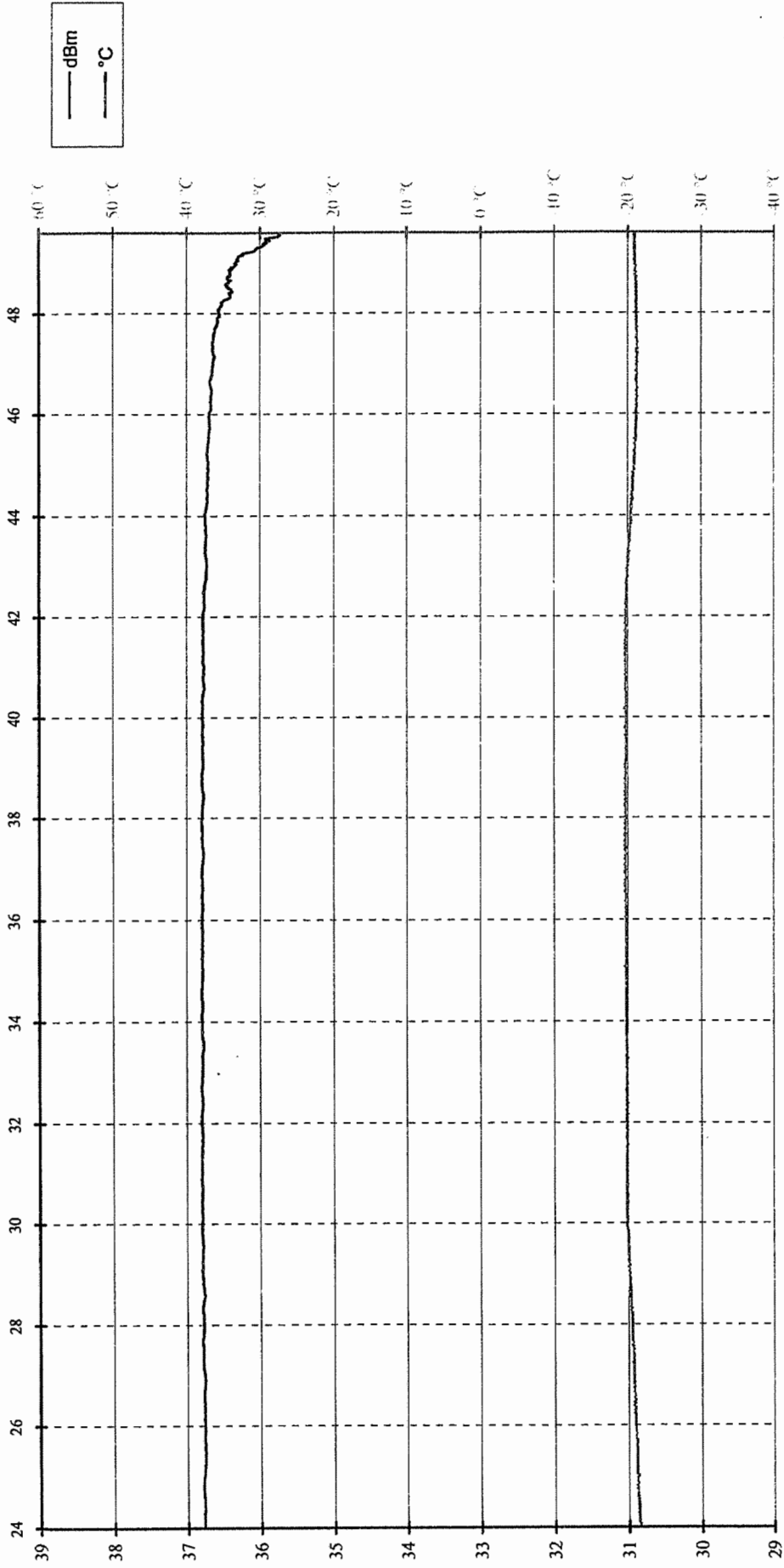
Model : MT400

Numero : C204

Date : 16 Apr 2003

Time : 14:18:50

**OUTPUT POWER ( 35 to 39 dBm )**



**TEMPERATURE GRADIENT TEST RESULT ON  
MT400 STANDARD COMMUNICATIONS PTY. LTD. EPIRB  
N° C204**

**at -20° C, 22° C and 55° C**



No	Δ Frequency ( Hz )	Temp. ( °C )	P406 ( dBm )	P121.5 ( dBm )
1	49943,19	-20,8	36,5	18,6
2	49942,77	-20,7	36,5	18,6
3	49944,32	-20,7	36,4	18,6
4	49944,22	-20,6	36,5	18,6
5	49945,31	-20,6	36,4	18,6
6	49945,38	-20,7	36,5	18,6
7	49945,40	-20,7	36,5	18,5
8	49945,64	-20,7	36,4	18,5
9	49946,22	-20,7	36,5	18,4
10	49946,48	-20,7	36,5	18,4
11	49946,49	-20,6	36,5	18,4
12	49946,13	-20,7	36,5	18,6
13	49947,04	-20,7	36,5	18,5
14	49947,32	-20,6	36,5	18,3
15	49947,18	-20,7	36,4	18,5
16	49947,77	-20,8	36,5	18,6
17	49947,77	-20,7	36,4	18,3
18	49947,65	-20,7	36,4	18,1

No	Temp.	Slope	Sigma	P406	Short term	P121.5
1	-20,7	7,3E-10	1,1E-9	36,5	3,4E-10	18,6
18	-20,7	5,0E-11	4,8E-10	36,4	2,7E-10	18,6
31	-20,8	-8,7E-11	5,1E-10	36,4	2,4E-10	18,6
61	-20,7	-6,8E-11	5,5E-10	36,4	1,8E-10	18,6
91	-19,5	2,4E-11	4,5E-10	36,4	2,5E-10	18,2
121	-17,5	-1,2E-10	5,1E-10	36,4	2,7E-10	18,5
151	-15,4	5,9E-11	6,4E-10	36,4	3,1E-10	18,5
181	-13,4	5,7E-11	4,8E-10	36,4	3,3E-10	18,0
211	-11,4	3,5E-11	4,0E-10	36,3	2,4E-10	18,4
241	-9,3	2,3E-11	6,8E-10	36,3	3,2E-10	18,5
271	-7,0	4,0E-12	7,7E-10	36,3	2,0E-10	18,5
301	-4,8	5,7E-11	9,0E-10	36,3	1,7E-10	18,1
331	-2,4	3,6E-11	7,7E-10	36,3	2,9E-10	18,4
361	-0,3	7,0E-11	1,0E-9	36,2	2,2E-10	18,3
391	2,1	5,4E-11	6,7E-10	36,2	3,7E-10	18,4
421	4,1	-9,5E-11	6,1E-10	36,2	1,9E-10	18,0
451	6,0	2,3E-12	7,1E-10	36,1	3,2E-10	18,4
481	8,2	-6,3E-12	7,2E-10	36,1	2,4E-10	18,3
511	10,2	2,2E-11	3,8E-10	36,1	2,3E-10	18,4
541	12,4	-3,3E-11	5,0E-10	36,0	2,0E-10	18,4
571	14,5	-1,4E-11	5,3E-10	36,0	1,5E-10	18,0
601	16,6	-6,3E-11	6,0E-10	36,0	2,8E-10	18,3
631	18,8	-1,1E-10	4,3E-10	35,9	2,3E-10	18,3
661	20,8	-1,0E-10	8,1E-10	35,9	2,2E-10	18,3
691	22,9	-8,5E-11	7,3E-10	35,9	2,3E-10	18,2
721	25,0	-7,5E-12	6,6E-10	35,8	2,6E-10	18,2
751	27,2	-6,6E-11	6,5E-10	35,8	1,8E-10	18,2
781	29,3	9,5E-12	6,1E-10	35,8	2,1E-10	18,0
811	31,5	2,9E-11	7,0E-10	35,7	2,1E-10	17,7
841	33,6	-1,0E-11	5,7E-10	35,6	2,3E-10	17,7

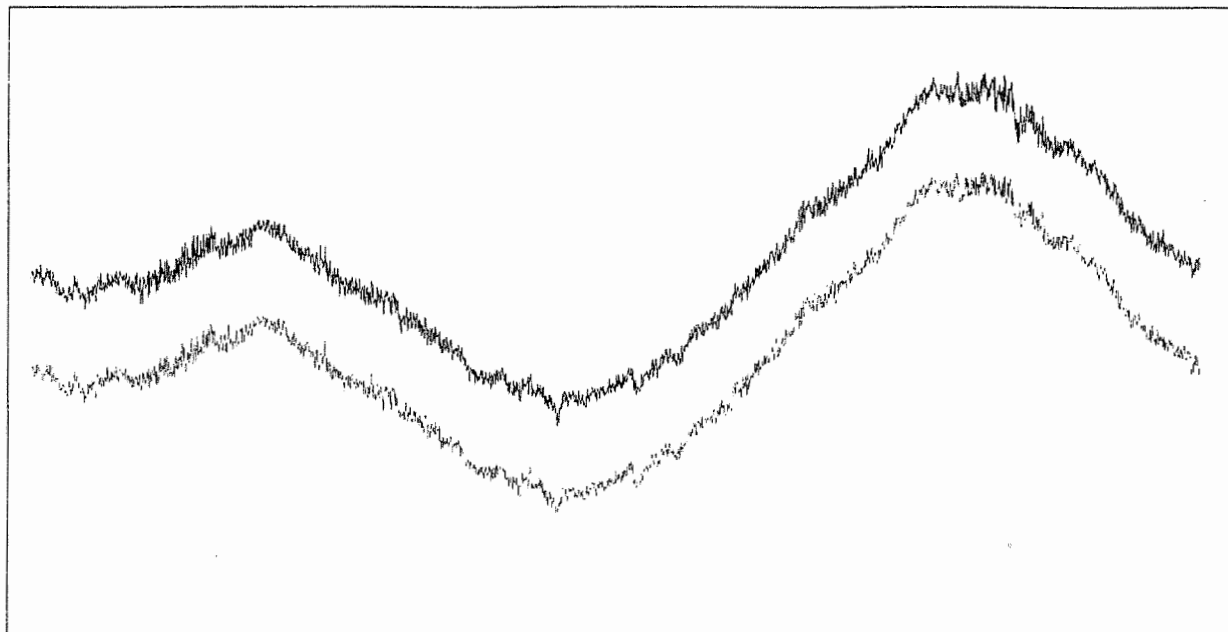
No	Temp.	Slope	Sigma	P406	Short term	P121.5
871	35,7	-1,0E-10	4,7E-10	35,5	1,9E-10	18,2
901	37,8	2,0E-11	6,0E-10	35,4	2,0E-10	18,0
931	39,9	1,1E-11	5,0E-10	35,6	2,9E-10	18,2
961	41,9	-8,3E-11	5,1E-10	35,6	2,3E-10	18,0
991	44,0	-8,0E-11	3,8E-10	35,5	2,6E-10	17,7
1021	46,0	6,3E-13	5,1E-10	35,5	2,0E-10	18,1
1051	48,0	-2,2E-11	4,7E-10	35,5	3,2E-10	18,1
1081	50,0	-1,8E-11	5,5E-10	35,4	2,6E-10	17,5
1111	52,1	-2,9E-11	6,8E-10	35,4	1,9E-10	18,0
1141	54,3	-9,4E-11	5,4E-10	35,4	2,5E-10	18,0
1171	55,3	-7,9E-11	6,2E-10	35,3	3,1E-10	18,1
1201	55,4	5,5E-11	3,9E-10	35,3	1,3E-10	17,6
1231	55,7	7,4E-12	5,2E-10	35,3	1,9E-10	18,1
1261	55,6	2,2E-11	4,5E-10	35,3	2,6E-10	18,0
1291	55,6	1,7E-11	4,4E-10	35,3	1,8E-10	18,0
1321	54,1	7,8E-11	4,0E-10	35,3	1,8E-10	18,1
1351	51,9	2,2E-11	5,1E-10	35,3	2,3E-10	18,1
1381	49,9	8,2E-11	5,0E-10	35,4	3,1E-10	18,1
1411	47,8	7,7E-12	4,6E-10	35,4	2,1E-10	18,1
1441	45,4	5,6E-11	5,5E-10	35,4	2,2E-10	18,1
1471	43,2	7,9E-11	3,6E-10	35,5	1,4E-10	17,9
1501	40,9	6,8E-11	4,6E-10	35,5	1,8E-10	18,2
1531	38,9	1,2E-10	6,0E-10	35,5	1,9E-10	18,3
1561	36,9	1,7E-10	6,4E-10	35,6	2,0E-10	18,1
1591	34,8	1,1E-12	6,5E-10	35,6	1,1E-10	18,3
1621	32,8	4,1E-11	5,0E-10	35,6	2,4E-10	18,3
1651	30,6	1,2E-12	5,9E-10	35,7	1,7E-10	18,3
1681	28,2	8,1E-11	6,6E-10	35,7	2,9E-10	18,3
1711	25,9	7,0E-11	9,6E-10	35,7	1,8E-10	18,3
1741	23,9	6,7E-11	7,7E-10	35,8	2,3E-10	18,3
1771	21,7	1,3E-10	7,8E-10	35,8	2,1E-10	18,4
1801	19,6	-5,0E-12	5,8E-10	35,8	3,2E-10	18,3
1831	17,4	7,4E-12	6,0E-10	35,9	1,4E-10	18,4
1861	15,4	3,9E-11	7,6E-10	35,9	1,4E-10	18,4
1891	13,3	1,1E-10	6,5E-10	35,9	3,3E-10	18,4
1921	11,3	1,4E-10	5,1E-10	36,0	2,1E-10	18,4
1951	9,2	4,7E-11	3,1E-10	36,0	2,3E-10	18,4
1981	7,1	7,5E-12	4,9E-10	36,0	1,9E-10	18,4
2011	5,4	-7,5E-11	5,7E-10	36,1	2,2E-10	18,4
2041	3,2	2,7E-11	5,7E-10	36,1	2,6E-10	18,2
2071	1,4	7,5E-11	7,4E-10	36,1	3,0E-10	18,3
2101	-0,8	8,1E-11	8,1E-10	36,2	2,0E-10	18,1
2131	-2,8	-1,3E-12	9,5E-10	36,2	2,5E-10	18,5
2161	-4,9	-4,7E-11	1,1E-9	36,2	3,1E-10	18,6
2191	-7,2	2,0E-11	1,0E-9	36,3	2,3E-10	18,6
2221	-9,0	-1,2E-10	8,5E-10	36,3	2,8E-10	18,5
2251	-11,0	-9,4E-11	1,0E-9	36,3	2,4E-10	18,5
2281	-13,3	-4,6E-11	6,8E-10	36,4	2,8E-10	18,6
2311	-15,3	-9,5E-11	5,7E-10	36,4	2,3E-10	18,4
2341	-17,5	-8,7E-11	4,4E-10	36,4	2,9E-10	18,2
2371	-19,5	-8,6E-11	6,2E-10	36,5	2,4E-10	18,7

