
	<p>Manufacturer : MARTEC. B e a c o n M o d e l : Kannad Auto/Auto GPS/Manual/Manual GPS/Manual+/Manual+ GPS</p>	<p>INTESPACE Reference E6668-RTCM</p>
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CHAPTER 3

DRY HEAT TEST

	<p align="center">Manufacturer : MARTEC. B e a c o n M o d e l : Kannad Auto/Auto GPS/Manual/Manual GPS/Manual+/Manual+ GPS</p>	<p align="center">INTESPACE Reference E6668-RTCM</p>
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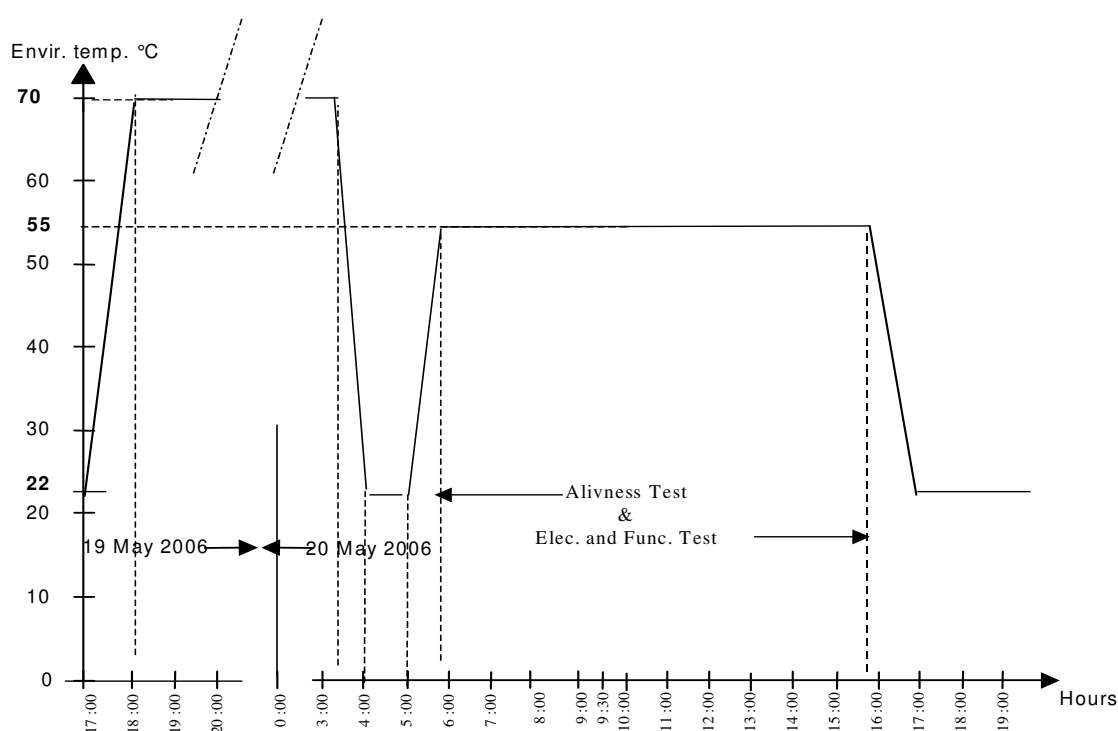
3.1. TEST SPECIFICATIONS AND SEQUENCE

Following :

- Section A2.1 of C/S T. 007 standard ;
- Section A3.0 of RTCM Recommended Standards for 406 MHz Satellite EPIRBs (Version 2.1 June 20, 2002)

We have used also Intespace Radiobeacon Test Procedure N° 553/AP/QA/f : Essai de Chaleur Sèche


3.1.1 DRY HEAT CYCLE PROGRAMME



3.1.2 MEASUREMENTS AT + 55° C :

- Transmitter power output,
- Digital Message,
- Digital Message Generator,
- Modulation,
- Transmitted frequency ,
- Spurious output,

3.2. EQUIPMENT UNDER TEST

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Beacon Unit : UUT 6 and UUT7
Name : MARTEC
Type : KANNAD Auto / Auto GPS
Number : 61592 (06) & 38169 (07)

Bracket : Container Martec Kannad Auto P/N 5104373

3.3 TEST SITE

Toulouse Space Center (CST) - INTESPACE - AP/ET.


