CHAPTER 2

INITIAL ALIVENESS TEST

2.1. TEST SPECIFICATIONS AND SEQUENCE

Following :
- Section A2.1 of C/S T. 007 standard ;
- Section A1.0 of RTCM 76-2002/SC110-STD

• Measurements at ambient temperature :
- Transmitter power output,
- Digital Message,
- Digital Message Generator,
- Modulation,
- Transmitted frequency ,
- Spurious output,
- VSWR check,
- Self-test mode

2.2. EQUIPMENT UNDER TEST

Beacon Unit	:	1/2 (with 50 ohm output)	2/2 (normally fitted)
Name	:	MARTEC / KANNAD	MARTEC / KANNAD
Type	:	XS3-GPS	XS3-GPS
Number	:	UT1	UT2

2.3 TEST SITE

INTESPACE - AP/ET.

2.4. TEST EQUIPMENT

• Argos - Cospas/Sarsat Test Bench.

2.5. RESULTS

. For the UUT1 one C/S T.007 Electrical and Functional Test at 55° C has been done and for the UUT2 one Self Test has been checked

Aliveness Test results at 22°C Date of test : 11-sept-2007

Beacon Unit :: 1/2 (with 50 ohm output)
Manufacturer : MARTEC / KANNAD
Beacon Type : XS3-GPS
Nimber : UT1 aliveness

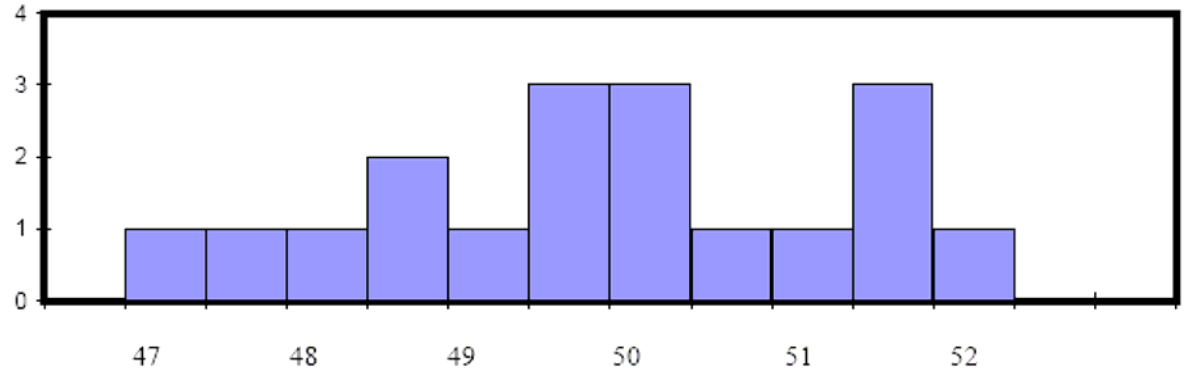
Message

Message received		FFFE2F8E3E2293E02B8036AFFAF78E01324C	
Format Flag	25	1	
Protocol flag	26	0	
Ident./Position code	27-85		
Country Code/Country	27-36	227 / FRANCE	
Protocol Code : U/Std-Nat	37-39/37-40	1110	
Protocol Code Used	37-39/37-40	Test-Standard Location	
Identification Data	40-85/41-64/41-58		
Identification Used			
Calculated BCH1	25-85	1ABFEB	
Encoded BCH1	86-106	1ABFEB	
Homing	112	1	
Em.cod/nat.use/supp.data	107-112	110111	
Encod pos data	111	1	Internal
Fixed Data "1"	108	1	OK
Calculated BCH2	107-132	24C	
Encoded BCH2	133-144	24C	
Latitude position		North 43° 33' 32"	
Longitude position		East 1° 28' 48"	
Delta position < 0,5 km		0,196 km	

