



ELTA Systems Ltd

UNCLASSIFIED

O-Level Test Equipment (OLTE) for ELK-1891B SATCOM System

**RESTRICTION ON USE, DUPLICATION, OR
DISCLOSURE OF PROPRIETARY INFORMATION**

This document contains proprietary information which is the sole property of Elta Systems Ltd. The document is submitted to the recipient for his use only. By receiving this document the recipient undertakes not to duplicate the document or to disclose in part of, or the whole of, any of the information contained herein to any third party without receiving before hand, written permission from the submitting company.

DOC. NO.

REV. -

PAGE 1 OF 4 PAGES

100 Yitzhak Ha'nassi Blvd., POB 330, Ashdod Tel: 972-8-8572410 www.iai.co.il Email: market@elta.co.il

1. ELK-1891B SATCOM SYSTEM

EL/K-1891B is an "On-The-Move" GEO Satellite Communication (SATCOM) system. It provides the ability to establish a voice communication network between Airborne Satellite Communication (ASATCOM) terminals, installed in Chinook CH-47F helicopters, and Ground Satellite Communication (GSATCOM) terminal.

2. O-LEVEL TEST DESCRIPTION

The EL/K-1891B Satellite Communication (SATCOM) system consists of a special O-Level maintenance mode which allows comprehensive end-to-end testing of the ASATCOM, installed on the aircraft, without the need of availability from the GSATCOM or the Satellite resource.

The O-Level test (OLT) is executed manually by the maintenance personnel on ground and requires an additional test equipment (OLTE) to be deployed outside the aircraft.

The RF test is performed at fixed frequencies of 14.340GHz (transmit from A/C to OLTE) and 11.540 GHz (transmit back from OLTE to A/C).

2.1.1 O-Level Test Equipment (OLTE) Description

The OLTE consists of the following components:

2.1.1.1 OLTE Box

The OLTE BOX is a ruggedized customized and portable transit box for all the OLTE components.

2.1.1.2 Power Cables

Power cables to connect the SFC to the SFC battery or a 220vAC power outlet.

2.1.1.3 SFC Battery

The SFC battery is a 12vDC battery used to power the SFC in case the 220vAC power outlet is not available.

2.1.1.4 Pneumatic Mast

The Pneumatic mast is used to elevate the SFC to the actual height of the ASATCOM Antenna installed on the aircraft, in order to have line of sight.

2.1.1.5 Satellite Frequency Converter (SFC)

The SFC simulates the operation of a geostationary satellite, thus enabling the maintenance personnel to perform the O-Level tests without using an actual satellite.

Once the OLT mode is initiated by the user, the SATCOM System will simulate an uplink test signal and transmit it towards the SFC.

The SFC will receive the simulated signal from the SATCOM Antenna, down-convert it to the corresponding downlink frequency, and transmit it back to the SATCOM Antenna.

The SATCOM System will demodulate and detect the signal, received back from the SFC, compare it to the transmitted signal and determine the test results to be presented to the user.

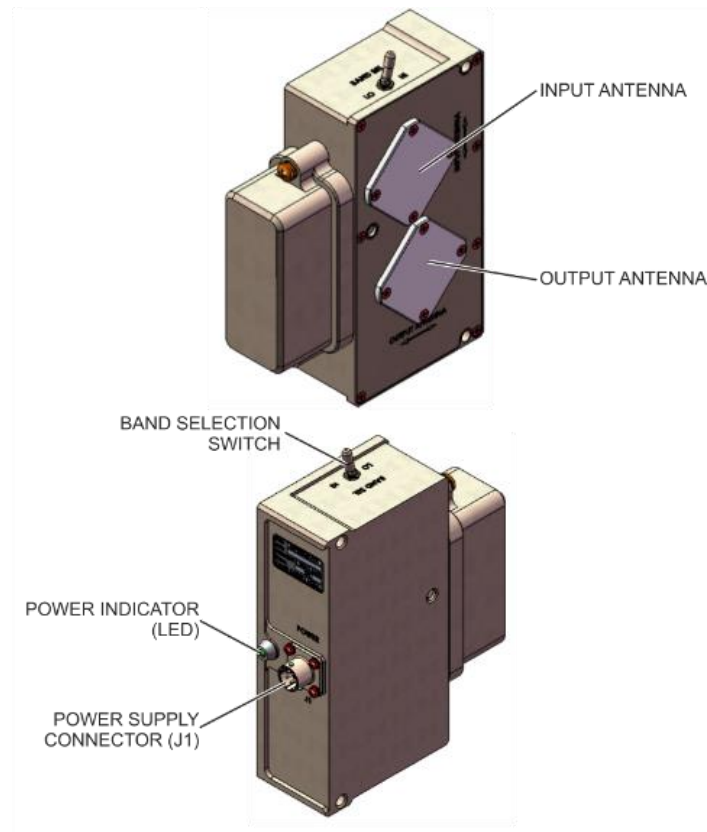


Figure 1 - SFC

SFC RF specification:

