

Exhibit #1
GA Lynx SAR Test Range
Particulars of Operation

Frequency MHz (A)	Power Watts(B)	ERB dBW (C)	(D)	Emission (E)	Modulating Signal (F)	Necessary Bandwidth kHz (G)
16,700	0.003	3.6	Mean	3G00Q4X	Radar Chirp	3,000,000

Notes:

The signal is a radar chirp. It consists of a series of equally time-spaced pulses. Each pulse is frequency modulated with a broadband chirp. The required bandwidth of the chirp is 3 GHz.

(E) As is common in synthetic aperture radar (SAR), a chirp is transmitted and information is obtained from the characteristics of the return signal. Each transmitted chirp is substantially identical and carries no information. Information is contained, though, in the radar echo. This information takes the form of the time delay of the echo and of small doppler shifts within the echo that are contained within the necessary bandwidth.

(F) The modulating signal is a linear frequency modulated chirp

Exhibit #2

Narrative Description of the GA Lynx SAR Test Range

General Atomics (GA) intends to develop, manufacture and test synthetic aperture radars (SAR). Part of the required testing involves operation of the SAR at low power in an outdoor radar test range. The test range setup consists of a SAR and, approximately 500 meters away, a rotating table. The transmitter of the SAR is directed towards various objects on the rotating table to test the SAR's imaging capability. SAR requires relative motion in order to form imagery. In normal SAR operation, the SAR is in motion and the scene to be imaged is stationary. The test range will employ the radar as an inverse SAR where the SAR will be stationary and the objects to be imaged will be moving. The present application refers only to operation of the SAR on the test range.

Lynx is a high resolution, synthetic aperture radar (SAR) that has been designed and built by Sandia National Laboratories in collaboration with General Atomics (GA). Although Lynx can be operated on a wide variety of manned and unmanned platforms, its design is optimized for use on medium altitude unmanned aerial vehicles. In particular, it can be operated on the Predator, I-GNAT, and Prowler II platforms manufactured by GA.

Lynx weighs 119 lbs. and has a slant range of 30 km (in 4 mm/hr rain). Its operating frequency range is 15.2 GHz to 18.2 GHz and is capable of very fine resolution in both spotlight and strip modes. In ground moving target indicator mode, the minimum detectable velocity is 6 knots with a minimum target cross-section of 10 dBsm. In coherent change detection mode, Lynx makes registered, very fine resolution complex image comparisons either of spotlight images or of strip images. The Lynx user interface features a view manager that allows it to pan and zoom like a video camera.

Lynx was developed under corporate funding from GA and will be manufactured by GA for both military and commercial applications.

Exhibit #3

Transmitting Equipment to be Installed

The transmitting equipment to be installed is the GA Lynx SAR which has been described in Exhibit #2. As stated above, it will be manufactured by General Atomics. The present application refers only to operation of the GA Lynx SAR at low power (limited to the values given in Exhibit #1) on the GA radar test range. A separate application to the FCC will be made for its general use.