Test Record Scanning Cover Sheet

Part Number 453-5061

Serial Number 04326

Date 10/13/2007

☐ DocType

Test Record Scanning Cover Sheet

****

SARTECH ARG5410 BEACON TESTER
TEST REPORT
THU 11 OCT 2007 14:33:18

****

Stored message number: 12
Time of beacon test: 14:24:2 11 Oct 2007

Carrier Frequency (406.025+/-0.005): 406.0278 MHz PASS

-----DIGITAL MESSAGE DECODING-----
Message framing/status (OK=no errors): NORMAL OK
BCH (Error check on bits 25-85): 060552 VALID
30-HEX Long Message ID (Bits 25-144): 96E421D0E67FDFF98154B583E0FAA8
(Bits 25-144 for long message)
Unique Identifier Number (Bits 26-85): 2DC843A1CCFFBFF
Country code (Bits 27-36): 366 USA
Message protocol: STD LOC
Beacon type: ELT + Ext GPS
Beacon identity: Ser # 4326
Type of homing used: 121.5MHz
Other information transmitted: C-S # 135
Long Mesg OK
Lat ******
Long ******

USER COMMENTS AND ADDITIONAL INFORMATION:

[redacted]

SIGNATURE

[redacted]

STAMP

PUBLIC

DATE	SYM	RELEASE	Auth.	DR	CK
07-14-03	-	RELEASE	AM	BL	TK
09-04-03	-	DCN 2272	AM	DF	TK
02-03-04	-	DCN 2349	DF	MJ	KN
07-14-06	-	DCN 2810	[redacted]		

ARTEX AIRCRAFT SUPPLIES, INC.
[redacted]

DRAWING NO: 1093

DATE: 07-14-03

APPROVED BY: [redacted]

REVISION: -

DESCRIPTION: **C406-N Series Manufacturing Outline**

PART NUMBER: 345-5060 REV: -

PCA SERIAL NUMBER: 81570- 152

PCA, CONTROLLER

G-SWITCH LOT #: 0703

STEP NO.	DEPT.	OPERATIONAL ACTIVITY	REF. DOC.	COMMENTS/ INSTRUCTIONS	REJECT	REWORK	ACCEPT	INITIAL STAMP	DATE
1.0	TEST	PCA TEST	4236 1166	APPLY PAL LABEL RECORD S/N			\	[redacted]	JUL 24 2007
2.0	TEST	BURN-IN	4237 1166				\	[redacted]	JUL 25 2007
3.0	ASSY	CONFORMAL COATING	4093				\	[redacted]	JUL 25 2007
4.0	STOCK	ENTER TO STOCK	N/A				\	[redacted]	JUL 25 2007

BASIC SUB ASSEMBLY

PART NUMBER: ☐ 452-5060 REV: ____
☑ 452-5061 REV: C

WORK ORDER: 84893
PCA SERIAL NUMBER: 81570-152
MODULE NUMBER: 200764
MODULE REVISION: —

1.0	ASSY	ASSEMBLE	452-5060 452-5061	ASSEMBLE			\	[redacted]	JUL 31 2007
2.0	TEST	SUB-ASSEMBLY TEST	4239 1166				\	[redacted]	AUG 14 2007
3.0	ASSY	COLD SOAK	4239 1166	INSTALL BATTERY 452-0133 AND TEST			\	[redacted]	AUG 15 '07
4.0	TEST	CENTRIFUGE TEST	4156 1166	RECORD ACTIVATION			\	[redacted]	AUG 15 '07

PUBLIC

REVISION RECORD "SEE SHEET ONE"	ARTEX AIRCRAFT SUPPLIES, INC. [redacted]	DRAWING NO: 1093
DESCRIPTION: C406-N Series Manufacturing Outline		REVISION: -

PART NUMBER:

☐ 453-5060 REV: ___
☒ 453-5061 REV: C

UNIT SERIAL NUMBER: 043216
WORK ORDER: 86517
BATTERY W.O.#: 86702
EXP. DATE: Jan / 2013

MAIN ASSEMBLY

STEP NO.	DEPT.	OPERATIONAL ACTIVITY	REF. DOC.	COMMENTS/ INSTRUCTIONS	REJECT	REWORK	ACCEPT	INITIAL STAMP	DATE
1.0	ASSY	FINAL ASSEMBLY	453-5060 453-5061	Assembly steps 1 - 9			1	[redacted]	10.10.07
2.0	PROG.	FINAL PROGRAMMING	4312 1166				1		OCT 11 2007
3.0	ASSY	FINAL ASSEMBLY	453-5060 453-5061	Assembly steps 12 – 16			1		OCT 11 2007
4.0	TEST	FINAL ACCEPTANCE TEST	4240 1166	FINAL ACCEPTANCE TEST			1		OCT 11 2007
5.0	QA	QA ACCEPTANCE INSPECTION	1166 4241				1		OCT 13 2007