Parameter	Value
Input Freq	13.75-14.5GHz
Output frequency	Band 1: 10.95- 11.7GHz Band 2: 12.00- 12.75GHz
Rx Antenna	Waveguide WR-75 covered with radome Gain 3-7dBi @ all band
Tx Antenna	Waveguide WR-75 covered with radome 3-7dBi 130°E 70°H @ all band
BW	2.5MHz @ BPSK

EIRP	-10dBm typ.
------	-------------

Table 1 - SFC RF Specification

SFC Tx antenna pattern:

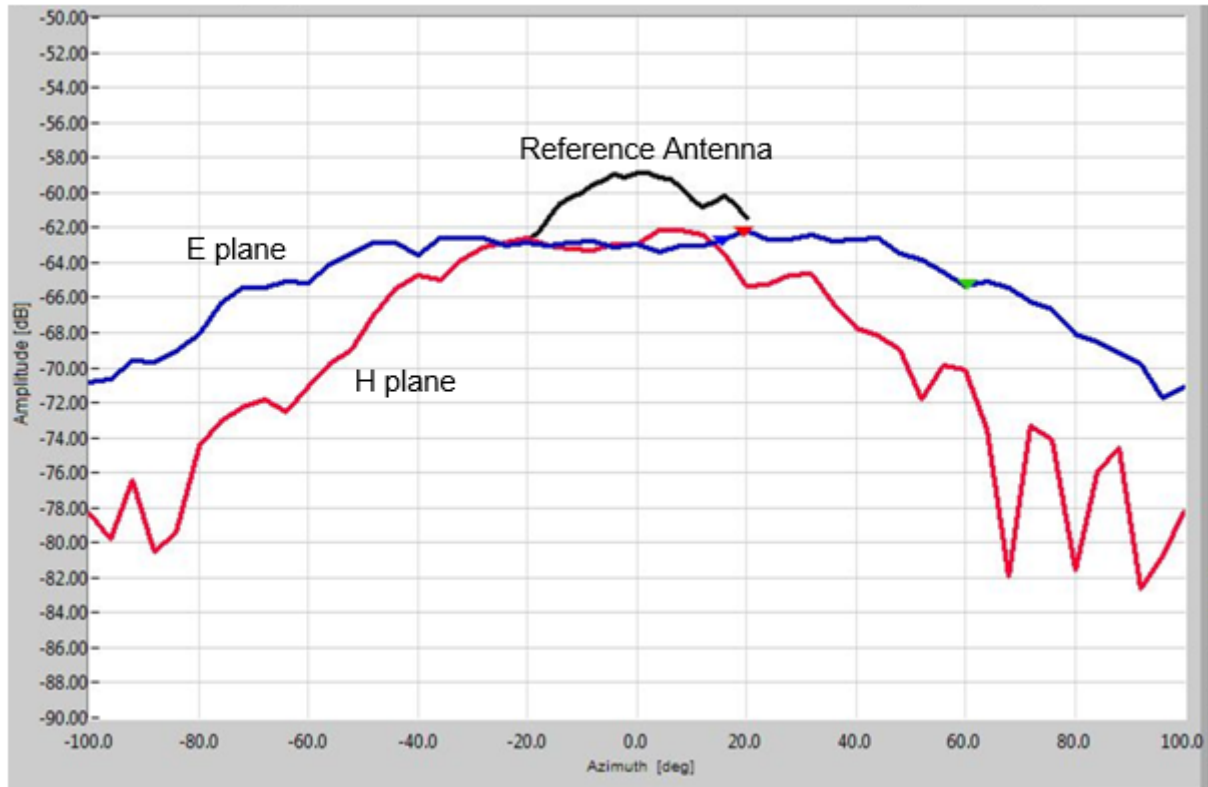


Figure 2 - Antenna pattern @ 11.5GHz