3.4. TEST EQUIPMENT

- Climatic chamber : CLIMATS F.C.H. – Type: Austral 137H60/1,5E - S/N: S4880.
- KEITHLEY thermometer/multimeter ,Type : 2000, S/N 0678112 with CU-CT thermocouple.
- Argos - Cospas/Sarsat Test Bench.

3.5. RESULTS

ALIVENESS TEST RESULTS

See graphs and data next pages

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Laboratoire de certification
Balise COSPAS/SARSAT

Constructeur : MARTEC
Modele : TOPAZE
Numero de serie : 61592 UUT6 (Dry Heat Test)
Reference : E6668-5
Type : SARSAT

température corrigée : 54.31

Type de certification : Nominal
Date des mesures : 20 May 2006 11:32:59
Temperature de palier : 55 ±C
Temperature lue : 54.31 ±C

Message balise

Message reçu (1-144): FFFED08E3F3C261FC0FF001367769F3C0672
Format flag (25): 1
Protocole flag (26): 0
Code pays (27-36): 0227
Pays : FRANCE
Code protocole (37-40): 1111
Protocole utilise : National - Test
Identification :
Numero : 61592
BCH 1 lu/calculé (86-106/25-85): 00409D/00409D
BCH 2 lu/calculé (133-144/107-132): 672/672
Pos. Data Source (111): Internal
121.5 MHz Homing (112): No
Additional Data Pos. (110): delta Pos.
Position GPS de reference lab : N 43°33'34'' E 1°28'42
Position GPS : Yes
Position GPS par défaut : Yes

Contrôles du message

160.600758
160.600422
160.598602
160.598612
160.602334
160.601006
160.600624
160.59913
160.597846
160.597766
160.596752
160.597996
160.598686
160.601616
160.598566
160.599014
160.600902
160.597666

Durée de la porteuse pure	mS	158.4<	<161.6	160.60 +- 0.00
Durée minimale				160.60
Durée maximale				160.60
Durée de l'émission	mS	616.8<	<626.2	620.32



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INTESPACE Reference

E6668-RTCM

Frequence des bits

400.62666
400.62617
400.62442
400.6283
400.63926
400.63536
400.63954
400.62959
400.63694
400.64197
400.63554
400.63931
400.63024
400.64634
400.64087
400.64011
400.63974
400.64123

Frequence de modulation Hz 396.0 < 404.0 400.64 +- 0.00

Mesures d'indice

Excursion de phase totale rd <= 2.40 2.15
Excursion de phase positive rd 0.00 < 1.20 1.05
Excursion de phase negative rd -1.20 < -0.00 -1.09
Symetrie de l'excursion % <= 5 1.55

Stabilite de frequence

F1	F2	F3
49881.51	49881.50	49881.52
49881.05	49881.07	49881.08
49881.24	49881.25	49881.30
49881.62	49881.59	49881.67
49881.75	49881.72	49881.82
49881.97	49881.95	49881.93
49882.06	49882.07	49882.14
49882.26	49882.26	49882.25
49882.39	49882.42	49882.41
49882.60	49882.57	49882.57
49882.66	49882.69	49882.74
49882.83	49882.85	49882.89
49882.96	49882.95	49882.92
49883.11	49883.18	49883.20
49883.23	49883.34	49883.31
49883.31	49883.44	49883.40
49883.50	49883.56	49883.51
49883.61	49883.72	49883.62

Frequence moyenne F2 Hz 406027882.45
SIGMA2 F2-F1 9.621E-11
SIGMA3 F3-F2 8.514E-11
Slope min. -1E-9 < 1E-9 4.518E-10
Residual frequency variation <= 3E-9 2.814E-10