No	Temp.	Slope	Sigma	P406	Short term	P121.5
2401	-20,5	1,9E-11	5,7E-10	36,5	3,7E-10	18,6
2431	-20,7	-8,3E-11	4,4E-10	36,5	2,4E-10	18,6
2461	-20,6	-4,3E-11	6,0E-10	36,5	3,9E-10	18,7
2491	-20,7	-4,3E-11	5,8E-10	36,5	2,8E-10	18,6
2521	-20,7	-1,1E-10	6,6E-10	36,5	2,7E-10	18,4
2551	-20,7	-3,0E-11	4,4E-10	36,5	1,9E-10	18,7
2581	-20,7	-1,1E-10	5,8E-10	36,5	3,5E-10	18,4
2611						
2641						
2671						
2701						
2731						
2761						
2791						
2821						
2851						
2881						
2911						
2941						
2971						
3001						
3031						
3061						
3091						
3121						
3151						
3181						
3211						
3241						
3271						
3301						
3331						
3361						
3391						
3421						
3451						
3481						
3511						
3541						
3571						
3601						
3631						
3661						
3691						
3721						
3751						
3781						
3811						
3841						
3871						
3901						

Beacon message at the end of Frequency Stability Test with Temperature Gradient :  
**FFFE2F5F7F03C48000009C00400**

**Frequency variation**

406024963



406024939

— Initial tracing    — Smoothed tracing

Date: 8 Apr 2003  
 Time: 14:56:36

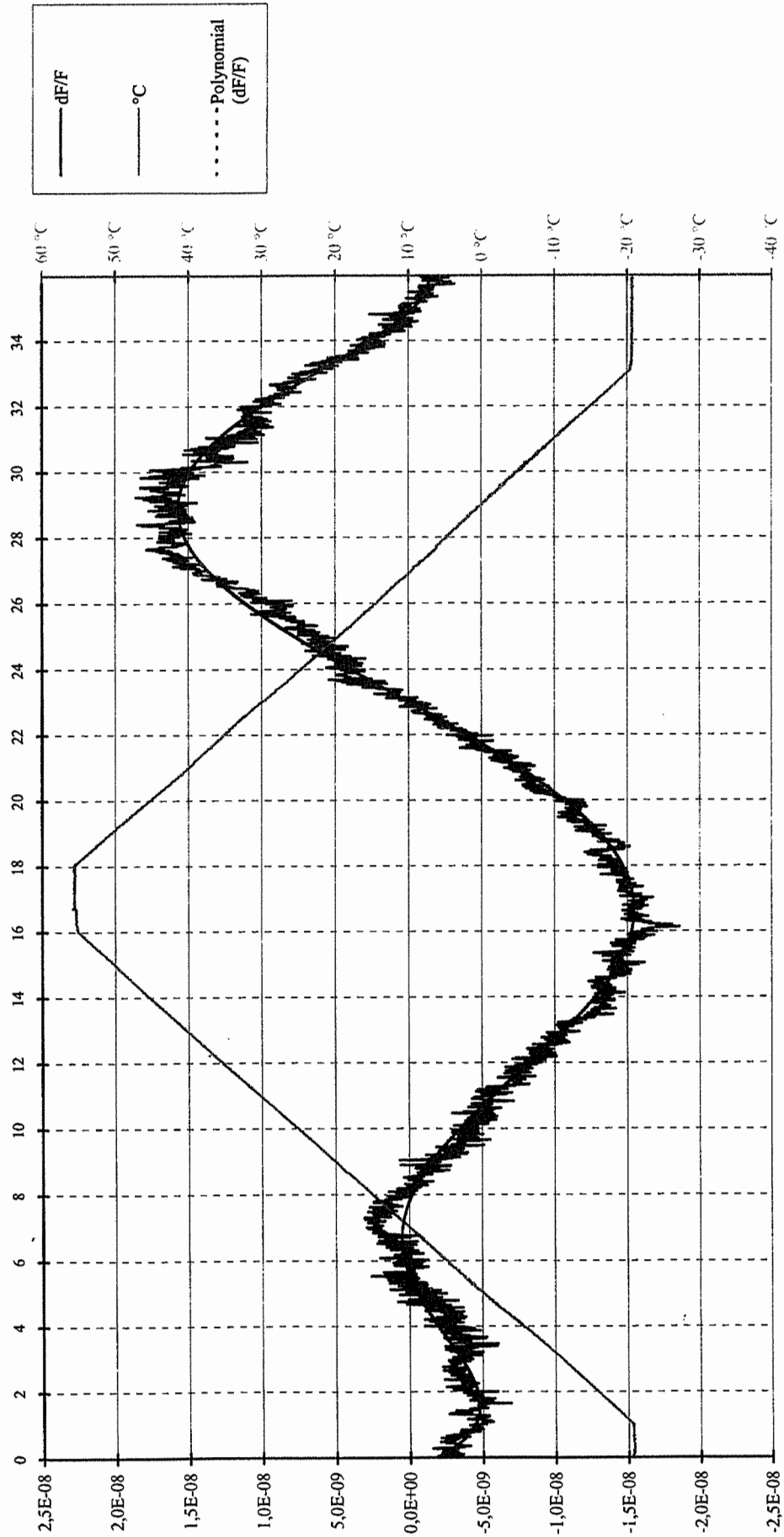
**TEMPERATURE GRADIENT TEST RESULTS (5 °C / hour)**

Manufacturer: STANDARD COMMUNICATIONS PTY. LTD.

Model: MT400

Number: C204

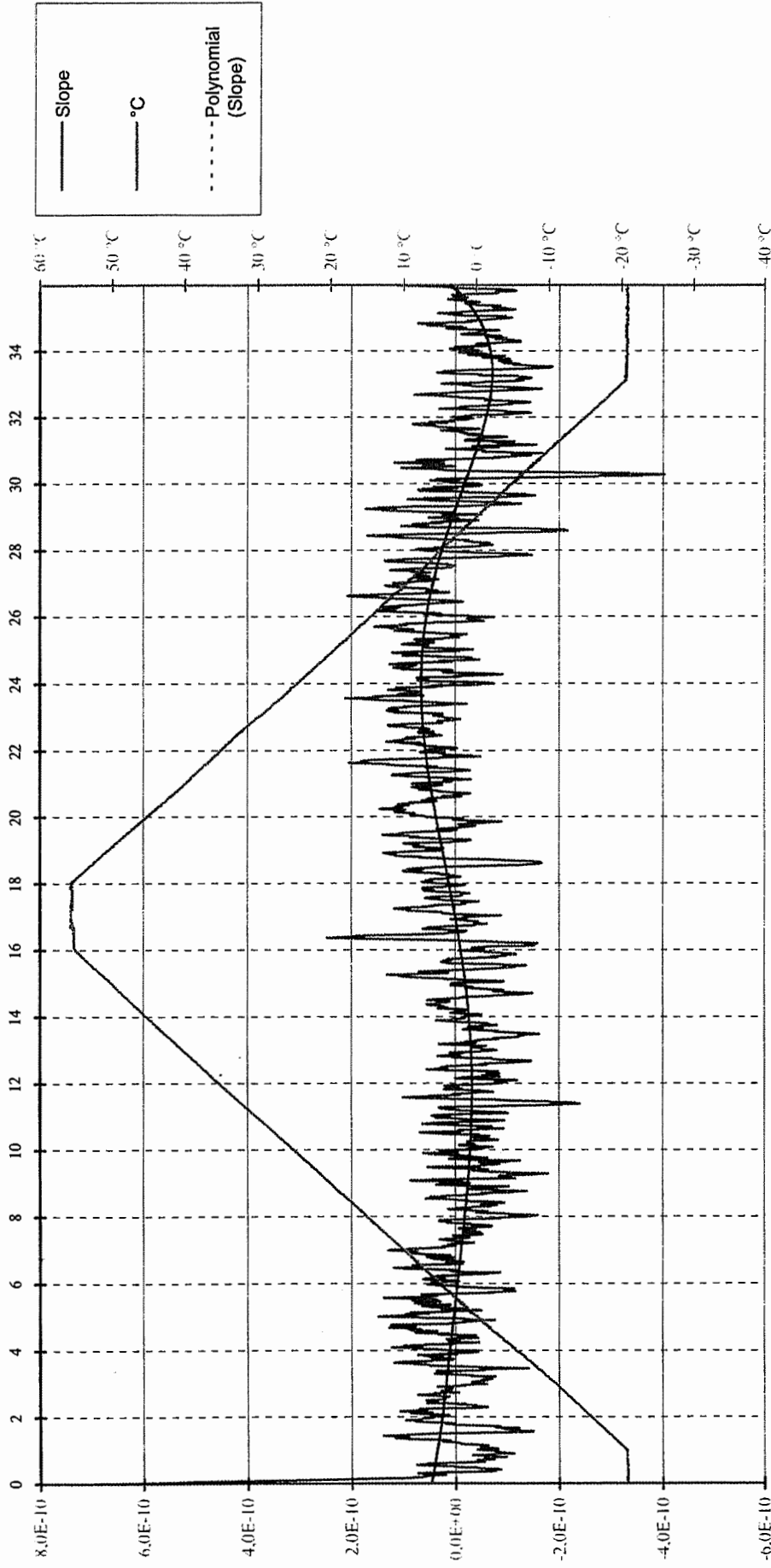
**FREQUENCY VARIATION**



**TEMPERATURE GRADIENT TEST RESULTS (5 °C / hour)**

 Date : 8 Apr 2003  
 Time : 14:56:36

 Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.  
 Model : MT400  
 Number : C204

**MEDIUM TERM STABILITY : MEAN SLOPE /mm (-1,0E-9 to 1,0E-9)**


**TEMPERATURE GRADIENT TEST RESULTS (5 °C / hour)**

Date : 8 Apr 2003

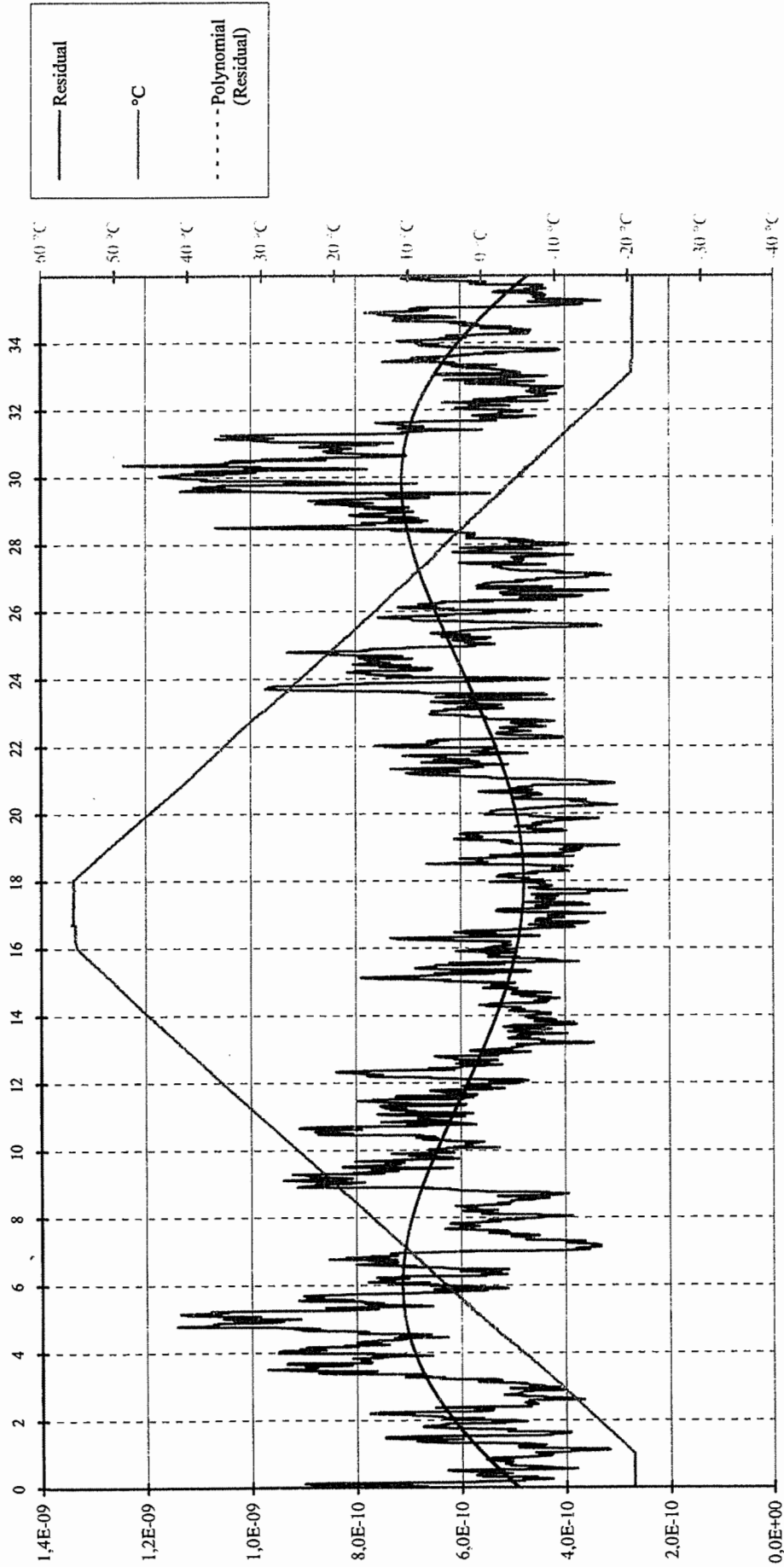
Time : 14:56:36

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.

