

DOCUMENT No.  
PH0200-009-1

ACCEPTANCE TEST PROCEDURE  
FOR THE SART ELECTRONIC ASSEMBLY TYPE 3A

ISSUE STATE

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## 1 SCOPE

This document defines the Tellusart Acceptance Test that will be performed during the re-qualification process of the partly re-developed TELLUSART system design. The re-qualification will be in accordance with the qualification requirements of the TELLUSART as agreed between the TELLUSART manufacturer and the TELLUSART re-development systems engineer.

**NOTE:** Prior to following the test procedures set out in this document, the Tellusart to be re-qualified must have passed the production acceptance tests as set out in document "Production Acceptance And Test Specification For SART Electronic Assembly Type 3a, PH0200-001-1"

## 2 Applicable Documents

Production Acceptance And Test Specification For SART Electronic Assembly Type 3a, PH0200-001-1

PETP, Production Electrical Test Plan, SART type 3A, PH0200-008-1

PATS, SART Logic Assembly Type 3A, PH0200-007-1

PATS, SART Microwave Bias Assembly Type 3A, PH0200-004-1

Assembly drawing, Electronic Assembly Type 3, 670-00512-V

Burn-in Specification, SART Type 3A, PH0200-009-1.

### 2.1 Safety Requirements

**WARNING: DO NOT ALLOW YOUR EYES WITHIN 20 CENTIMETRES OF THE ANTENNA WHEN THE SART UNIT IS TRANSMITTING.**

## 3 Requirements

### 3.1 Test Equipment

- a. Peak Pulse Power Meter : Frequency 9.0 GHz to 10.0 GHz. Image filter. 100 kHz resolution bandwidth. Frequency measurement markers. (e.g.HP8569A)
- b. Listed Elsewhere : The test equipment listed in paragraph 3.1 of the document titled "Production Acceptance And Test Specification For SART Electronic Assembly Type 3a", with the number PH0200-001-1 is applicable for this ATP.

### 3.2 Preparation

#### 3.2.1 Test Connections

Figure 1 is a block diagram of the test set-up arrangements.



20 uS/DIV that will display a 100 uS pulse in full.

3 Switch the UUT on with NO trigger pulses.

4 Interrogate the unit with test signal 1 as defined in document "Production Acceptance And Test Specification For SART Electronic Assembly Type 3a, PH0200-001-1".

5 Measure the RF pulse parameters using the peak pulse power meter. The following RF pulse parameters will be measured:

- Pulse peak power
- Peak power variation
- Pulse width
- Pulse rise time
- Pulse fall time

### 3.3.4 Receive Sensitivity Measurement

The receive sensitivity test is done according to the procedure as set out in Paragraph 3.3.3 of document "Production Acceptance And Test Specification For SART Electronic Assembly Type 3a, PH0200-001-1"

### 3.3.5 Transmit Power Measurement

The receive sensitivity test is done according to the procedure as set out in Paragraph 3.3.2 of document "Production Acceptance And Test Specification For SART Electronic Assembly Type 3a, PH0200-001-1"

## 3.4 Expected Test Results

The following is a typical set of test results.

### a. Supply current

$I_{\text{receive}}$ : 40.9 mA average

$I_{\text{standby}}$ : 75.0 mA average

$I_{\text{reply}}$ : 119 mA average

### b. Frequency range

Bottom frequency: 9.170 GHz

Top frequency: 9.530 GHz

### c. Transmit pulse measurement

Pulse peak power +28 dBm

Peak power variation +/-2 dB

Pulse width 100 uS

Pulse rise time <250 nS

Pulse fall time <650 nS

### e. Receive sensitivity

9.35 GHz: -56.3 dBm

9.50 GHz: -54.1 dBm

**Transmit Power**

0° +28 dBm

90° +28 dBm

180° +28 dBm

270° +28 dBm

## APPENDIX A: TEST RESULT SHEET: TELLUSART

Date:
Serial Number
Tests Performed By:
Signature
Tests Checked By QA:
Signature
Test Ref. No.

Reference Paragraph	Test	Condition	Allowed Range	Result	Pass/Fail
3.3.1	Supply Current (mA)	Receive	(< 45)		
		Standby	(< 80)		
		Transmit	(< 125)		
3.3.2	Frequency Range (GHz)	f-3dB-Low	(>9.14, <9.20)		
		f-3dB-High	(> 9.50, <9.56)		
3.3.3	Transmit Pulse	Peak Power	28 dBm		
		Power Var	+/- 2 dB		
		Pulse Width	100 +/- 5 uS		
		Rise Time	<250 nS		
		Fall Time	<650 nS		
3.3.4	Receive Sensitivity (dBm)	9.20 GHz	<-50 dBm		
		9.35 GHz	<-50 dBm		
		9.50 GHz	<-50 dBm		
3.3.5	Transmit Power (dBm)	0°	>+26 dBm		
		90°	>+26 dBm		
		180°	>+26 dBm		
		270°	>+26 dBm		