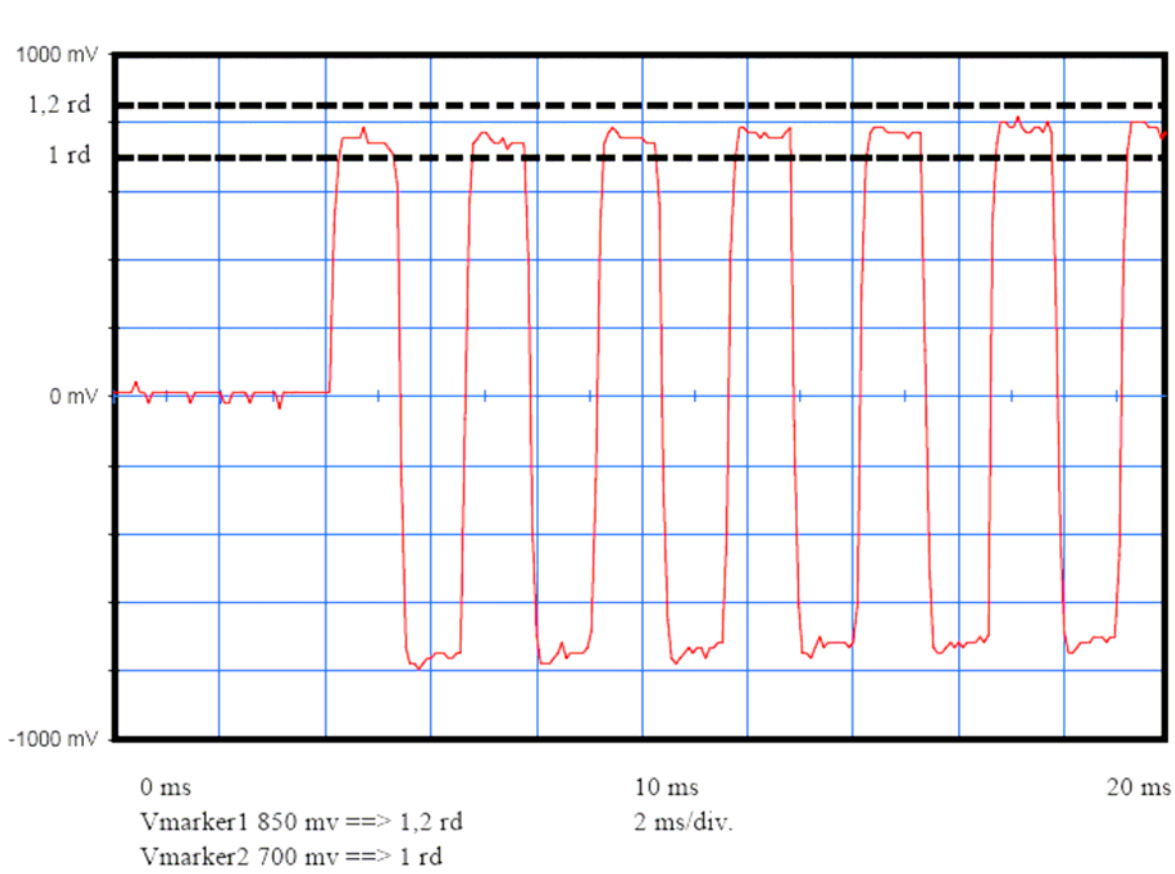
Electrical and other parameters

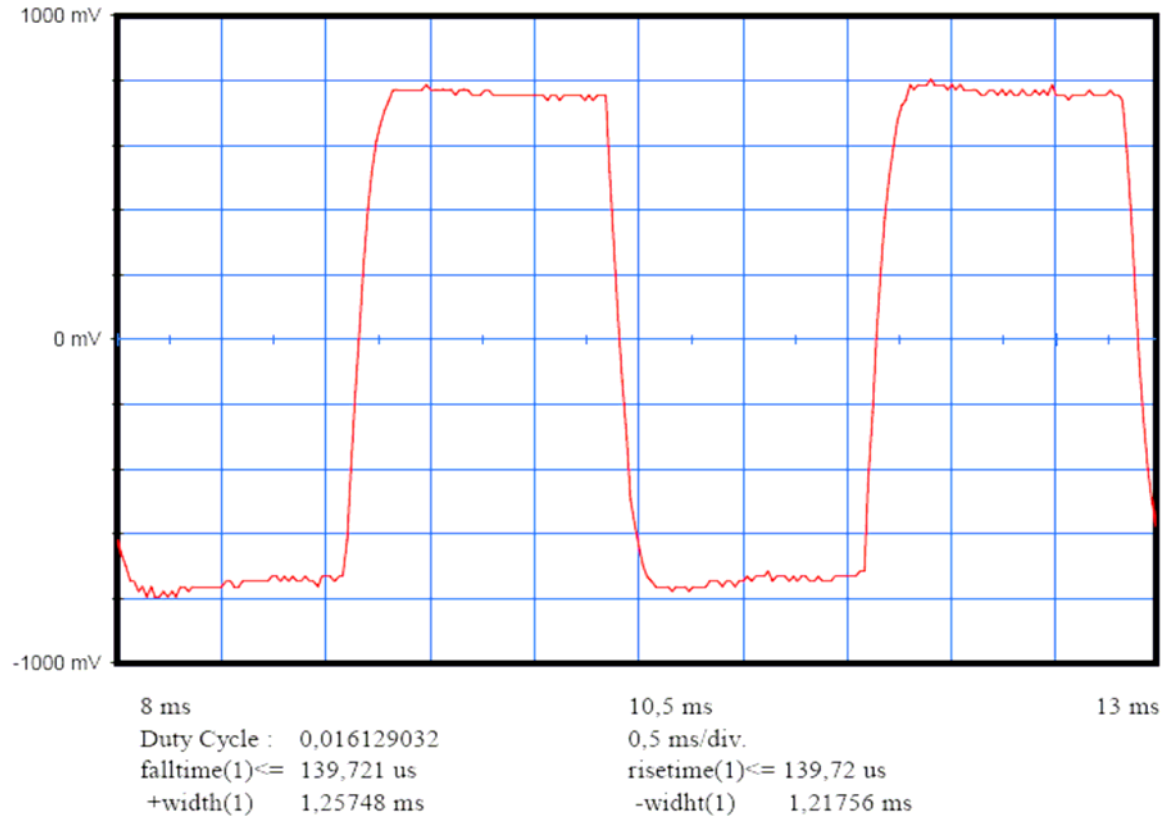
	ms 158,4		
CW preamble	<	< 161,6	160,42
Total transmission time	ms 514,8 <	<525,2	519,62
Modulation frequency	Hz 396<	< 404	401,49
Phase deviation : total	rd	<=2,40	2,15
Phase deviation : positive	rd 1,00 <	< 1,20	1,07
Phase deviation : negative	rd -1,20 <	< -1,00	-1,08
Symmetry measurement	%	<=5 %	1,61
Nominal frequency : F2	Hz		406027789,86
Short term2			8,73E-11
Short term3			1,21E-10
Slope			5,96E-11
Residual			9,21E-11
406 MHz power output	dBm		35,3
Homing frequency	MHz		121,50
121,5 MHz power output	dBm		16,8
Soak temperature	°C		23,8
Extra feature			No
First Burst Delay	> 47,5 sec		> 50 sec