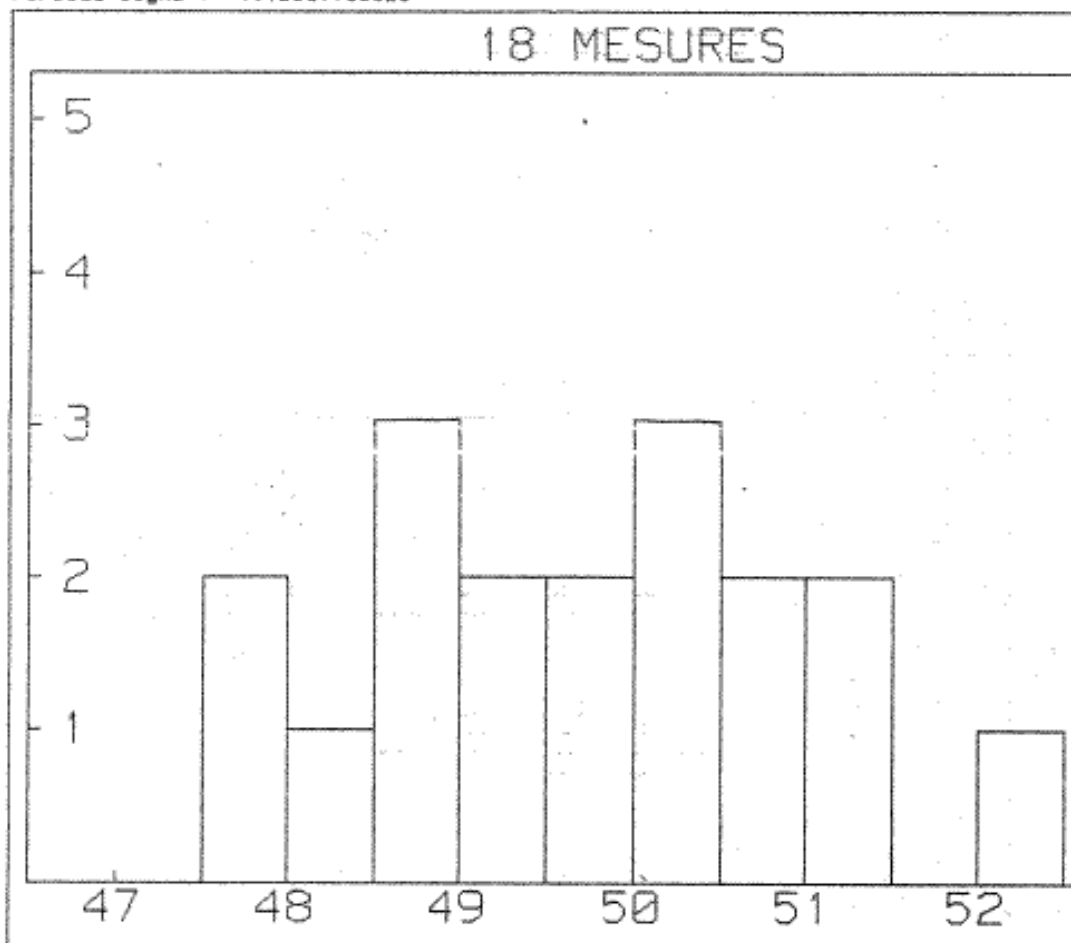
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INTESPACE Reference
E6668-RTCM

Recurrence des emissions

49.4409790039
49.7610168457
52.174987793
49.1110229492
48.9199829102
48.9710083008
50.8729858398
48.3290100098
51.2640075684
48.9809875488
49.7610168457
50.0219726563
47.9999234375
51.0029907227
47.9989929199
50.0220031738
50.6730041504
50.0220031738

Periode Min : 47.9989929199
Periode Max : 52.174987793
Periode Moy : 49.7403886583
Periode Sigma : 1.12097190828





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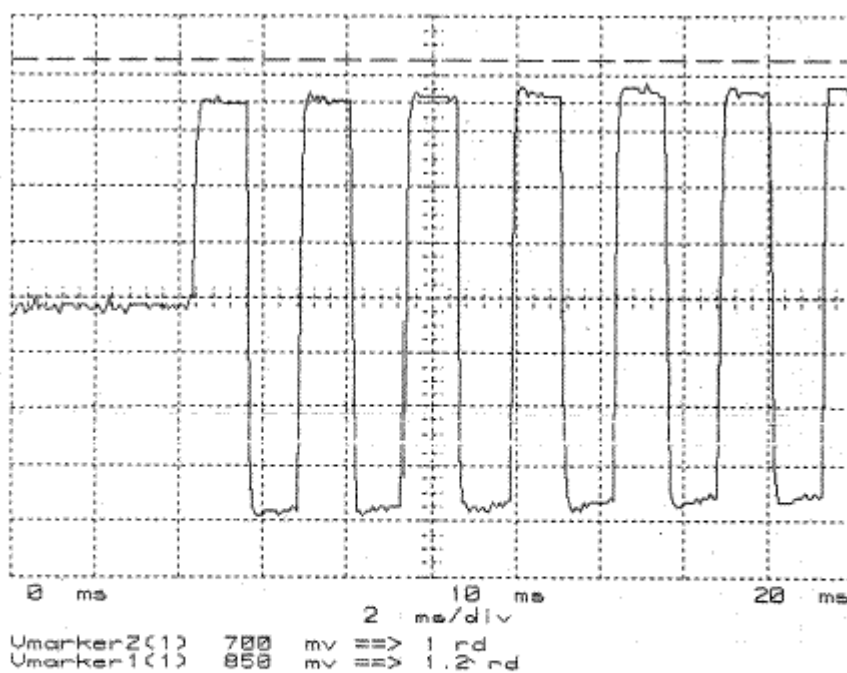
INTESPACE Reference
E6668-RTCM

Mesures de puissance

-24.19
-8.94
-5.94
-4.18
-2.97
-2.94
-2.95
-2.95
-2.95
-2.96
-2.96
-3.9
-5.5
-8.08
-15.35