Model : MT400

Number : C204

**MEDIUM TERM STABILITY : RESIDUAL ( $\leq 3.0E-9$ )**

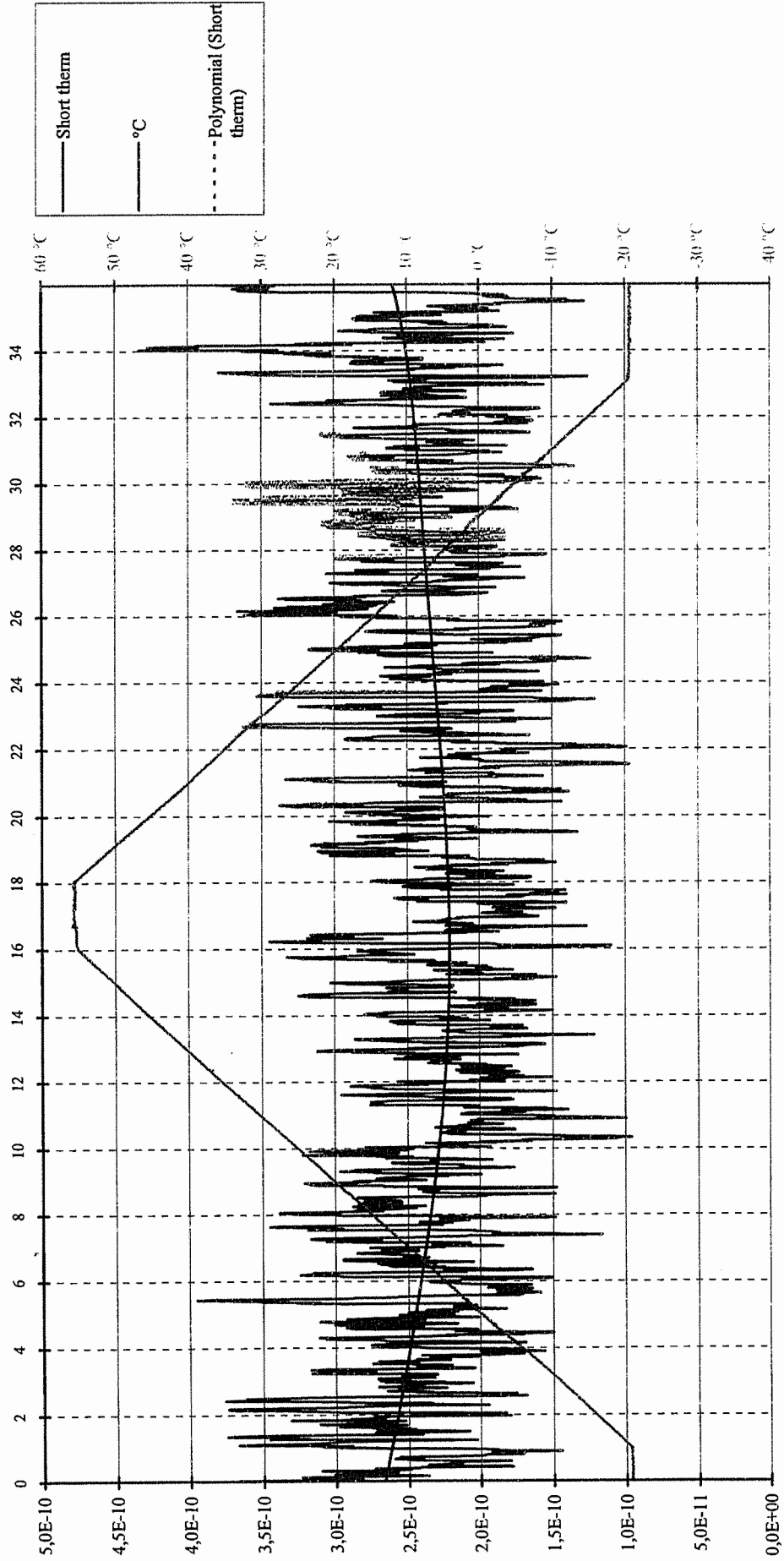


**TEMPERATURE GRADIENT TEST RESULTS (5 °C / hour)**

Date : 8 Apr 2003  
Time : 14:56:36

Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.  
Model : MT400  
Number : C204

**SHORT TERM STABILITY /100 mS ( ≤ 2,0E-9 )**



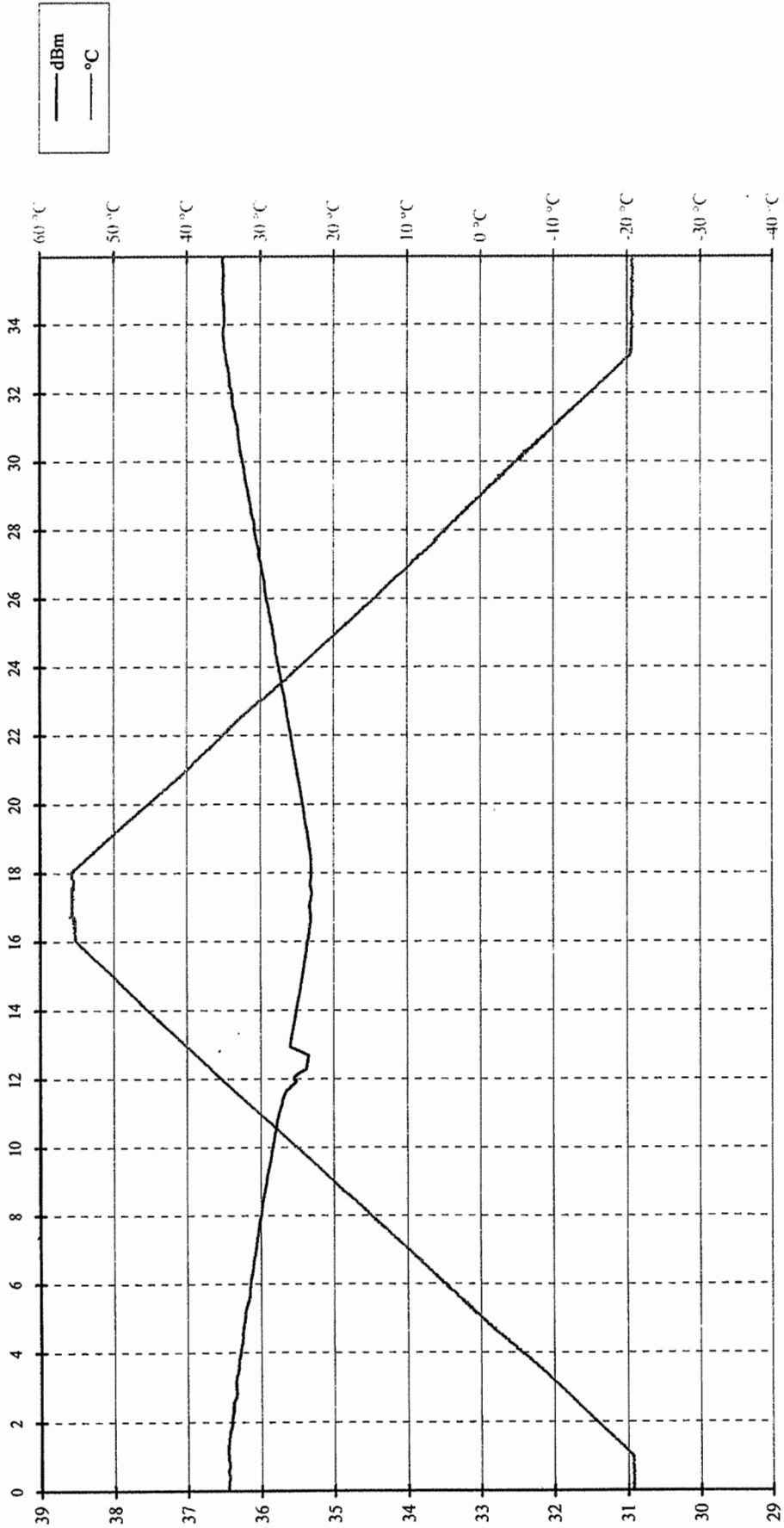


**TEMPERATURE GRADIENT TEST RESULTS (5 °C / hour)**

Date : 8 Apr 2003  
Time : 14:56:36

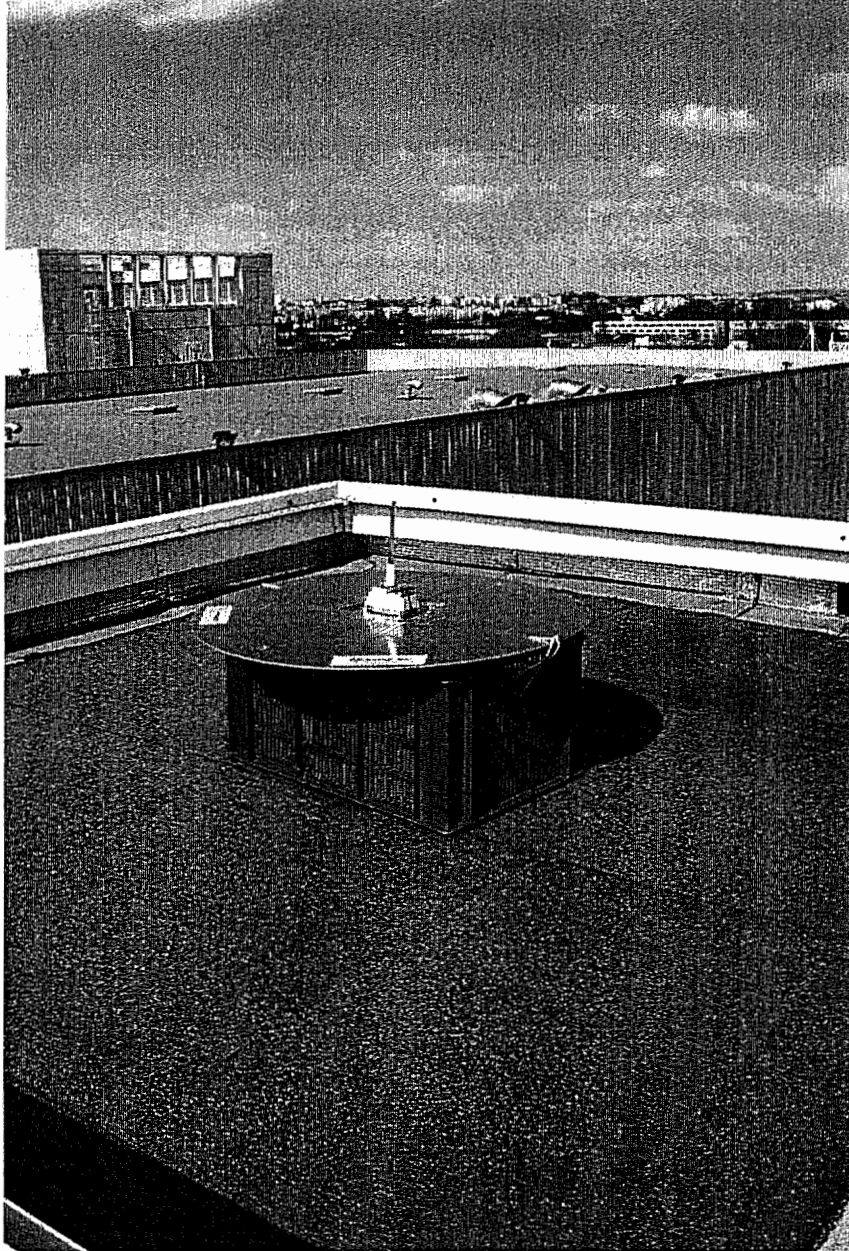
Manufacturer : STANDARD COMMUNICATIONS PTY. LTD.  
Model : MT400  
Number : C204

**OUTPUT POWER ( 35 to 39 dBm )**



**SATELLITE QUALITATIVE TEST RESULTS ON  
MT400 STANDARD COMMUNICATIONS PTY. LTD. EPIRB  
N° C204**

SATELLITE TEST SITE



RECHERCHE du 31/03/2003 09:34:17

Code balise : BEFE07890000001

Nom balise : ???????

Pays : 503 AUSTRALIA

Classe utilisateur : TEST--

Periode de consultation : 16/03/2003 09 a 31/03/2003 09

Position de reference : et

Toutes les luts

Tous les satellites

Date activation balise : // :

Recherche dans base principale

Resultats edites suivant chronologie du TCA

* TCA	TPC	* SL	PTS	* LAT1	LONG1	PB	MAJ	BIAIS	ERR	* LAT2	LONG2	* CTA	FB	WF	SDV	CF	SRCE	MCCN
*28/03 08H59	09H06	* S06	13	* 43.561	1.478	98	1	2969	0.16	* 53.372	-47.840	* 17.5	4	0	0.5	4/0	2271	7E+05
*28/03 09H08	09H14	* S04	5	* 43.568	1.485	89	3	2972	1.02	* 30.772	63.433	* 23.9	4	0	3.6	4/0	2272	7E+05
*28/03 09H08	10H59	* S04	5	* 43.566	1.487	89	3	2972	0.91	* 30.771	63.422	* 23.9	-4	0	3.6	4/0	2271	7E+05
*28/03 09H54	10H03	* S09	18	* 43.560	1.483	98	1	2972	0.27	* 39.253	22.967	* 8.0	4	0	0.3	4/0	2271	7E+05
*28/03 09H54	11H42	* S09	18	* 43.559	1.483	98	1	2972	0.28	* 39.253	22.962	* 8.0	-4	0	0.3	4/0	2271	7E+05
*28/03 10H01	10H05	* S07	6	* 43.565	1.478	82	6	2972	0.61	* 57.828	-78.245	* 26.0	-4	0	4.2	4/0	2272	7E+05
*28/03 10H01	16H33	* S07	6	* 43.567	1.477	82	6	2973	0.85	* 57.825	-78.252	* 26.0	-4	0	4.2	4/0	2271	7E+05
*28/03 10H27	12H14	* S08	3	* 43.553	1.510	50	39	2978	2.59	* 59.074	86.616	* 27.2	-4	0	0.0	1/0	2272	7E+05
*28/03 10H27	13H55	* S08	3	* 43.551	1.509	50	39	2977	2.57	* 59.073	86.607	* 27.2	-4	0	0.0	1/0	2271	7E+05
*28/03 10H50	10H59	* S04	16	* 43.559	1.482	98	1	2972	0.23	* 40.565	16.314	* 5.5	4	0	0.2	4/0	2271	7E+05
*28/03 10H50	12H38	* S04	16	* 43.559	1.482	98	1	2972	0.27	* 40.565	16.312	* 5.5	-4	0	0.2	4/0	2271	7E+05
*28/03 11H34	11H42	* S09	15	* 43.559	1.478	99	1	2970	0.14	* 48.571	-24.208	* 9.6	4	0	0.2	4/0	2271	7E+05
*28/03 11H34	13H17	* S09	15	* 43.559	1.477	99	1	2970	0.20	* 48.572	-24.208	* 9.6	-4	0	0.2	4/0	2271	7E+05
*28/03 12H06	12H14	* S08	16	* 43.560	1.483	99	1	2968	0.26	* 50.350	35.996	* 12.7	4	0	0.2	4/0	2272	7E+05
*28/03 12H06	13H55	* S08	15	* 43.560	1.481	99	1	2968	0.11	* 50.352	35.982	* 12.7	-4	0	0.2	4/0	2271	7E+05
*28/03 12H30	12H38	* S04	13	* 43.559	1.475	99	1	2968	0.35	* 49.957	-31.086	* 12.0	4	0	0.2	4/0	2271	7E+05
*28/03 13H13	13H17	* S09	8	* 43.562	1.474	94	2	2969	0.53	* 57.300	-73.496	* 24.8	4	0	1.5	4/0	2271	7E+05
*28/03 13H13	21H26	* S09	8	* 43.564	1.474	94	2	2969	0.58	* 57.297	-73.505	* 24.8	-4	0	1.5	4/0	2271	7E+05
*28/03 13H46	13H55	* S08	18	* 43.559	1.474	99	1	2969	0.48	* 40.922	-11.521	* 4.8	4	0	0.1	4/0	2271	7E+05
*28/03 13H46	15H34	* S08	18	* 43.559	1.476	99	1	2969	0.33	* 40.923	-11.515	* 4.8	-4	0	0.1	4/0	2272	7E+05
*28/03 13H46	03H55	* S08	18	* 43.560	1.478	99	1	2969	0.14	* 40.923	-11.522	* 4.8	-4	0	0.2	4/0	2271	7E+05
*28/03 14H09	20H44	* S04	6	* 43.564	1.483	85	5	2972	0.57	* 58.640	-81.307	* 26.7	-4	0	3.4	4/0	2271	7E+05
*28/03 15H28	15H34	* S08	10	* 43.560	1.479	98	1	2971	0.05	* 31.130	-58.676	* 23.2	4	0	0.4	4/0	2272	7E+05
*28/03 15H28	00H32	* S08	10	* 43.561	1.482	98	1	2971	0.24	* 31.135	-58.678	* 23.2	-4	0	0.4	4/0	2272	7E+05
*28/03 15H28	03H55	* S08	10	* 43.565	1.481	98	1	2970	0.55	* 31.136	-58.683	* 23.2	-4	0	0.4	4/0	2271	7E+05
*28/03 15H42	15H50	* C04	4	* 43.567	1.471	97	2	2968	1.07	* 40.152	51.860	* 19.4	4	0	2.1	4/0	2271	7E+05
*28/03 15H42	02H44	* C04	4	* 43.565	1.473	97	2	2968	0.76	* 40.151	51.858	* 19.4	-4	0	2.1	4/0	2271	7E+05
*28/03 16H26	16H33	* S07	14	* 43.561	1.481	98	1	2970	0.14	* 53.153	52.712	* 18.1	4	0	0.4	4/0	2271	7E+05
*28/03 16H26	18H14	* S07	14	* 43.560	1.481	98	1	2970	0.13	* 53.153	52.710	* 18.1	-4	0	0.4	4/0	2271	7E+05
*28/03 17H06	17H14	* S06	16	* 43.562	1.483	99	1	2969	0.36	* 49.056	28.624	* 10.1	4	0	0.2	4/0	2271	7E+05
*28/03 17H26	17H36	* C04	5	* 43.548	1.655	64	19	2969	14.23	* 43.462	2.639	* 0.2	4	0	0.4	3/0	2272	7E+05
*28/03 17H26	19H21	* C04	5	* 43.548	1.656	64	19	2969	14.28	* 43.461	2.648	* 0.2	-4	0	0.4	3/0	2272	7E+05
*28/03 17H26	02H44	* C04	5	* 43.550	1.641	63	20	2969	13.05	* 43.471	2.501	* 0.2	-4	0	0.4	3/0	2271	7E+05
*28/03 18H05	18H14	* S07	17	* 43.562	1.493	95	2	2971	1.14	* 44.241	5.007	* 1.5	4	0	0.2	4/0	2271	7E+05
*28/03 18H47	18H55	* S06	18	* 43.560	1.475	97	1	2969	0.36	* 39.354	-18.624	* 7.5	4	0	0.4	4/0	2271	7E+05
*28/03 19H13	19H21	* C04	14	* 43.559	1.478	99	1	2971	0.16	* 47.681	-53.048	* 18.0	4	0	0.2	4/0	2272	7E+05
*28/03 19H13	02H44	* C04	15	* 43.562	1.478	99	1	2971	0.26	* 47.575	-53.081	* 18.0	-4	0	0.3	4/0	2271	7E+05
*28/03 19H38	19H45	* S09	14	* 43.559	1.481	98	1	2971	0.15	* 53.916	55.998	* 19.1	4	0	0.4	4/0	2272	7E+05
*28/03 19H38	21H26	* S09	14	* 43.560	1.480	98	1	2971	0.05	* 53.918	55.995	* 19.1	-4	0	0.4	4/0	2271	7E+05
*28/03 19H46	19H53	* S07	15	* 43.559	1.475	98	1	2970	0.35	* 34.830	-42.213	* 16.7	4	0	0.3	4/0	2271	7E+05
*28/03 19H46	06H28	* S07	15	* 43.562	1.478	98	1	2970	0.27	* 34.834	-42.215	* 16.7	-4	0	0.3	4/0	2271	7E+05
*28/03 20H37	20H44	* S04	15	* 43.562	1.479	99	1	2971	0.19	* 52.325	46.728	* 16.2	4	0	0.2	4/0	2271	7E+05
*28/03 20H37	22H25	* S04	15	* 43.560	1.479	99	1	2971	0.08	* 52.326	46.727	* 16.2	-4	0	0.2	4/0	2271	7E+05
*28/03 21H17	21H26	* S09	18	* 43.562	1.489	96	1	2970	0.79	* 44.882	8.221	* 2.7	4	0	0.2	4/0	2271	7E+05
*28/03 21H17	23H05	* S09	18	* 43.562	1.489	96	1	2970	0.77	* 44.882	8.219	* 2.7	-4	0	0.2	4/0	2271	7E+05
*28/03 22H17	22H25	* S04	12	* 43.555	1.453	85	3	2970	-2.23	* 43.114	-0.785	* 0.7	4	0	0.3	4/0	2271	7E+05
*28/03 22H17	00H05	* S04	17	* 43.554	1.454	50	2	2970	2.13	* 43.182	-0.439	* 0.7	-4	0	0.2	4/0	2271	7E+05
*28/03 22H57	23H05	* S09	15	* 43.560	1.478	99	1	2969	0.12	* 35.353	-38.916	* 15.4	4	0	0.2	4/0	2271	7E+05
*28/03 22H57	09H40	* S09	15	* 43.562	1.480	99	1	2969	0.24	* 35.356	-38.917	* 15.4	-4	0	0.2	4/0	2271	7E+05
*28/03 23H58	00H05	* S04	13	* 43.558	1.477	97	1	2970	0.33	* 33.315	-48.145	* 19.1	4	0	0.7	4/0	2271	7E+05
*29/03 00H25	00H32	* S08	12	* 43.560	1.480	99	1	2970	0.05	* 31.745	58.964	* 22.2	4	0	0.2	4/0	2272	7E+05
*29/03 00H25	02H16	* S08	12	* 43.559	1.481	99	1	2970	0.21	* 31.744	58.959	* 22.2	-4	0	0.2	4/0	2272	7E+05
*29/03 00H25	03H55	* S08	12	* 43.559	1.482	99	1	2970	0.27	* 31.743	58.957	* 22.2	-4	0	0.2	4/0	2271	7E+05
*29/03 02H07	02H16	* S08	18	* 43.559	1.481	98	1	2971	0.14	* 41.500	11.684	* 3.7	4	0	0.1	4/0	2272	7E+05
*29/03 02H07	03H55	* S08	18	* 43.559	1.483	99	1	2970	0.34	* 41.501	11.677	* 3.7	-4	0	0.1	4/0	2271	7E+05
*29/03 02H35	02H44	* C04	4	* 43.551	1.480	42	1	2968	1.04	* 48.428	61.783	* 19.8	4	0	0.7	4/0	2271	7E+05
*29/03 02H35	04H32	* C04	4	* 43.551	1.480	42	1	2968	1.04	* 48.428	61.783	* 19.8	-4	0	0.7	4/0	2271	7E+05

* TCA	TPC	* SL	PTS	* LAT1	LONG1	PB	MAJ	BIAIS	ERR	* LAT2	LONG2	* CTA	FB	WF	SDV	CF	SRCE	MCCN
* 29/03 03H47	03H55	* S08	15	* 43.560	1.479	99	1	2970	0.08	* 50.923	-35.858	* 13.6	4	0	0.2	4/0	2271	7E+05
* 29/03 03H47	12H03	* S08	16	* 43.560	1.477	99	1	2970	0.18	* 50.888	-35.832	* 13.6	-4	0	0.2	4/0	2272	7E+05
* 29/03 03H47	13H44	* S08	16	* 43.560	1.477	99	1	2970	0.21	* 50.889	-35.834	* 13.6	-4	0	0.2	4/0	2271	7E+05
* 29/03 04H22	04H32	* C04	5	* 43.560	1.496	95	2	2970	1.31	* 43.994	6.753	* 1.6	4	0	0.5	4/0	2271	7E+05
* 29/03 04H22	06H15	* C04	5	* 43.560	1.494	95	2	2970	1.19	* 43.994	6.756	* 1.6	-4	0	0.5	4/0	2272	7E+05
* 29/03 04H22	16H18	* C04	5	* 43.560	1.502	95	2	2970	1.82	* 43.993	6.747	* 1.6	-4	0	0.5	4/0	2271	7E+05
* 29/03 05H25	05H32	* S06	10	* 43.558	1.482	97	1	2967	0.27	* 32.725	52.909	* 19.9	4	0	0.7	4/0	2271	7E+05
* 29/03 05H26	12H03	* S08	5	* 43.563	1.454	78	5	2966	2.07	* 59.462	-86.671	* 27.9	-4	0	7.3	4/0	2272	7E+05
* 29/03 05H26	13H44	* S08	5	* 43.564	1.454	78	5	2966	2.07	* 59.464	-86.674	* 27.9	-4	0	7.3	4/0	2271	7E+05
* 29/03 06H07	06H15	* C04	12	* 43.560	1.477	99	1	2969	0.23	* 40.321	-43.570	* 17.4	4	0	0.3	4/0	2272	7E+05
* 29/03 06H07	16H18	* C04	12	* 43.556	1.474	99	1	2970	0.55	* 40.316	-43.565	* 17.4	-4	0	0.3	4/0	2271	7E+05
* 29/03 06H07	18H04	* C04	12	* 43.557	1.475	99	1	2970	0.45	* 40.317	-43.565	* 17.4	-4	0	0.3	4/0	2272	7E+05
* 29/03 06H19	06H28	* S07	16	* 43.561	1.480	99	1	2971	0.14	* 37.930	29.891	* 10.7	-4	0	0.2	4/0	2271	7E+05
* 29/03 06H19	08H08	* S07	17	* 43.560	1.480	99	1	2971	0.09	* 37.942	29.922	* 10.7	-4	0	0.2	4/0	2271	7E+05
* 29/03 07H07	07H16	* S06	18	* 43.555	1.497	88	3	2967	1.51	* 42.663	5.831	* 1.5	4	0	0.5	4/0	2271	7E+05
* 29/03 07H59	08H08	* S07	17	* 43.561	1.478	98	1	2970	0.13	* 47.187	-17.355	* 7.1	4	0	0.3	4/0	2271	7E+05
* 29/03 07H59	09H43	* S07	18	* 43.561	1.476	98	1	2969	0.28	* 47.173	-17.343	* 7.1	-4	0	0.3	4/0	2272	7E+05
* 29/03 07H59	17H50	* S07	18	* 43.561	1.476	98	1	2970	0.30	* 47.174	-17.348	* 7.1	-4	0	0.3	4/0	2271	7E+05
* 29/03 08H47	08H54	* S06	13	* 43.561	1.472	98	1	2966	5.56	* 52.180	-41.634	* 15.5	4	0	0.4	4/0	2271	7E+05
* 29/03 08H54	08H58	* S04	4	* 43.572	1.483	89	2	2972	1.43	* 29.520	69.842	* 26.4	4	0	1.7	4/0	2272	7E+05
* 29/03 08H54	10H45	* S04	4	* 43.574	1.491	89	2	2972	1.81	* 29.516	69.836	* 26.4	-4	0	1.7	4/0	2271	7E+05
* 29/03 09H32	09H40	* S09	16	* 43.561	1.481	99	1	2968	0.19	* 37.077	33.576	* 12.2	4	0	0.2	4/0	2271	7E+05
* 29/03 09H32	11H20	* S09	16	* 43.561	1.482	99	1	2968	0.21	* 37.076	33.575	* 12.2	-4	0	0.2	4/0	2271	7E+05
* 29/03 09H38	09H43	* S07	9	* 43.562	1.478	97	2	2968	0.30	* 56.031	-66.241	* 22.8	-4	0	0.8	4/0	2272	7E+05
* 29/03 09H38	16H09	* S07	9	* 43.562	1.476	97	2	2968	0.35	* 56.027	-66.246	* 22.8	-4	0	0.8	4/0	2272	7E+05
* 29/03 09H38	17H50	* S07	9	* 43.562	1.477	97	2	2968	0.37	* 56.027	-66.245	* 22.8	-4	0	0.8	4/0	2271	7E+05
* 29/03 10H36	10H45	* S04	17	* 43.560	1.482	99	1	2966	0.17	* 39.229	22.894	* 8.0	4	0	0.2	4/0	2271	7E+05
* 29/03 10H36	12H25	* S04	17	* 43.560	1.482	99	1	2966	0.20	* 39.229	22.893	* 8.0	-4	0	0.2	4/0	2271	7E+05
* 29/03 10H36	14H00	* S04	17	* 43.560	1.481	99	1	2966	0.14	* 39.229	22.894	* 8.0	-4	0	0.2	4/0	2272	7E+05
* 29/03 11H12	11H20	* S09	16	* 43.560	1.477	99	1	2967	0.20	* 46.509	-13.602	* 5.8	4	0	0.1	4/0	2271	7E+05
* 29/03 11H12	12H56	* S09	17	* 43.560	1.477	99	1	2967	0.23	* 46.500	-13.594	* 5.8	-4	0	0.1	4/0	2271	7E+05
* 29/03 11H12	19H22	* S09	17	* 43.559	1.478	99	1	2967	0.11	* 46.501	-13.607	* 5.8	-4	0	0.1	4/0	2272	7E+05
* 29/03 11H55	12H03	* S08	17	* 43.561	1.483	99	1	2962	0.30	* 51.388	41.347	* 14.5	4	0	0.3	4/0	2272	7E+05
* 29/03 11H55	13H44	* S08	17	* 43.561	1.482	99	1	2962	0.20	* 51.389	41.343	* 14.5	-4	0	0.3	4/0	2271	7E+05
* 29/03 12H17	12H25	* S04	16	* 43.560	1.480	99	1	2964	0.09	* 48.719	-24.479	* 9.7	4	0	0.2	4/0	2271	7E+05
* 29/03 12H17	14H00	* S04	17	* 43.560	1.481	99	1	2964	0.11	* 48.699	-24.462	* 9.7	-4	0	0.2	4/0	2272	7E+05
* 29/03 12H17	22H12	* S04	17	* 43.560	1.480	99	1	2964	0.05	* 48.698	-24.468	* 9.7	-4	0	0.2	4/0	2271	7E+05
* 29/03 12H51	12H56	* S09	10	* 43.567	1.485	96	2	2967	0.86	* 55.611	-62.151	* 21.7	-4	0	1.0	4/0	2271	7E+05
* 29/03 12H51	19H22	* S09	10	* 43.567	1.485	96	2	2967	0.92	* 55.609	-62.161	* 21.7	-4	0	1.0	4/0	2272	7E+05
* 29/03 12H51	21H03	* S09	10	* 43.566	1.483	96	2	2967	0.78	* 55.607	-62.158	* 21.7	-4	0	1.0	4/0	2271	7E+05
* 29/03 13H35	13H44	* S08	17	* 43.558	1.472	98	1	2963	0.59	* 42.024	-6.155	* 2.7	4	0	0.2	4/0	2271	7E+05
* 29/03 13H35	15H23	* S08	18	* 43.558	1.473	98	1	2963	0.56	* 42.018	-6.156	* 2.7	-4	0	0.1	4/0	2271	7E+05
* 29/03 13H55	14H00	* S04	8	* 43.561	1.476	90	4	2963	0.31	* 57.603	-74.072	* 24.9	4	0	2.5	4/0	2272	7E+05
* 29/03 13H55	20H30	* S04	8	* 43.563	1.472	90	4	2963	0.73	* 57.600	-74.080	* 24.9	-4	0	2.5	4/0	2272	7E+05
* 29/03 13H55	22H12	* S04	8	* 43.563	1.470	90	4	2963	0.83	* 57.599	-74.078	* 24.9	-4	0	2.5	4/0	2271	7E+05
* 29/03 15H17	15H23	* S08	12	* 43.558	1.481	98	1	2964	0.21	* 32.209	-53.439	* 21.2	4	0	0.4	4/0	2271	7E+05
* 29/03 15H17	00H19	* S08	13	* 43.562	1.482	98	1	2963	0.32	* 32.146	-53.415	* 21.2	-4	0	0.4	4/0	2271	7E+05
* 29/03 16H03	16H09	* S07	10	* 43.558	1.474	96	2	2965	0.50	* 55.194	64.500	* 21.6	4	0	0.9	4/0	2272	7E+05
* 29/03 16H03	17H50	* S07	10	* 43.558	1.476	96	2	2965	0.31	* 55.193	64.503	* 21.6	-4	0	0.9	4/0	2271	7E+05
* 29/03 16H07	18H04	* C04	2	.....	.....	..	....	0	.....	.....	.....	* ....	-4	9.	.....	...	2272	7E+05
* 29/03 16H09	16H18	* C04	3	* 43.562	1.485	50	46	2964	0.46	* 40.722	35.661	* 13.1	4	1	0.0	1/0	2271	7E+05
* 29/03 16H54	17H02	* S06	17	* 43.561	1.485	98	1	2963	0.44	* 50.269	34.625	* 12.2	4	0	0.4	4/0	2271	7E+05
* 29/03 17H42	17H50	* S07	17	* 43.560	1.481	98	1	2966	0.14	* 46.361	16.046	* 5.6	4	0	0.2	4/0	2271	7E+05
* 29/03 17H42	19H30	* S07	17	* 43.560	1.481	98	1	2966	0.11	* 46.360	16.044	* 5.6	-4	0	0.2	4/0	2271	7E+05
* 29/03 17H54	18H04	* C04	12	* 43.555	1.480	99	1	2966	0.55	* 44.976	-15.797	* 5.9	4	0	0.2	4/0	2272	7E+05
* 29/03 17H54	03H13	* C04	13	* 43.560	1.480	99	1	2966	0.07	* 44.960	-15.809	* 5.9	-4	0	0.2	4/0	2271	7E+05
* 29/03 17H54	06H41	* C04	12	* 43.560	1.479	99	1	2966	0.03	* 44.952	-15.843	* 5.9	-4	0	0.2	4/0	2272	7E+05
* 29/03 18H34	18H43	* S06	19	* 43.559	1.475	96	1	2966	0.39	* 40.627	-12.619	* 5.2	4	0	0.4	4/0	2271	7E+05
* 29/03 19H16	19H22	* S09	10	* 43.560	1.478	98	1	2968	0.15	* 55.880	67.413	* 22.4	4	0	0.6	4/0	2272	7E+05
* 29/03 19H16	21H03	* S09	10	* 43.561	1.477	98	1	2967	0.22	* 55.884	67.413	* 22.4	-4	0	0.6	4/0	2271	7E+05
* 29/03 19H16	22H43	* S09	10	* 43.558	1.477	98	1	2968	0.22	* 55.881	67.412	* 22.4	-4	0	0.6	4/0	2272	7E+05
* 29/03 19H22	19H30	* S07	16	* 43.559	1.476	99	1	2968	0.30	* 37.068	-31.221	* 12.4	4	0	0.2	4/0	2271	7E+05
* 29/03 19H22	06H03	* S07	16	* 43.560	1.477	99	1	2968	0.19	* 37.069	-31.222	* 12.4	-4	0	0.2	4/0	2271	7E+05
* 29/03 19H42	03H13	* C04	11	* 43.560	1.478	97	1	2968	0.13	* 48.476	-72.074	* 23.5	-4	0	0.6	4/0	2271	7E+05
* 29/03 19H42	06H41	* C04	11	* 43.561	1.474	97	1	2968	0.43	* 48.474	-72.073	* 23.5	-4	0	0.6	4/0	2272	7E+05
* 29/03 20H16	20H21	* S06	10	* 43.567	1.471	91	2	2964	1.03	* 30.636	-59.491	* 23.6	4	0	1.5	4/0	2271	7E+05
* 29/03 20H23	20H30	* S04	14	* 43.556	1.482	98	1	2969	0.52	* 53.557	53.519	* 18.3	4	0	0.4	4/0	2272	7E+05
* 29/03 20H23	22H12	* S04	14	* 43.55														

* TCA	TPC	* SL	PTS	* LAT1	LONG1	PB	MAJ	BIAIS	ERR	* LAT2	LONG2	* CTA	FB	WF	SDV	CF	SRCE	MCCN	
*29/03	22H35	18H59	* S09	16	* 43.562	1.479	99	1	2967	0.23	* 37.532	-28.370	* 11.3	-4	0	0.2	4/0	2272	7E+05
*29/03	23H44	23H51	* S04	15	* 43.559	1.478	99	1	2967	0.16	* 34.674	-41.711	* 16.5	4	0	0.3	4/0	2271	7E+05
*29/03	23H44	10H31	* S04	15	* 43.562	1.481	99	1	2967	0.27	* 34.678	-41.712	* 16.5	-4	0	0.3	4/0	2272	7E+05
*29/03	23H44	21H58	* S04	15	* 43.562	1.481	99	1	2967	0.28	* 34.678	-41.713	* 16.5	-4	0	0.3	4/0	2271	7E+05
*30/03	00H14	00H19	* S08	9	* 43.560	1.483	95	2	2966	0.26	* 30.647	64.163	* 24.2	4	0	0.9	4/0	2271	7E+05
*30/03	00H14	02H04	* S08	9	* 43.559	1.484	95	2	2966	0.41	* 30.644	64.160	* 24.2	-4	0	0.9	4/0	2271	7E+05
*30/03	01H16	03H13	* C04	1	* .....	.....	..	....	0	.....	* .....	.....	* .....	-4	9.	.....	...	2271	7E+05
*30/03	01H16	06H41	* C04	1	* .....	.....	..	....	0	.....	* .....	.....	* .....	-4	9.	.....	...	2272	7E+05
*30/03	01H56	02H04	* S08	17	* 43.559	1.482	99	1	2967	0.23	* 40.413	16.995	* 5.7	4	0	0.1	4/0	2271	7E+05
*30/03	01H56	03H44	* S08	17	* 43.559	1.483	99	1	2967	0.31	* 40.413	16.992	* 5.7	-4	0	0.1	4/0	2271	7E+05
*30/03	03H04	03H13	* C04	7	* 43.559	1.479	99	1	2967	0.11	* 46.541	43.297	* 14.0	4	0	0.3	4/0	2271	7E+05
*30/03	03H04	05H00	* C04	7	* 43.557	1.481	99	1	2967	0.32	* 46.537	43.299	* 14.0	-4	0	0.3	4/0	2271	7E+05
*30/03	03H04	06H41	* C04	7	* 43.560	1.479	99	1	2967	0.04	* 46.540	43.301	* 14.0	-4	0	0.3	4/0	2272	7E+05
*30/03	03H36	03H44	* S08	17	* 43.559	1.473	95	2	2965	0.55	* 49.870	-30.427	* 11.8	4	0	1.2	4/0	2271	7E+05
*30/03	03H36	05H19	* S08	17	* 43.560	1.478	99	1	2967	0.11	* 49.872	-30.432	* 11.8	-4	0	0.2	4/0	2271	7E+05
*30/03	04H50	05H00	* C04	11	* 43.558	1.473	99	1	2966	0.52	* 42.630	-10.407	* 4.7	4	0	0.1	4/0	2271	7E+05
*30/03	04H50	06H41	* C04	11	* 43.558	1.475	99	1	2966	0.37	* 42.630	-10.407	* 4.7	-4	0	0.1	4/0	2272	7E+05
*30/03	05H15	05H19	* S08	6	* 43.566	1.488	80	6	2970	0.96	* 58.714	-80.839	* 26.5	4	0	4.9	4/0	2271	7E+05
*30/03	05H15	11H51	* S08	6	* 43.568	1.484	80	6	2970	1.02	* 58.709	-80.844	* 26.5	-4	0	4.9	4/0	2271	7E+05
*30/03	05H56	06H03	* S07	15	* 43.560	1.480	99	1	2967	0.06	* 35.739	40.943	* 15.0	4	0	0.2	4/0	2271	7E+05
*30/03	06H34	06H41	* C04	10	* 43.554	1.473	98	1	2965	0.89	* 39.443	-59.707	* 23.6	4	0	0.5	4/0	2272	7E+05
*30/03	06H54	07H03	* S06	15	* 43.557	1.482	94	2	2963	0.38	* 41.440	11.838	* 3.8	4	0	0.5	4/0	2271	7E+05
*30/03	07H36	07H45	* S07	18	* 43.561	1.472	99	1	2963	0.57	* 45.064	-6.331	* 3.1	4	0	0.1	4/0	2271	7E+05
*30/03	07H36	09H21	* S07	18	* 43.561	1.471	98	1	2963	0.68	* 45.063	-6.328	* 3.1	-4	0	0.1	4/0	2272	7E+05
*30/03	07H36	15H45	* S07	18	* 43.560	1.473	99	1	2963	0.53	* 45.064	-6.336	* 3.1	-4	0	0.1	4/0	2271	7E+05
*30/03	08H34	08H42	* S06	15	* 43.560	1.475	98	1	2961	0.35	* 51.007	-35.457	* 13.5	4	0	0.5	4/0	2271	7E+05
*30/03	09H09	09H16	* S09	15	* 43.560	1.482	99	1	2963	0.21	* 34.919	44.174	* 16.3	4	0	0.2	4/0	2271	7E+05
*30/03	09H09	10H58	* S09	15	* 43.561	1.481	99	1	2963	0.22	* 34.919	44.173	* 16.3	-4	0	0.2	4/0	2271	7E+05
*30/03	09H09	18H59	* S09	15	* 43.560	1.481	99	1	2964	0.11	* 34.919	44.177	* 16.3	-4	0	0.2	4/0	2272	7E+05
*30/03	09H15	09H21	* S07	12	* 43.562	1.478	98	1	2963	0.25	* 53.984	-54.331	* 19.5	4	0	0.5	4/0	2272	7E+05
*30/03	09H15	15H45	* S07	13	* 43.561	1.474	98	1	2962	0.45	* 53.926	-54.265	* 19.5	-4	0	0.6	4/0	2271	7E+05
*30/03	10H22	10H31	* S04	16	* 43.559	1.479	99	1	2960	0.13	* 37.850	29.429	* 10.6	4	0	0.2	4/0	2272	7E+05
*30/03	10H22	21H58	* S04	16	* 43.559	1.477	99	1	2960	0.20	* 37.853	29.425	* 10.6	-4	0	0.2	4/0	2271	7E+05
*30/03	10H49	10H58	* S09	18	* 43.562	1.466	98	1	2961	1.08	* 44.436	-2.976	* 1.8	4	0	0.1	4/0	2271	7E+05
*30/03	10H49	12H35	* S09	18	* 43.562	1.466	98	1	2961	1.12	* 44.436	-2.974	* 1.8	-4	0	0.1	4/0	2271	7E+05
*30/03	10H49	18H59	* S09	18	* 43.560	1.476	98	1	2961	0.29	* 44.438	-2.989	* 1.8	-4	0	0.1	4/0	2272	7E+05
*30/03	11H44	11H51	* S08	12	* 43.562	1.479	99	1	2961	0.29	* 52.414	46.927	* 16.3	4	0	0.3	4/0	2271	7E+05
*30/03	11H44	13H33	* S08	12	* 43.562	1.479	99	1	2961	0.20	* 52.414	46.927	* 16.3	-4	0	0.3	4/0	2271	7E+05
*30/03	12H03	12H11	* S04	17	* 43.560	1.476	99	1	2961	0.30	* 47.400	-17.928	* 7.4	4	0	0.2	4/0	2272	7E+05
*30/03	12H03	20H16	* S04	17	* 43.560	1.475	99	1	2961	0.37	* 47.400	-17.933	* 7.4	-4	0	0.2	4/0	2272	7E+05
*30/03	12H03	21H58	* S04	17	* 43.560	1.477	99	1	2961	0.22	* 47.401	-17.933	* 7.4	-4	0	0.2	4/0	2271	7E+05
*30/03	12H29	12H35	* S09	13	* 43.559	1.476	98	1	2961	0.26	* 53.540	-50.716	* 18.4	4	0	0.4	4/0	2271	7E+05
*30/03	12H29	18H59	* S09	13	* 43.560	1.479	98	1	2962	0.06	* 53.537	-50.722	* 18.4	-4	0	0.4	4/0	2272	7E+05
*30/03	12H29	20H40	* S09	13	* 43.559	1.476	98	1	2961	0.29	* 53.536	-50.720	* 18.4	-4	0	0.4	4/0	2271	7E+05
*30/03	13H24	13H33	* S08	14	* 43.556	1.453	85	3	2961	2.17	* 43.119	-0.759	* 0.7	4	0	0.3	4/0	2271	7E+05
*30/03	13H24	15H12	* S08	19	* 43.556	1.457	50	3	2961	1.82	* 43.179	-0.392	* 0.7	-4	0	0.2	4/0	2271	7E+05
*30/03	13H42	20H16	* S04	10	* 43.565	1.474	96	2	2962	0.68	* 56.458	-66.908	* 23.0	-4	0	0.9	4/0	2272	7E+05
*30/03	13H42	21H58	* S04	10	* 43.565	1.480	96	2	2962	0.57	* 56.460	-66.906	* 23.0	-4	0	0.9	4/0	2271	7E+05
*30/03	14H53	14H59	* C04	3	* 45.044	-1.155	50	45	2253	267.01	* 39.413	68.559	* 26.9	4	12	55.0	1/0	2272	7E+05
*30/03	15H05	15H12	* S08	14	* 43.559	1.476	98	1	2962	0.31	* 33.236	-48.174	* 19.1	4	0	0.4	4/0	2271	7E+05
*30/03	15H05	00H06	* S08	14	* 43.561	1.477	98	1	2963	0.24	* 33.238	-48.176	* 19.1	-4	0	0.4	4/0	2271	7E+05
*30/03	15H40	15H45	* S07	6	* 43.564	1.480	83	5	2961	0.47	* 57.121	76.530	* 24.8	4	0	3.6	4/0	2271	7E+05
*30/03	16H37	16H47	* C04	5	* 43.560	1.480	97	1	2962	0.03	* 42.265	18.993	* 6.8	4	0	0.6	4/0	2272	7E+05
*30/03	16H37	18H32	* C04	5	* 43.560	1.480	97	1	2962	0.02	* 42.265	18.993	* 6.8	-4	0	0.6	4/0	2272	7E+05
*30/03	16H41	16H49	* S06	14	* 43.558	1.483	99	1	2964	0.35	* 51.451	40.800	* 14.3	4	0	0.3	4/0	2271	7E+05
*30/03	17H18	17H27	* S07	17	* 43.561	1.480	99	1	2963	0.12	* 48.447	27.088	* 9.6	4	0	0.1	4/0	2271	7E+05
*30/03	18H21	18H30	* S06	18	* 43.557	1.480	94	2	2966	0.32	* 41.887	-6.589	* 2.9	4	0	0.4	4/0	2271	7E+05
*30/03	18H23	18H32	* C04	14	* 43.560	1.477	99	1	2966	0.21	* 46.383	-33.927	* 12.0	4	0	0.1	4/0	2272	7E+05
*30/03	18H23	03H43	* C04	15	* 43.565	1.477	99	1	2966	0.64	* 46.345	-33.954	* 12.0	-4	0	0.1	4/0	2272	7E+05
*30/03	18H54	18H59	* S09	8	* 43.559	1.484	94	2	2967	0.39	* 57.675	78.946	* 25.4	4	0	1.5	4/0	2272	7E+05
*30/03	18H54	20H40	* S09	8	* 43.562	1.484	94	2	2966	0.44	* 57.678	78.948	* 25.4	-4	0	1.5	4/0	2271	7E+05
*30/03	18H54	22H21	* S09	8	* 43.560	1.484	94	2	2967	0.40	* 57.676	78.945	* 25.4	-4	0	1.5	4/0	2272	7E+05
*30/03	18H58	19H07	* S07	18	* 43.561	1.478	97	1	2965	0.21	* 39.307	-20.178	* 8.1	4	0	0.5	4/0	2271	7E+05
*30/03	18H58	20H43	* S07	18	* 43.563	1.480	97	1	2964	0.31	* 39.308	-20.179	* 8.1	-4	0	0.5	4/0	2272	7E+05
*30/03	18H58	05H39	* S07	18	* 43.567	1.481	97	1	2965	0.81	* 39.312	-20.180	* 8.1	-4	0	0.5	4/0	2271	7E+05
*30/03	20H03	20H09	* S06	11	* 43.562	1.477	97	1	2964	0.30	* 31.877	-53.554	* 21.3	4	0	0.6	4/0	2271	7E+05
*30/03	20H10	20H16	* S04																

```

*****
* TCA TPC * SL PTS * LAT1 LONG1 PB MAJ BIAIS ERR * LAT2 LONG2 * CTA FB WF SDV CF SRCE MCCN
*****
* 30/03 21H49 21H58 * S04 18 * 43.560 1.484 97 1 2966 0.35 * 45.685 12.149 * 4.2 4 0 0.3 4/0 2271 7E+05
* 30/03 22H12 22H21 * S09 17 * 43.559 1.477 98 1 2967 0.22 * 39.725 -17.692 * 7.1 4 0 0.2 4/0 2272 7E+05
* 30/03 22H12 23H58 * S09 17 * 43.559 1.477 99 1 2967 0.19 * 39.726 -17.691 * 7.1 -4 0 0.2 4/0 2272 7E+05
* 30/03 23H30 23H38 * S04 16 * 43.557 1.478 99 1 2966 0.33 * 36.000 -35.188 * 14.0 4 0 0.3 4/0 2271 7E+05
* 30/03 23H54 23H58 * S09 2 * ..... ..... .. ... 0 ..... * ..... * ..... 4 9. .... ... 2272 7E+05
* 31/03 00H02 00H06 * S08 4 * 43.539 1.490 95 2 2958 2.51 * 29.611 69.389 * 26.3 4 0 1.5 4/0 2271 7E+05
* 31/03 00H02 01H53 * S08 4 * 43.538 1.492 95 2 2958 2.59 * 29.609 69.386 * 26.3 -4 0 1.5 4/0 2271 7E+05
* 31/03 01H45 01H53 * S08 17 * 43.560 1.478 97 1 2968 0.12 * 39.313 22.315 * 7.8 4 0 0.5 4/0 2271 7E+05
* 31/03 01H45 03H34 * S08 17 * 43.560 1.479 97 1 2968 0.04 * 39.314 22.312 * 7.8 -4 0 0.5 4/0 2271 7E+05
* 31/03 01H47 03H43 * C04 2 * ..... ..... .. ... 0 ..... * ..... * ..... -4 9. .... ... 2272 7E+05
* 31/03 03H25 03H34 * S08 17 * 43.559 1.479 99 1 2967 0.08 * 48.834 -25.105 * 9.9 4 0 0.2 4/0 2271 7E+05
* 31/03 03H33 03H43 * C04 9 * 43.559 1.480 99 1 2967 0.08 * 45.486 24.838 * 8.0 4 0 0.3 4/0 2272 7E+05
* 31/03 03H33 05H27 * C04 9 * 43.558 1.480 99 1 2967 0.18 * 45.484 24.845 * 8.0 -4 0 0.3 4/0 2272 7E+05
* 31/03 05H03 05H05 * S06 1 * ..... ..... .. ... 0 ..... * ..... * ..... 4 9. .... ... 2271 7E+05
* 31/03 05H18 05H27 * C04 11 * 43.560 1.475 99 1 2967 0.33 * 41.365 -26.977 * 11.0 4 0 0.2 4/0 2272 7E+05
* 31/03 05H32 05H39 * S07 13 * 43.562 1.482 98 1 2968 0.27 * 33.559 51.918 * 19.3 4 0 0.3 4/0 2271 7E+05
* 31/03 05H32 07H21 * S07 13 * 43.561 1.483 98 1 2967 0.30 * 33.560 51.914 * 19.3 -4 0 0.3 4/0 2272 7E+05
* 31/03 06H41 06H50 * S06 17 * 43.559 1.486 96 2 2963 0.52 * 40.163 17.872 * 6.1 4 0 0.6 4/0 2271 7E+05
* 31/03 07H13 07H21 * S07 18 * 43.557 1.497 91 2 2960 1.50 * 42.941 4.669 * 1.0 -4 0 0.3 4/0 2272 7E+05
* 31/03 07H13 08H59 * S07 18 * 43.556 1.498 91 2 2960 1.59 * 42.942 4.665 * 1.0 -4 0 0.3 4/0 2272 7E+05
* 31/03 08H22 08H30 * S06 15 * 43.562 1.476 98 1 2956 0.31 * 49.826 -29.385 * 11.4 4 0 0.5 4/0 2271 7E+05
* 31/03 08H52 08H59 * S07 14 * 43.560 1.478 99 1 2956 0.13 * 51.894 -42.784 * 15.9 4 0 0.2 4/0 2272 7E+05
*****

```

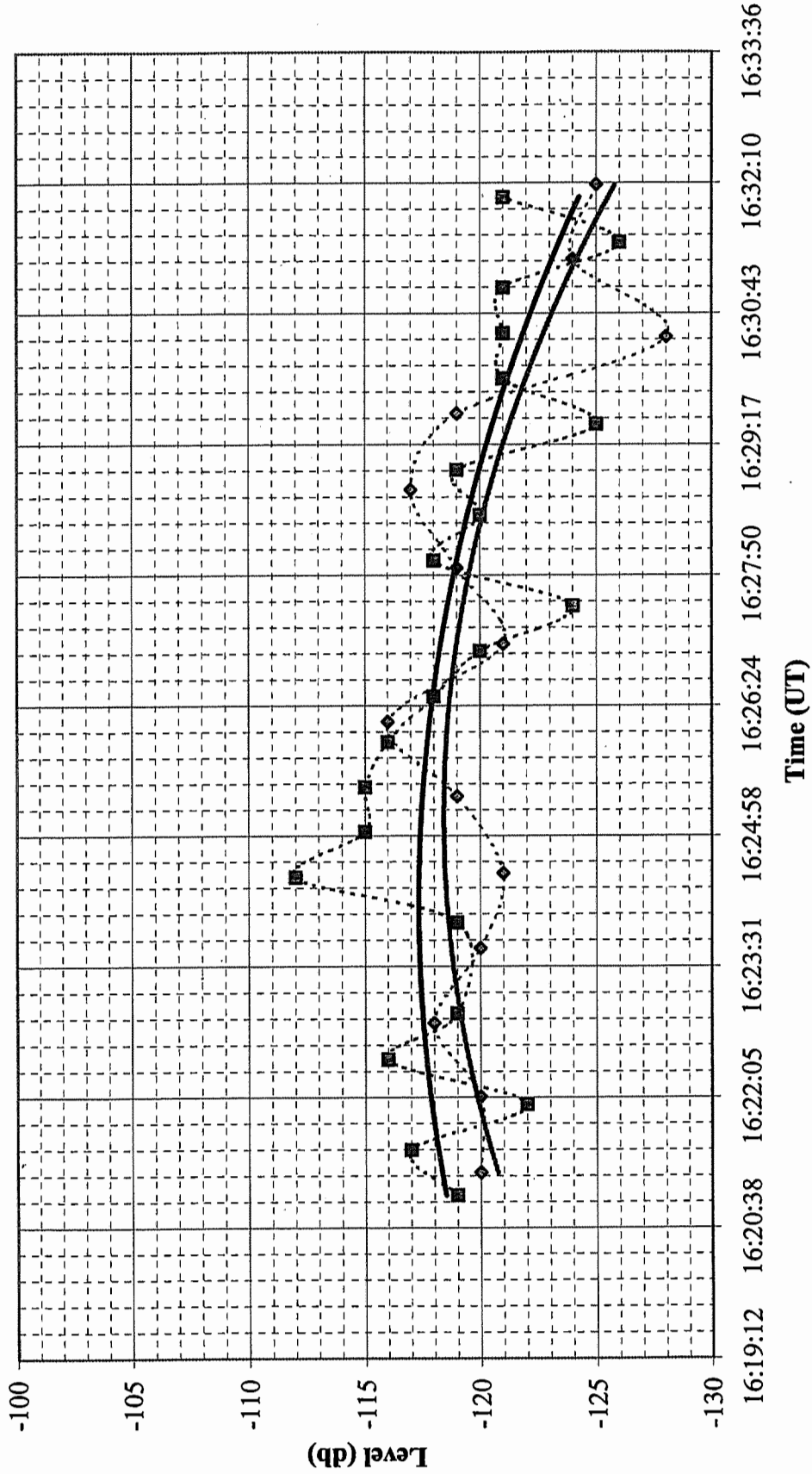
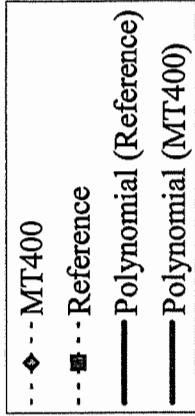
Zones géographiques BORDE/MARSA numero de dossier xxx  
 Nombre total de lignes (localisées + détectées) : 219 + 9 = 228  
 Nombre de localisées : 219  
 Nombre de balises-passage : 117  
 Nombre de localisations uniques : 112  
 Date première loc : 28/03/2003 08:59  
 Date dernière loc : 31/03/2003 08:52  
 Durée de l'émission : 71H 52mn  
 Reference pour calcul des erreurs : lat=+43.560 long= +1.479

Date	U. T.	MT400 N° : C204 Message	MT400 Level (db)	Sarsat Sat
2003/03/28	16:21:15,2	5f7f03c480000009c00400	-120	S7
2003/03/28	16:22:05,3	5f7f03c480000009c00400	-120	S7
2003/03/28	16:22:53,9	5f7f03c480000009c00400	-118	S7
2003/03/28	16:23:43,2	5f7f03c480000009c00400	-120	S7
2003/03/28	16:24:32,6	5f7f03c480000009c00400	-121	S7
2003/03/28	16:25:24,0	5f7f03c480000009c00400	-119	S7
2003/03/28	16:26:13,5	5f7f03c480000009c00400	-116	S7
2003/03/28	16:27:04,9	5f7f03c480000009c00400	-121	S7
2003/03/28	16:27:55,4	5f7f03c480000009c00400	-119	S7
2003/03/28	16:28:47,1	5f7f03c480000009c00400	-117	S7
2003/03/28	16:29:37,2	5f7f03c480000009c00400	-119	S7
2003/03/28	16:30:27,6	5f7f03c480000009c00400	-128	S7
2003/03/28	16:31:19,0	5f7f03c480000009c00400	-124	S7
2003/03/28	16:32:08,5	5f7f03c480000009c00400	-125	S7



Date	U. T.	Datation Ref Message	Reference Level (db)	Sarsat Sat
2003/03/28	16:21:00,3	ce300000000000dbd0e40 0	-119	S7
2003/03/28	16:21:30,3	ce300000000000dbd0e40 0	-117	S7
2003/03/28	16:22:00,3	ce300000000000dbd0e40 0	-122	S7
2003/03/28	16:22:30,3	ce300000000000dbd0e40 0	-116	S7
2003/03/28	16:23:00,3	ce300000000000dbd0e40 0	-119	S7
2003/03/28	16:24:00,3	ce300000000000dbd0e40 0	-119	S7
2003/03/28	16:24:30,3	ce300000000000dbd0e40 0	-112	S7
2003/03/28	16:25:00,3	ce300000000000dbd0e40 0	-115	S7
2003/03/28	16:25:30,3	ce300000000000dbd0e40 0	-115	S7
2003/03/28	16:26:00,3	ce300000000000dbd0e40 0	-116	S7
2003/03/28	16:26:30,3	ce300000000000dbd0e40 0	-118	S7
2003/03/28	16:27:00,3	ce300000000000dbd0e40 0	-120	S7
2003/03/28	16:27:30,3	ce300000000000dbd0e40 0	-124	S7
2003/03/28	16:28:00,3	ce300000000000dbd0e40 0	-118	S7
2003/03/28	16:28:30,3	ce300000000000dbd0e40 0	-120	S7
2003/03/28	16:29:00,3	ce300000000000dbd0e40 0	-119	S7
2003/03/28	16:29:30,3	ce300000000000dbd0e40 0	-125	S7
2003/03/28	16:30:00,3	ce300000000000dbd0e40 0	-121	S7
2003/03/28	16:30:30,3	ce300000000000dbd0e40 0	-121	S7
28/03/2003	16:31:00,3	ce300000000000dbd0e40 0	-121	S7
28/03/2003	16:31:30,3	ce300000000000dbd0e40 0	-126	S7
28/03/2003	16:32:00,3	ce300000000000dbd0e40 0	-121	S7

### Level comparative Satellite



2003/03/28

**ANNEX A**

**ANTENNA TEST RESULTS ON  
MT400 STANDARD COMMUNICATIONS PTY. LTD. EPIRB  
N° C203**



Tests are performed in an anechoic chamber (size 16 m x 10 m x 11 m)  
Walls, ceiling and doors are lined with EMERSON CUMING foams VHP 36 and VHP 26 type.  
The EPIRB is placed as shown on figure N° 1 and N° 2.

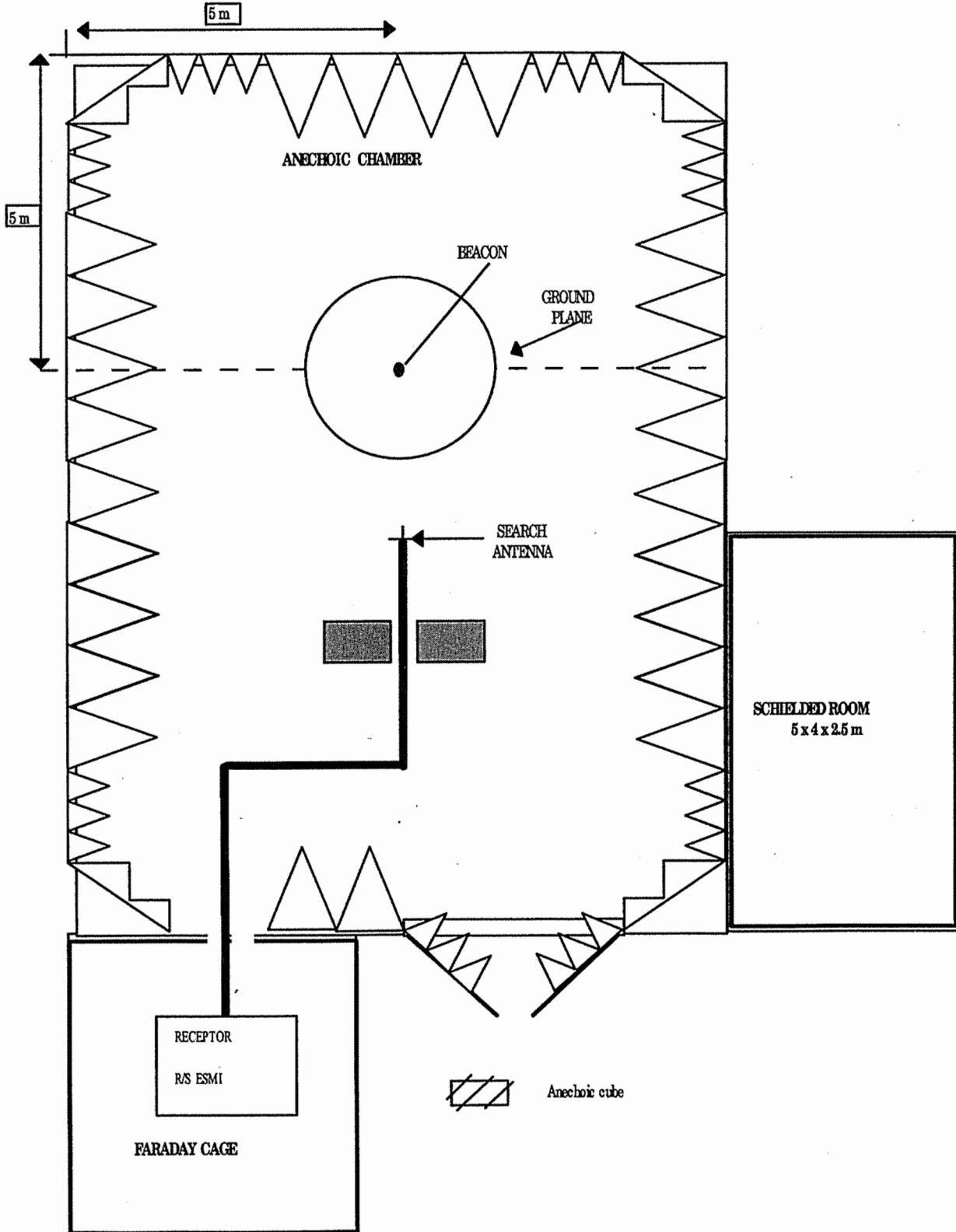


FIGURE 1

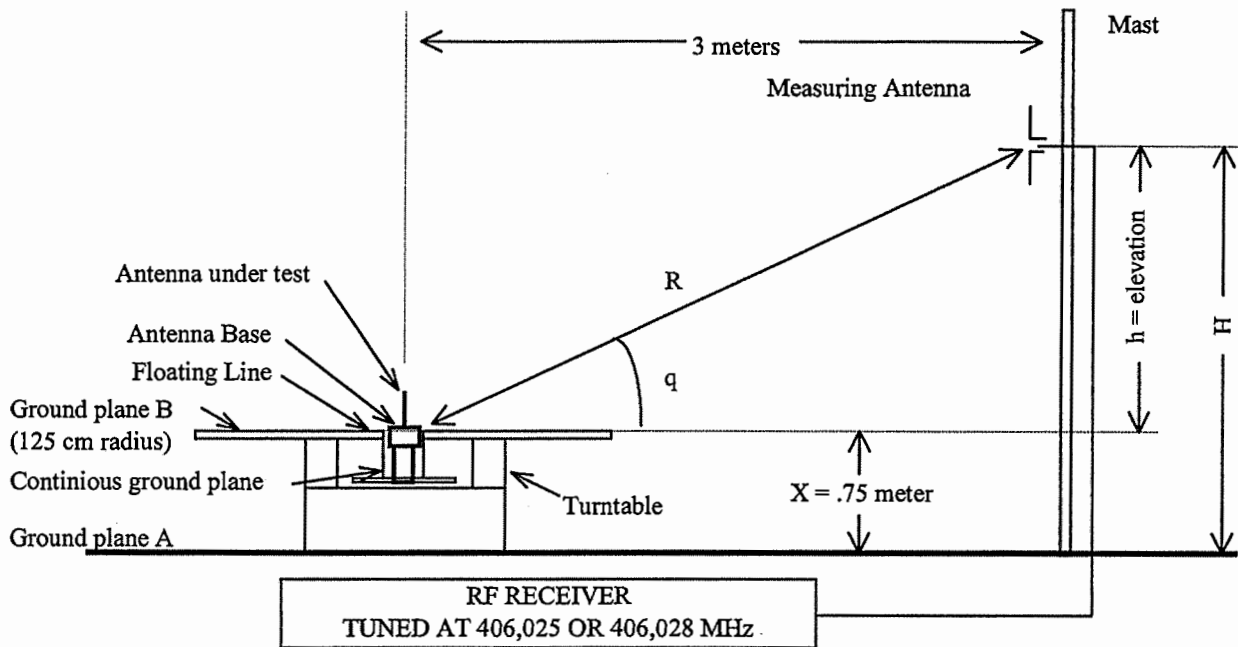


FIGURE B2c : Equipement Test Set Up For BEACON Antenna Test  
(For BEACON designed for normal operation in water, ex: EPIRB)

## 5 - TEST METHOD

The test method describes here after, according to "C/S T 007 - Issue 3 -Revision 9 - October 2002 " test sequences is executed for 406 MHz frequency .

Following measurements are performed :

- 1/ Electrical ground plane of 1.25 m of radius is placed at flotation level of the beacon.
- 2/ EPIRB transmitting antenna polarization is determined prior to test.
- 3/ Determination of E field strength in term of  $\text{dB}\mu\text{V}/\text{m}$  at 3 m far from the EPIRB for all direction ( $0^\circ$  to  $360^\circ$  by step of  $30^\circ$ ) and for search antenna elevation ( $10^\circ$  to  $50^\circ$ ). Search antenna is left in vertical and horizontal position for all elevations . Length of search antenna is adjusted to proper  $1/2 \lambda$  conditions .
- 4/ An ERP (Equivalent Radiated Power) from the PLB is calculated
- 5/ ERP is corrected with  $\text{ERP}_{\text{Loss}}$  factor (end of life factor)
- 6/ Actual ERP are compared to specified ERP to be in the range 1.6 W to 20 W (+ 32 dBm to + 43 dBm).

## 6 - TESTS EQUIPMENTS

### 6.1. SEARCH ANTENNA

- 406 MHz test : EMCO Ref 3121 C- DB4 Dipole antenna
- Serial number : S/N 9109-763
- Calibration validity : juin-02

### 6.2. SPECTRUM ANALYSER

- R/S ESMI

### 6.3. CABLES

- 20 m cable SUCOFLEX type 100 - cable loss at 406 MHz is : 3,5 dB

## 7 - TESTS OPERATIONS

### 7.1. EMISSION FIELD STRENGTH FROM EPIRB

The electrical field intensity is measured with the following antenna :

- EMCO 3121 C - DB4 - SN- 763

EPIRB electric field strength is obtained from measurement of the output voltage (dB $\mu$ V RMS) at antenna port (typical set up are shown figure N° 3 for 406 MHz) and computed with following parameters :

- Antenna factor of search antenna AF in dB (manufacturer calibration)
- Directivity factor of the antenna Dm in dB (Theoretical directivity shown paragraph B-5-4 of C/S T007) as :

$$D_m = 20 \log [ \cos (90 \times \sin q) / \cos q ]$$

- Cable loss L = 3,5 dB at 406 MHz

DF : distance factor in dB - To calculate field at a constant distance (3 m) from EPIRB due to the elevation of the search antenna.

- Power correction factor : end of life correction factor ERP<sub>Loss</sub> is calculated from the difference between RF power measured during test and end of life power after 24 hours operation at min. Temp. This factor is applied to correct ERP as shown on final test result table
- The measurements are performed on the carrier signal, just before to apply the modulation.
- The effective field strength at 3 m from EPIRB is computed from :

$$E_{dB\mu V/m} = U_{dB\mu V} + AF + L + DF$$

Where :  $U_{dB\mu V} = 20 \log (\text{Cor}V_v^2 + V_h^2)^{1/2}$

CorVv = Induced voltage with search antenna in vertical polar corrected by Dm

Vh = Induced voltage with search antenna in horizontal polar



**7.2. POWER CORRECTION FACTORS**
**EOL factor**

TEST FREQUENCY	RF Power measured at Ambient Temp. Test	RF Power measured at the end of Operating Lifetime Test	Loss Factor ERP <sub>LOSS</sub>
406 MHz	36,1 dBm	36,6 dBm	-0,5 dB

The ERP<sub>LOSS</sub> loss factor is rounded to : 0,0 dB

**8 - RADIATED POWER CALCULATIONS**
**8.1. EFFECTIVE RADIATED POWER OF EPIRB**

ERP of EPIRB is directly calculated from equation :

$$ERP = E^2 \times D^2 / 30$$

$$ERP = W$$

$$E = V/m$$

$$D = m$$

Results shown in table N° C1 are given in dBm where :

$$ERP \text{ dBm} = 10 \log (ERP \text{ W}) + 30$$

and apparent antenna gain :

$$GidB = ERPdBm - RF \text{ PowerdBm}$$

**9 - SUCCESS CRITERIA**

90% of EPIRB measurements must be equal or greater than 1,6 W ERP (32 dBm) .  
 and less than 20 W ERP (43 dBm)

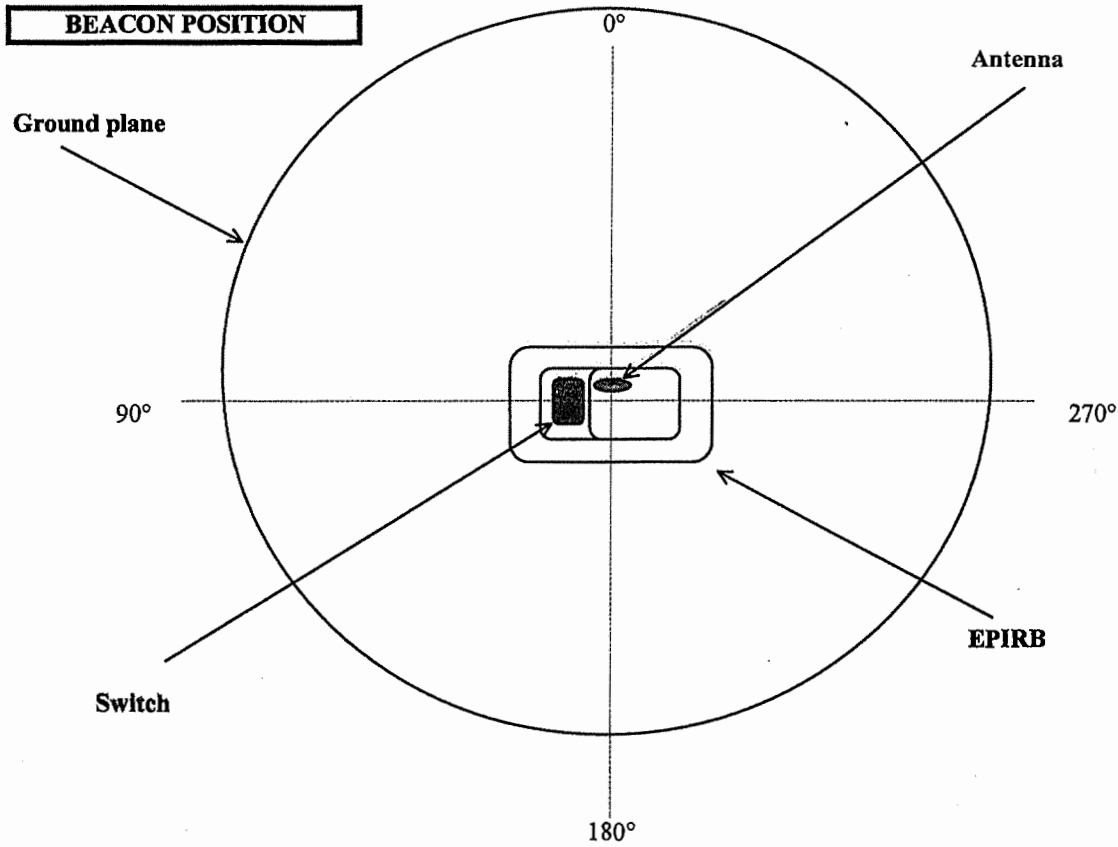
**10 - EPIRB ANTENNA POLARIZATION**

EPIRB antenna polarization is checked according to C/S T007 procedure paragraph B9 EPIRB antenna polarization is declared vertical when measurement obtained with vertical polarization search antenna are 10 dB greater or more than measurement obtained with

Antenna model	Angle Azi / Elev	Vertical measurement dB $\mu$ V	Horizontal measurement dB $\mu$ V	$\Delta$	Antenna Polarization
	0°/10°	109,9	79,3	30,5	Vertical

**11 - EPIRB MECHANICAL SET UP**

EPIRB 0°axis is identified with 0° azimuth direction of turn table .  
Antenna is the center of rotation of azimuth angle.



NOT TO SCALE

**12 - RESULTS**

Test frequency	Polarization	Reference ERP	Measurement ERP
406 MHz	Vertical	1.6 W < ERP Ref < 20 W 32 dBm < ERP Ref < 43 dBm	According table C1

**CONCLUSIONS**

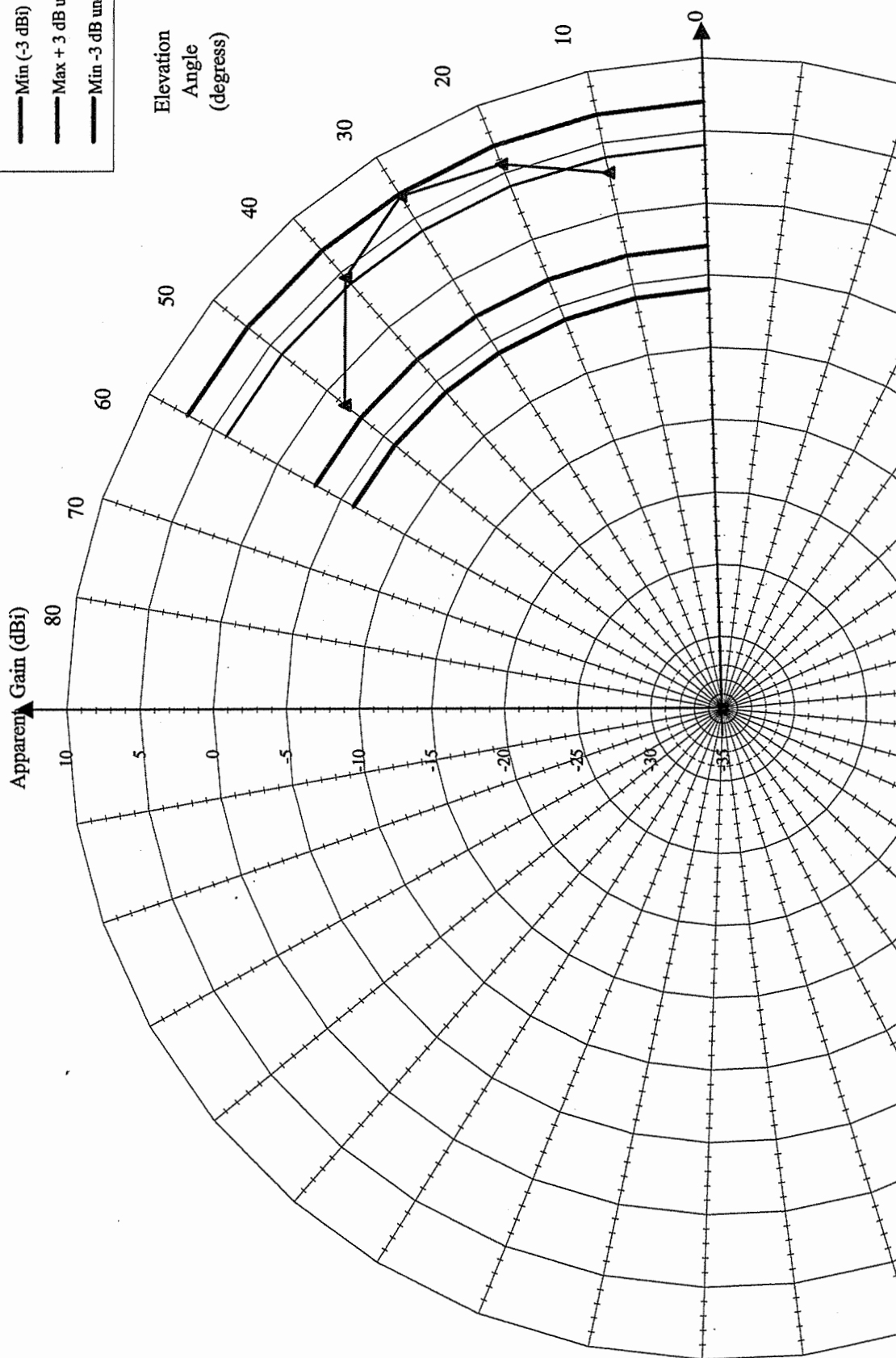
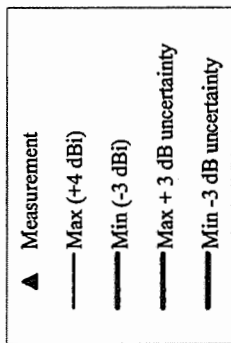
The ERP Beacon is just in the ERP reference.

**Table C1 : EFFECTIVE RADIATED POWER (dBm) / ANTENNA GAIN (dBi)**

Azimuth Angle (Degrees)	Elevation Angle (Degrees)									
	10		20		30		40		50	
	dBm	dBi	dBm	dBi	dBm	dBi	dBm	dBi	dBm	dBi
0	39,27	3,17	41,76	5,66	43,08	6,98	40,75	4,65	34,37	-1,73
30	39,10	3,00	41,93	5,83	43,11	7,01	40,75	4,65	34,75	-1,35
60	38,77	2,67	41,92	5,82	43,11	7,01	40,76	4,66	34,56	-1,54
90	38,77	2,67	41,76	5,66	42,95	6,85	40,59	4,49	34,59	-1,51
120	38,77	2,67	41,77	5,67	42,95	6,85	40,75	4,65	34,70	-1,40
150	38,93	2,83	41,76	5,66	42,95	6,85	40,75	4,65	34,99	-1,11
180	39,27	3,17	41,76	5,66	42,79	6,69	40,75	4,65	34,98	-1,12
210	39,11	3,01	41,60	5,50	42,78	6,68	40,58	4,48	34,69	-1,41
240	39,27	3,17	41,76	5,66	42,78	6,68	40,42	4,32	34,36	-1,74
270	39,10	3,00	41,59	5,49	42,78	6,68	40,25	4,15	34,14	-1,96
300	38,94	2,84	41,60	5,50	42,95	6,85	40,58	4,48	34,06	-2,04
330	38,93	2,83	41,92	5,82	43,11	7,01	40,75	4,65	34,15	-1,95
<b>Average</b>	39,02	2,92	41,76	5,66	42,94	6,84	40,64	4,54	34,53	-1,57
<b>Overall Gain Variation</b>	0,50 dB		0,33 dB		0,33 dB		0,51 dB		0,93 dB	

$$ERP_{\max \text{ EOL}} = \text{MAX} [ERP_{\max} (ERP_{\max} - ERP_{\text{LOSS}})] = \text{MAX} ( 43,11 , 0,00 ) = 43,1 \text{ dBm}$$

$$ERP_{\min \text{ EOL}} = \text{MIN} [ERP_{\min} (ERP_{\min} - ERP_{\text{LOSS}})] = \text{MIN} ( 34,06 , 0,00 ) = 34,1 \text{ dBm}$$



Date : 26/03/2003

BALISE A 406 MHz Standard Communications MT400 S/N : C204

P2 P. pied d'ant à T°C min/24h : 36,6 dBm  
 P1 P. pied d'antenne à 22°C : 36,1 dBm  
 ERP(loss) P1-P2 : -0,5

Pertes du câble : 3,5

A.F. DIPOLE : 21

ANGLE D'ELEV.	Dm en dB	Df en dB
10	-0,19	0,13
20	-0,78	0,54
30	-1,76	1,25
40	-3,16	2,31
50	-5,05	3,84

$Df$  (Distance factor) =  $20 * \text{LOG}(1/\text{COS } A)$

$Dm$  (Directivity factor) =  $20 * \text{LOG}(\text{COS}(90 * \text{SIN } A) / \text{COS } A)$

$CV_{v,rec} = V_{v,rec} - Dm$   $V_{t,rec} = 20 \log((CV_{v,rec}^2 + V_{h,rec}^2)^{1/2})$

$E(\text{dB}\mu\text{V}/\text{m}) = U(\text{dB}\mu\text{V}) + AF + \text{Cable} + Df$

$E.R.P. (w) = (E^2(V/m) * R^2(m)) / 30$

$GAIN (dB) = E.R.P. (dBm) - Pt (dBm)$

Angle en °	Hauteur m	Affichage	Hauteur (m)	0,75
10	1,28	1,78	1,78	0,75
20	1,84	2,34	2,34	3
30	2,48	2,98	2,98	
40	3,27	3,77	3,77	
50	4,33	4,83	4,83	0,5

Hauteur = Hauteur plan de sol + Distance de mesure \* TAN(A)

CALCUL DU CHAMP

AZIMUTH (degrés)	ELEVATION ANGLE (degrés)																	
	10					20					30							
	$V_{v,rec}$	$Cor V_{v,rec}$	$V_{h,rec}$	Ecart	$V_{t,rec}$	Champ $\text{dB}\mu\text{V}/\text{m}$	$V_{v,rec}$	$Cor V_{v,rec}$	$V_{h,rec}$	Ecart	$V_{t,rec}$	Champ $\text{dB}\mu\text{V}/\text{m}$	$V_{v,rec}$	$Cor V_{v,rec}$	$V_{h,rec}$	Ecart	$V_{t,rec}$	Champ $\text{dB}\mu\text{V}/\text{m}$
0	109,7	109,9	79,3	30,5	109,9	134,5	111,2	111,9	79,0	32,9	112,0	137,0	111,3	113,1	85,7	27,4	111,3	138,3
30	109,5	109,7	80,5	29,2	109,7	134,3	111,3	112,1	83,2	28,9	112,1	137,2	111,3	113,1	82,0	31,1	111,3	138,3
60	109,2	109,4	75,7	33,7	109,4	134,0	111,3	112,1	80,5	31,6	112,1	137,2	111,3	113,1	82,2	30,9	111,3	138,3
90	109,2	109,4	78,2	31,2	109,4	134,0	111,2	111,9	79,2	32,8	112,0	137,0	111,2	112,9	82,8	30,1	111,2	138,2
120	109,2	109,4	80,3	29,0	109,4	134,0	111,2	111,9	82,7	29,3	112,0	137,0	111,2	112,9	84,8	28,1	111,2	138,2
150	109,3	109,5	80,7	28,9	109,5	134,2	111,2	111,9	81,5	30,4	112,0	137,0	111,2	112,9	84,8	28,1	111,2	138,2
180	109,7	109,9	81,0	28,9	109,9	134,5	111,2	111,9	78,3	33,6	112,0	137,0	111,0	112,8	86,5	26,3	111,0	138,0
210	109,5	109,7	83,7	26,0	109,7	134,3	111,0	111,8	82,7	29,1	111,8	136,8	111,0	112,8	84,7	28,1	111,0	138,0
240	109,7	109,9	80,5	29,4	109,9	134,5	111,2	111,9	79,3	32,6	112,0	137,0	111,0	112,8	85,7	27,1	111,0	138,0
270	109,5	109,7	79,0	30,7	109,7	134,3	111,0	111,8	78,8	32,9	111,8	136,8	111,0	112,8	85,7	27,1	111,0	138,0
300	109,3	109,5	84,7	24,9	109,5	134,2	111,0	111,8	83,5	28,3	111,8	136,8	111,2	112,9	85,0	27,9	111,2	138,2
330	109,3	109,5	79,0	30,5	109,5	134,2	111,3	112,1	82,0	30,1	112,1	137,2	111,3	113,1	86,5	26,6	111,3	138,3
360	109,7	109,9	79,3	30,5	109,9	134,5	111,2	111,9	79,3	32,6	112,0	137,0	111,5	113,3	85,7	27,6	111,5	138,5
Champ moyen	109,4	109,6	80,1	29,5	109,6	134,3	111,2	111,9	80,8	31,2	111,9	137,0	111,2	113,0	84,8	28,2	111,2	138,2

AZIMUTH (degrés)	40							50							
	Tension dBμV				Champ dBμV/m			Tension dBμV				Champ dBμV/m			
	V <sub>Vrec</sub>	Cor V <sub>Vrec</sub>	V <sub>hrec</sub>	Ecart	V <sub>trec</sub>	V <sub>Vrec</sub>	Cor V <sub>Vrec</sub>	V <sub>hrec</sub>	Ecart	V <sub>trec</sub>	V <sub>Vrec</sub>	Cor V <sub>Vrec</sub>	V <sub>hrec</sub>	Ecart	V <sub>trec</sub>
0	106,0	109,2	76,3	32,8	109,2	136,0	101,1	88,0	13,1	101,3	96,0	101,1	88,0	13,1	101,3
30	106,0	109,2	78,0	31,2	109,2	136,0	101,4	89,2	12,2	101,6	96,3	101,4	89,2	12,2	101,6
60	106,0	109,2	82,7	26,5	109,2	136,0	101,1	90,8	10,2	101,4	96,0	101,1	90,8	10,2	101,4
90	105,8	109,0	81,3	27,7	109,0	135,8	101,1	91,2	10,5	101,5	96,0	101,1	91,2	10,5	101,5
120	106,0	109,2	77,5	31,7	109,2	136,0	101,2	90,7	10,6	101,6	96,2	101,2	90,7	10,6	101,6
150	106,0	109,2	77,5	31,7	109,2	136,0	101,6	90,5	11,1	101,9	96,5	101,6	90,5	11,1	101,9
180	106,0	109,2	76,3	32,8	109,2	136,0	101,6	90,3	11,2	101,9	96,5	101,6	90,3	11,2	101,9
210	105,8	109,0	76,7	32,3	109,0	135,8	101,2	90,5	10,7	101,6	96,2	101,2	90,5	10,7	101,6
240	105,7	108,8	75,5	33,3	108,8	135,7	100,9	90,3	10,6	101,2	95,8	100,9	90,3	10,6	101,2
270	105,5	108,7	72,8	35,8	108,7	135,5	100,7	89,3	11,4	101,0	95,7	100,7	89,3	11,4	101,0
300	105,8	109,0	64,2	44,8	109,0	135,8	100,7	88,0	12,7	100,9	95,7	100,7	88,0	12,7	100,9
330	106,0	109,2	72,8	36,3	109,2	136,0	100,9	86,5	14,4	101,0	95,8	100,9	86,5	14,4	101,0
360	106,0	109,2	76,0	33,2	109,2	136,0	101,2	88,0	13,2	101,4	96,2	101,2	88,0	13,2	101,4
Champ moyen	105,9	109,1	76,0	33,1	109,1	135,9	101,1	89,5	11,6	101,4	96,1	101,1	89,5	11,6	101,4

**ANNEX B**

**MANUFACTURER DOCUMENTATION ON  
MT400 STANDARD COMMUNICATIONS PTY. LTD. EPIRB**

## ANNEX C

APPLICATION FOR A COSPAS-SARSAT 406 MHz  
BEACON TYPE APPROVAL CERTIFICATEBeacon Manufacturer: STANDARD COMMUNICATIONS PTY. LTD.Beacon Model: MT400Name and Location of Beacon Test Facility: INTESPACE, Toulouse (France)Beacon Type: Aviation:  Land:  Maritime: Specified Operating Temperature Range: -20 °C to +55 °CSpecified Operating Lifetime: 24 hr.  48 hr.  Other  Specify: 

## Beacon Battery Type(s):

Chemistry: LITHIUM SULPHUR DIOXIDE (LiSO2)Manufacturer & model no.: SAFT, LO 26 SXSize & number of cells: D SIZE (R20-D), QUANTITY TWO (2)

Extra Features in Beacon:	No	Yes	Details
a) Auxiliary Radio-Locating Device:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Frequency: <u>121.5 MHz</u> Power: <u>16dBm (E.R.P.)</u> Tx. Duty Cycle: <u>Continuous (&gt;96%)</u>
b) Transmits Encoded Position Data:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Nav. Device (Internal or External) _____ Type (GPS, GLONASS, etc.) _____ Manufacturer _____ Model _____
c) Transmits Long Message (144 bits):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
d) Automatic Activation:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
e) Built-in Strobe Light:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Intensity: <u>&gt;0.75cd (IMO effective)</u> Flash rate: <u>21/min</u>
f) Self-test mode	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
g) Other:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Specify: <u>Audible Annunciator</u>

I hereby confirm that the 406 MHz 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.

Dated:..... Signed:.....

*(for test facility)*

Send to: Cospas-Sarsat Secretariat c/o Inmarsat, 99 City Road, London EC1Y 1AX, United Kingdom