CUSTOMER NAME: [redacted]

SALES ORDER NUMBER: 106275

DATE	SYM	RELEASE	Auth	DR	CK
04-20-04	A	DCN 2394	DQ	DF	BL
03-14-06	A	DCN 2734	WN	DF	MD
08-17-06	B	DCN 2843	WN	BL	DF
08-21-06	B	DCN 2851	WN	RJ	VN
06-26-07	B	DCN 3029	[redacted]		

ARTEX AIRCRAFT SUPPLIES, INC. [redacted]

DRAWING NO: 1166

DATE: 07-16-03

APPROVED BY: [redacted]

REVISION: B

DESCRIPTION:

C406-N Series Acceptance Test Record

ASSEMBLY: 345-5060 REV: -

PCA SERIAL NUMBER: 81570- 152

C406-N CONTROLLER BOARD TEST (4236)

5.3	Initialization	☑
5.4.1	7.7Vdc (± 0.2Vdc) 7.7 Vdc	
5.4.2	5.0Vdc (± 0.2Vdc) 5.1 Vdc	
5.4.3	On Current (9 ± 1mA) 9.5 mA	
5.4.4	Off Current (<1µA) .03 µA	
5.5.1	Verify Remote Switch	☑
5.5.2	Verify Local Switch	☑
5.5.3	G-Switch/Pulse non activated	☑
5.5.4	G-Switch/Pulse activated	☑
5.6.6	Reset (14.4 ± 0.5Vdc) 14.7 Vdc	
5.7.3	5.0Vdc (± 0.2Vdc) 5.1 Vdc	
5.7.4	5.0Vdc NAV (± 0.2Vdc) 5.0 Vdc	
5.7.5	-2.5Vdc (± 0.1Vdc) -2.5 Vdc	
5.7.6	-12Vdc (-10V to -13V) -11.9 Vdc	
5.8.2	5.0Vdc (± 0.2Vdc) 5.1 Vdc	
5.8.3	5.0Vdc NAV ± 0.2Vdc) 5.0 Vdc	
5.8.4	-2.5Vdc (± 0.1Vdc) -2.5 Vdc	
5.8.5	-12Vdc (-10V to -13V) -11.9 Vdc	
5.9.10	Apply PAL Label	☑
5.9.12	PAL Data [redacted]d Sign [redacted] Date JUL / 24 / 2007	
5.10.4	ELT software version V136B	
5.10.5	EEPROM Erase Check	☑
5.10.8	Verify Hex Code: 2FAA 7300 4000 7FDF FFF2 7135 83EO FAA8	☑
5.11.5	NAV Position Data	☑
5.11.6	NAV Position Data Off	☑
5.11.7	NAV Position Data	☑
5.12.1	Current (53 ± 5mA) 53.3 mA	
5.12.2	On Current (3m[redacted]) 9.4 mA	
5.13.2	Test Complete [redacted] Date JUL / 24 / 2007	

BURN-IN TEST (4237)

5.3.2	Yellow Position LED's on	☑
5.3.3	Yellow Position LED's off	☑
5.3.4	Activation LEDs on	☑
5.3.5	Time In 1200 Date JUL / 24 / 2007	
5.3.6	NAV LED Verified: @ Hot ☑ @ Cold ☑	
5.3.7	Time Out 0700 Date JUL / 25 / 2007	
5.4	Initialization	☑
5.5.1	Verify Remote Switch	☑
5.5.2	Verify Local Switch	☑
5.5.3	G-Switch/Pulse non activated	☑
5.5.4	G-Switch/Pulse activated	☑
5.6.5	Reset (14.4 ± 0.5 Vdc) 14.6 Vdc	
5.7.4	EEPROM Erase Check	☑
5.7.7	Verify Hex Code: 2FAA 7300 4000 7FDF FFF2 7135 83EO FAA8	☑
5.8.5	NAV Position Data	☑
5.8.6	NAV Position Data Off	☑
5.8.7	NAV Position Data	☑
5.9.1	Current (53 ± 5mA) 52.6 mA	
5.9.2	On Current (3m[redacted]) 9.4 mA	
5.10.2	Test Complete [redacted] Date JUL 25 2007	

BASIC SUB ASSEMBLY TEST (4239)

ASSEMBLY: 452-5060 Rev. ____
452-5061 Rev. C

5.1.2	G-switch direction	☑

5.2 AET-AD TESTS

121.5 MHz AET SEQUENCE:

a) Freq is 121.5 MHz ± 3.0 KHz	☑
b) Power is ≥ 23dBm	☑
c) Occupied Bandwidth within limits	☑
d) Out of Band Spurs ≤ -35 dBc	☑