Repetition period

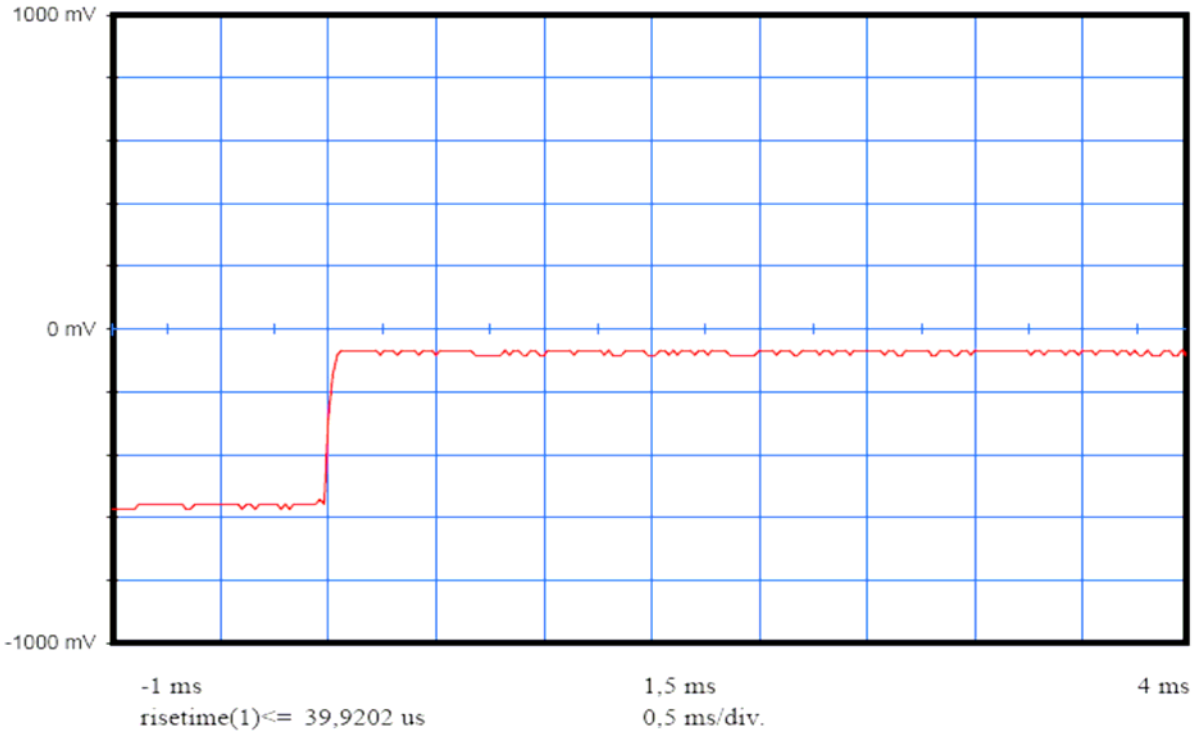


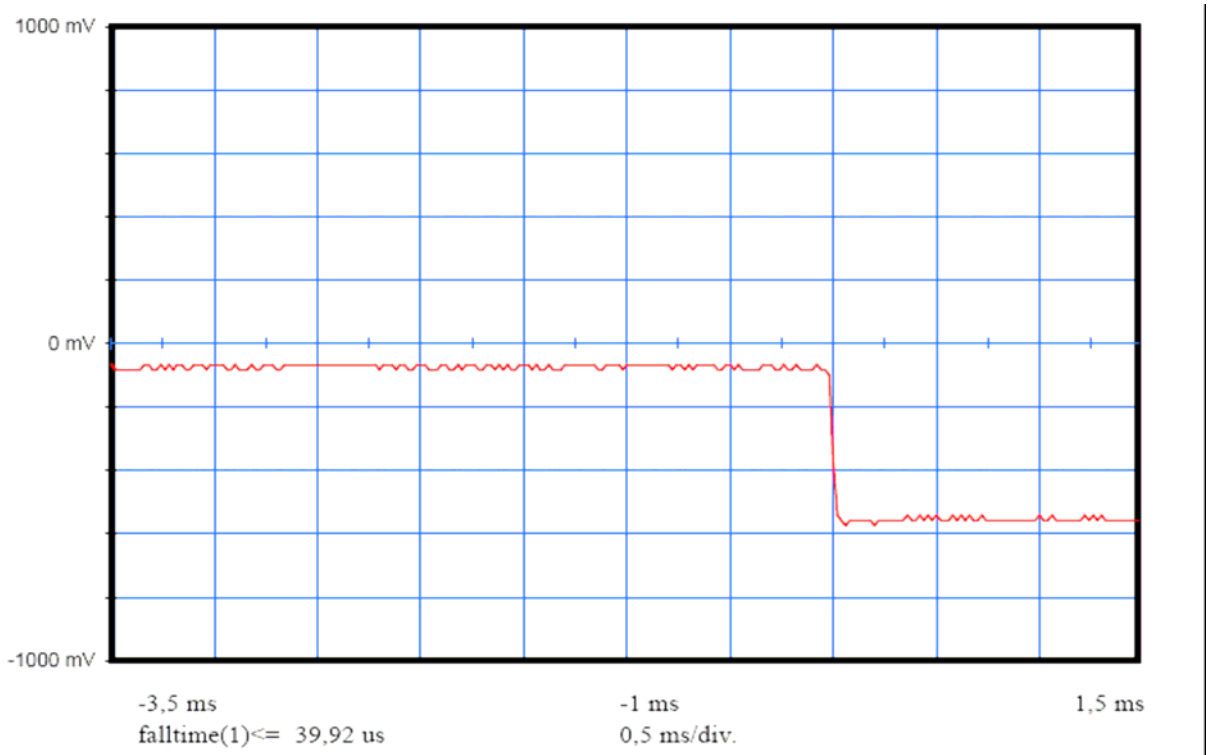
Phase modulation

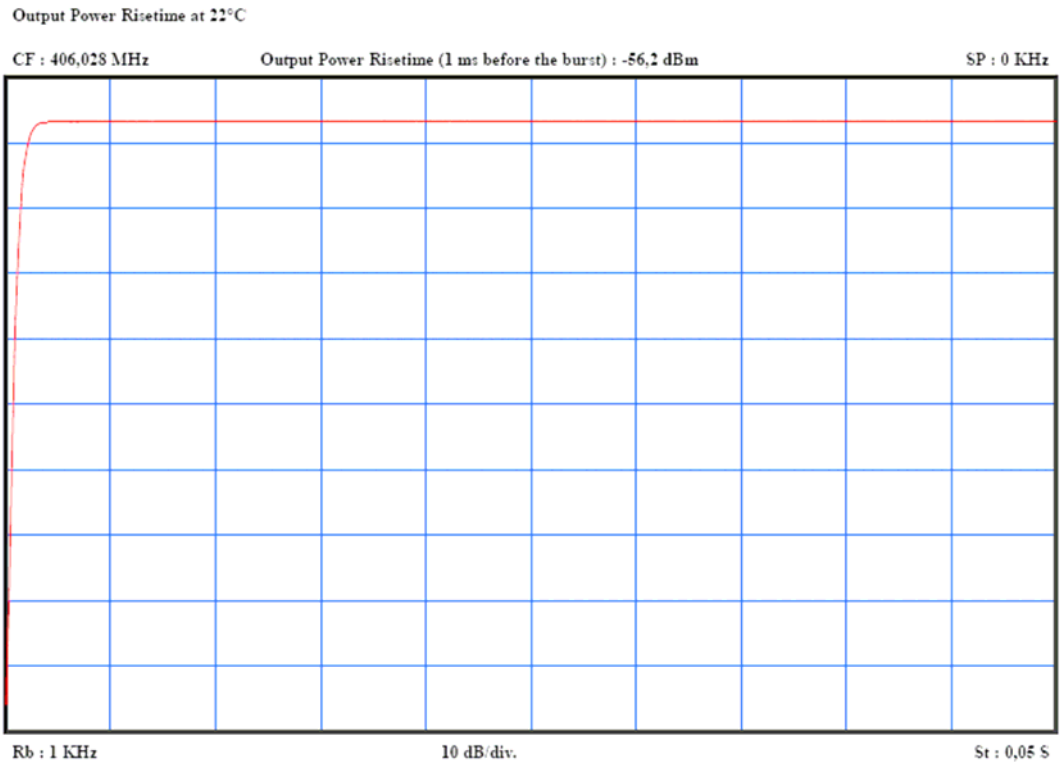




406 MHz Power risetime and falltime




1000 mV
0 mV
-1000 mV
-3,5 ms
-1 ms
1,5 ms
falltime(1)<= 39,92 us
0,5 ms/div.


Output Power Risetime at 22°C
CF : 406,028 MHz
Output Power Risetime (1 ms before the burst) : -56,2 dBm
SP : 0 KHz
Rb : 1 KHz
10 dB/div.
St : 0,05 S

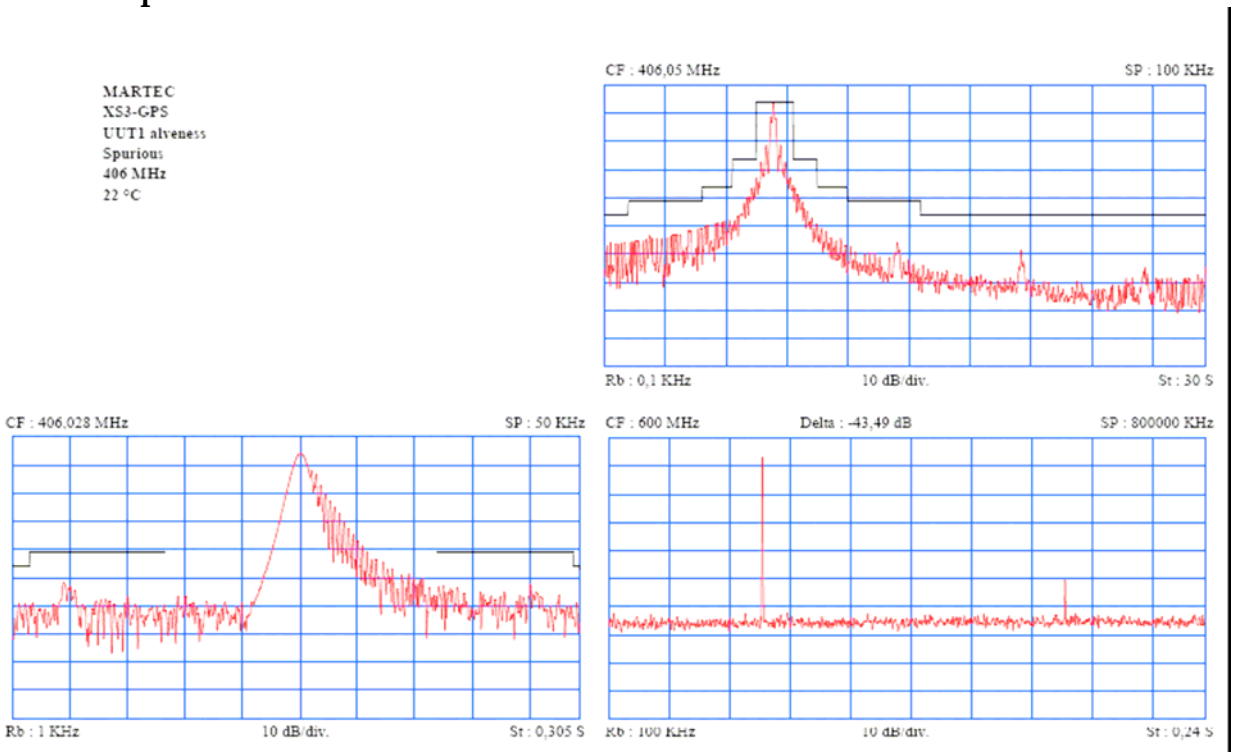
SELF-TEST MODE CONTROL ON
MARTEC
XS3-GPS
N° UT1 aliveness
at 22° C

Message at 22°C

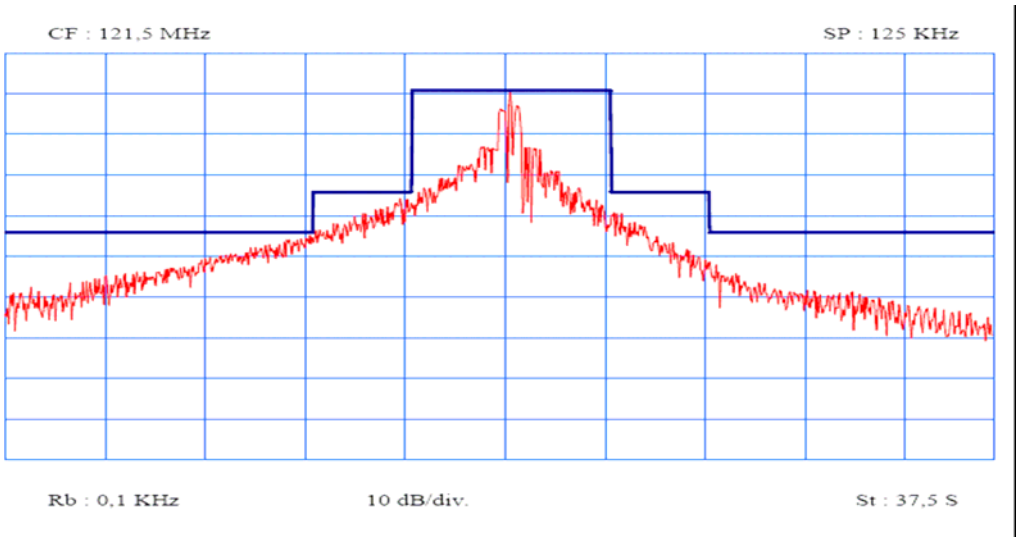
Manufacturer	MARTEC
Beacon model	XS3-GPS
Serial number	UUT1
Date of test	11-sept-07
Temperature	22,9
Message received	FFFED08E3E2293E07FDFFDF6D23783E0F66C
Frame synchro. pattern	011010000

Total transmission time	ms	514.8<	<525.2	519,40

406 MHz Spurious Emission



121.5 MHz Spurious Emission



SelfTest results at 22°C

Date of test : 11-sept-2007

Beacon Unit : 2/2 (normally fitted)
Manufacturer : MARTEC / KANNAD
Beacon Type : XS3-GPS
Number : UT2 aliveness

Message

Message received		FFFED08E3E2293E07FDFFDF6D23783E0F66C
Format Flag	25	1
Protocol flag	26	0
Ident./Position code	27-85	
Country Code/Country	27-36	227 / FRANCE
Protocol Code : U/Std-Nat	37-39/37-40	1110
Protocol Code Used	37-39/37-40	Test-Standard Location
Identification Data	40-85/41-64/41-58	
Identification Used		
Calculated BCH1	25-85	17DB48
Encoded BCH1	86-106	17DB48
Homing	112	1
Em.cod/nat.use/supp.data	107-112	110111
Encod pos data	111	1 Internal
Fixed Data "1"	108	1 OK
Calculated BCH2	107-132	24C
Encoded BCH2	133-144	24C
Latitude position		Default pos.
Longitude position		Default pos.
Delta position < 0,5 km		Default pos.
Frame synchro. pattern		011010000
Total transmission time (ms)		519.39