Puissance emission a 406.028 MHz = 37.98 dBm

Oscilloscopes



DUTY CYCLE : 4.0E-06

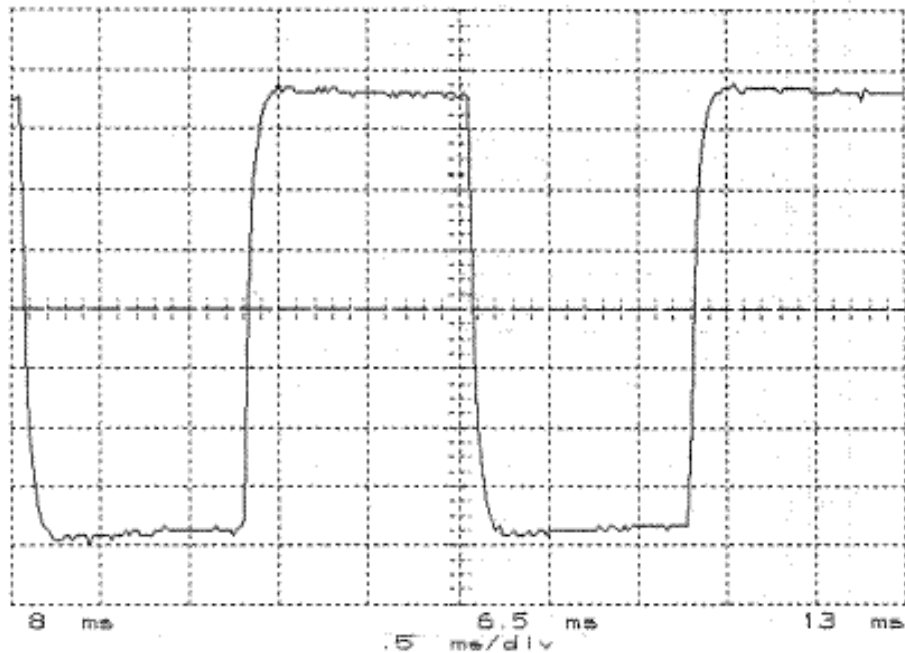


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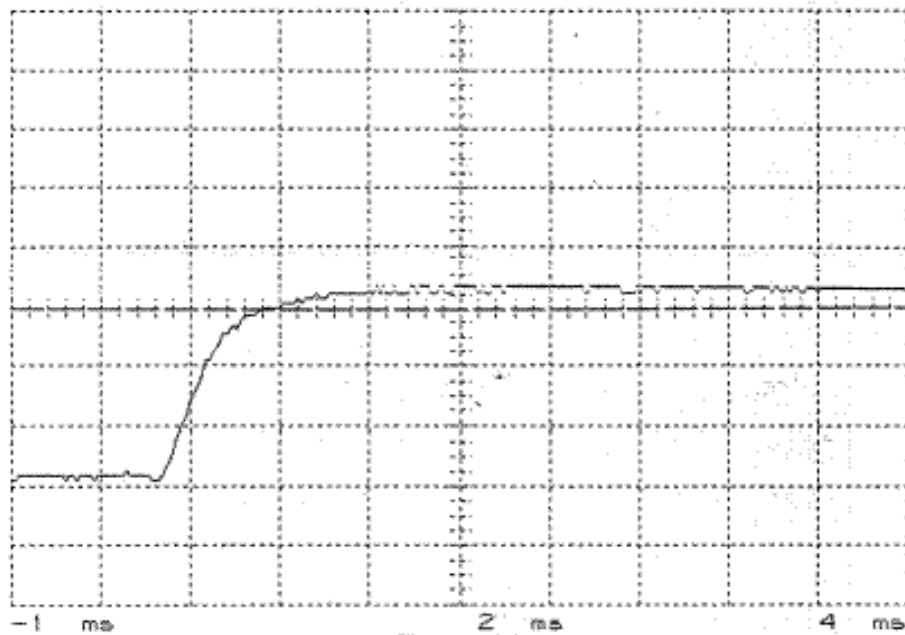
INTESPACE Reference

E6668-RTCM

DUTY CYCLE : 4.007999968E-6



falltime(1) <= 79.8484 us risetime(1) <= 89.8205
+width(1) 1.24751 ms -width(1) 1.2475



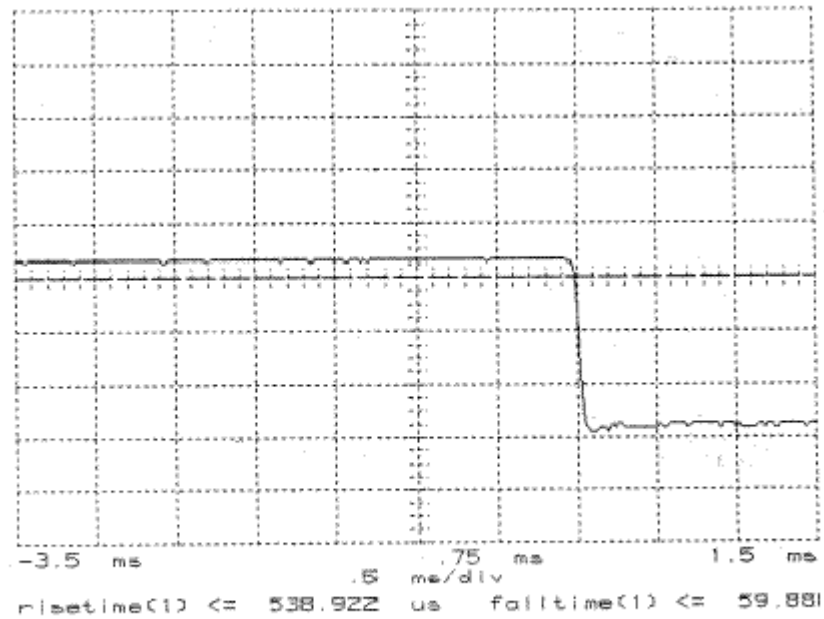
risetime(1) <= 538.922 us



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INTESPACE Reference

E6668-RTCM



Spurious

MARTEC
TOPAZE
61592 UUT6
20 May 2006
406 MHz
TEMP : 55°C