Modulation

a) Modulation Index is ≥ 85%	☑
b) Modulation Duty Cycle is 33 to 55%	☑
c) Audio Modulation Freq Max is <1600 Hz	☑
d) Audio Modulation Freq Min is >300 Hz	☐

REVISION RECORD "SEE SHEET ONE"	ARTEX AIRCRAFT SUPPLIES, INC. [redacted]	DRAWING NO: 1166
DESCRIPTION: C406-N Series Acceptance Test Record		REVISION: B

243 MHz AET SEQUENCE:

- a) Freq is 243 MHz ± 6.0 KHz ☑
- b) Power is ≥ 23dBm ☑
- c) Occupied Bandwidth within limits ☑
- d) Out of Band Spurs ≤ -35 dBc ☑

Modulation

- a) Modulation Index is ≥ 85% ☑
- b) Modulation Duty Cycle is 33 to 55% ☑
- c) Audio Modulation Freq Max is <1600 Hz ☑
- d) Audio Modulation Freq Min is >300 Hz ☑

406.028 MHz AET SEQUENCE:

- Frequency is 406.028 MHz ± 1.0 KHz ☑

Power

- a) Burst Power is ≥ 35.0 dBm ☑
- b) Power before the burst is < -10 dBm ☑
- c) Burst rise time is < 5 mSec ☑

Short and Medium Term Freq. Stability

- a) MT Nom Freq. is 406.028 MHz ± 1 KHz ☑
- b) ST Freq. Stability is ≤ 2 ppb ☑
- c) MT Slope is < ± 1ppb/Min ☑
- d) MT Residual Freq. Variation is ≤ 3 ppb ☑
- In-Band Spurs within limits ☑
- Out of Band Spurs ≤ -35 dBc ☑

Modulation

- a) Positive Phase Dev. (+1.1 ± 0.1) Rad. ☑
- b) Negative Phase Dev. (-1.1 ± 0.1) Rad. ☑
- c) Phase Symmetry ≤ 5% ☑
- d) Modulation Rise Time is 50 to 250 µS ☑
- e) Modulation Fall Time is 50 to 250 µS ☑
- f) Bit Rate is 396~404 Hz ☑
- g) Unmodulated Carrier (158.4~161.6 mS) ☑
- All the above AET tests pass successfully. ☑

5.1.10 Attach test report 1168-01 to this drawing ☑

NON AET-AD MANUAL TESTS (4239)

5.3.2 Off State Current Draw <1.0µA .105 µA

5.4.2 Local & remote LED's, horn active ☑

5.4.3 Failure Code Test / Errors Present ☑

5.5.11 All F Hex Code Check ☑

5.5.17 Verify PA Hex Code: ☑

2FAA 7300 4000 7FDF FFF2 7135 83E0 FAA8

5.6.1 P.A. missing check ☑

5.7.9 Nav Check:

679/ 004000/ N77°00.8', W77°00.8' or (N77° 0' 48") (N77° 0' 48") ☑

5.8.2 Delta V G-Switch Activation ☑

HM MODEL ONLY ☑

5.9.6 HM G-Switch activation [redacted]

5.9.9 Test Complete [redacted] Date AUG / 1 4 2007

BASIC SUB ASSEMBLY COLD SOAK TEST (4239)

5.10 Cold Soak completed ☑

5.10.1 Cold Activation [redacted] ☑

5.12.1 Test Complete [redacted] Date AUG 15 '07

CENTRIFUGE TEST (4156)

6.6 Activation Freq. [redacted] 326 Hz

6.10 Test Complete [redacted] Date AUG 15 '07

FINAL PROGRAMMING (4312)

Hex Code: 2DC84-3A1CC-[redacted]

Country Code: 3606 Country: United States

Programmed By: JJ Date / /

Check and Clear Battery Nvram OCT 11 2007 ☐

FINAL ACCEPTANCE TEST (4240)

ASSEMBLY: 453-5060 Rev. ___ 453-5061 Rev. C

5.2.6 G-Switch Activation ☑

5.2.7 ELT-ON LED illuminated ☑

5.2.8 No Error Code Verification ☑

5.3.1 Test Set received 406 burst ☑

5 flash error status is correct ☑

5.3.2 Test Set code matches label code ☑

5.3.3 Test Set code matches printout code ☑

5.3.4 Test Set data matches ordering data ☑

5.4.1 Hardware ☑

5.5.1 Test Complete JJ Date OCT 1/1 2007

QA ACCEPTANCE (4241)

ASSEMBLY: 453-5060 Rev. ___ 453-5061 Rev. C

UNIT SERIAL NUMBER: 04326

5.2 Physical Inspection ☑

5.3 Software Revision ☑

5.5 Torque Seal Top Cover ☑

5.6 Labels ☑

REVISION RECORD "SEE SHEET ONE"	ARTEX AIRCRAFT SUPPLIES, INC. [redacted]	DRAWING NO: 1166
DESCRIPTION: C406-N Series Acceptance Test Record		REVISION: B

Product, Mfg Date 4/1/07 ☑

5.7 Apply Q.A. Stamp ☑

5.8 QA Stamp [redacted] Date OCT/13/2007

NOTES & COMM[redacted]

ELT Test Results

Operator : Danny
Part # : ~~452-5060-C406-N~~ 452-5061
ELT Serial # : 152
Test Station # : 851

10/15/2007

Date/Time : 8/14/2007 9:16:56 AM
Work Order # : 84893
Test # : N84893-152-1
Software Rev : RB

	121.5 MHz Results		243 MHz Results	
Power (dBm)	23.6	Pass	23.2	Pass
Frequency (Hz)	121499797.6	Pass	242999592.6	Pass
Occupied BW (%L,%H)	0.07 , 0.05	Pass	0.13 , 0.09	Pass
Carrier Stability (Hz)	No Value	----	No Value	----
Clear Carrier (%)	No Value	----	No Value	----
Freq MT Slope (ppb)	No Value	----	No Value	----
Freq MT Res (ppb)	No Value	----	No Value	----
Outband Spurs (dBc)	-35.3@246176000	Pass	-34.7@607264000	Pass
Mod Index, Min Frq (%)	99.87	Pass	99.84	Pass
Mod Index, Max Frq (%)	99.29	Pass	98.83	Pass
Mod Duty Cycle, Min Frq (%)	36.70	Pass	36.84	Pass
Mod Duty Cycle, Max Frq (%)	35.96	Pass	35.96	Pass
Mod Frequency Max (Hz)	1404.5	Pass	1404.5	Pass
Mod Frequency Min (Hz)	549.5	Pass	548.2	Pass
Mod Sweep Delta (Hz)	855.0	Pass	856.2	Pass
Mod Sweep Rate (Hz)	3.0	Pass	3.0	Pass

406 MHz Results		
Power (dBm)	36.7	Pass
Pre-burst Power (dBm)	-26.4	Pass
Frequency (Hz)	406027815.8	Pass
Power Rise Time (mSec)	0.05	Pass
Med Term Nominal Frequency (Hz)	406027817.46	Pass
Freq Short Term Stability (ppb)	0.212	Pass
Freq Med Term Slope (ppb/min)	0.694	Pass
Freq Med Term Freq Res (ppb)	0.702	Pass
Spectrum Spur (dB closest)	-5.4@ -7600.0	Pass
Spectrum OB Spur (dBc)	-60.4@392992000	Pass
Mod Positive Phase Dev (rad)	1.10	Pass
Mod Negative Phase Dev (rad)	-1.10	Pass
Mod Rise Time (uSec)	88	Pass
Mod Fall Time (uSec)	80	Pass
Mod Symmetry (%)	0.003	Pass
Mod Bit Rate (Hz)	400.6	Pass
UnMod Carrier Time (mSec)	161.2	Pass
Total Tx Time (mSec)	522.6	Pass
Min Burst Interval Time (Sec)	No Value	----
Max Burst Interval Time (Sec)	No Value	----

Artex ELT Programmer Version 3.0.72 - Printed 10/11/2007 9:56:45 AM

15 Hex (Bits 26- 85) = 2D C8 43 A1 CC FF BF F
30 Hex (Bits 25-144) = 96 E4 21 D0 E6 7F DF F9 81 54 B5 83 E0 FA A8

ELT Message Mode - Both Msgs NORMAL Frame Sync

Field Name	Bit Pos	Value Definition
Format Flag	25	1 Long Message
Protocol Flag	26	0 Location NEW
MID	27- 36	366 USA (366)
Protocol Code	37- 40	4 ELT - Serial (Standard)
CSTA Number	41- 50	135
Serial Number	51- 64	4326
Coarse Position	65- 85	- DEFAULT -
Short BCH	86-106	- Encoded As Required -
Fixed Bits	107-109	110
Fixed Bit	110	1
Encode Pos Device	111	0 External
121.5 Homing	112	1 YES
Position Change	113-132	- DEFAULT -
Long BCH	133-144	- Encoded As Required -

Battery NvRam Data - Printed 10/11/2007 9:56:50 AM

Blk 8 = 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Blk 9 = FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
Blk A = 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Blk B = FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
Blk C = FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
Blk D = FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
Blk E = FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
Blk F = FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF