

Exhibit 1

Necessary Bandwidth

The Subscriber Unit ("SU"), a low-cost RF modem which links with a Radio Base Unit ("RBU") to operate as a full duplex Fixed Wireless Loop System, will be configured at assembly to operate at a 100 MHz duplex frequency separation. Table I (attached) indicates the 100 MHz duplex operating frequencies. The Radio Frequency Front End Assembly ("RFFE"), which will interface with the SU digital modem, will provide up-conversion from baseband to a RF transmit frequency and down-conversion from a RF receive frequency to baseband. The RFFE consists of three (3) functional blocks: a LNA/Down-converter; an Up-converter/PA; and Frequency Synthesis.

The LNA/Down-converter chain will accept a spread spectrum QAM-type signal from the diplexer at a carrier frequency in the range of 3510-3600 MHz, and output a multi-level I/Q baseband signal to the Modem. The Up-converter/PA will accept multi-level I/Q data from the Modem and generate a signal at a carrier frequency range of 3410-3500 MHz for output to the diplexer. The duplex frequency difference between the transmit and receive frequencies will be 100 MHz as shown in Table 1.

Area of Operation

The borders of the area of operation will extend from the center coordinates by fifty (50) nautical miles in the east/west direction, and 100 nautical miles in the north/south direction. The center of this box is Latitude 40-47.30 N; Longitude 111-58-67 W.

Table 1
100 MHz Duplex Operating Frequencies

CHANNEL	TRANSMIT BAND (MHz)	TRANSMIT FREQ (MHz)	RECEIVE BAND (MHz)	RECEIVE FREQ (MHz)
Channel 1	3410.75-3424.75		3510.75-3524.75	
F _{1A}		3412.50		3512.50
F _{1B}		3416.00		3516.00
F _{1C}		3419.50		3519.50
F _{1D}		3423.00		3523.00
Channel 2	3424.75-3438.75		3524.75-3538.75	
F _{2A}		3426.50		3526.50
F _{2B}		3430.00		3530.00
F _{2C}		3433.50		3533.50
F _{2D}		3437.00		3537.00
Channel 3	3438.75-3452.75		3538.75-3552.75	
F _{3A}		3440.50		3540.50
F _{3B}		3444.00		3544.00
F _{3C}		3447.50		3547.50
F _{3D}		3451.00		3551.00
Channel 4	3452.75-3466.75		3552.75-3566.75	
F _{4A}		3454.50		3554.50
F _{4B}		3458.00		3558.00
F _{4C}		3461.50		3561.50
F _{4D}		3465.00		3565.00
Channel 5	3466.75-3480.75		3566.75-3580.75	
F _{5A}		3468.50		3568.50
F _{5B}		3472.00		3572.00
F _{5C}		3475.50		3575.50
F _{5D}		3479.00		3579.00
Channel 6	3480.75-3494.75		3580.75-3594.75	
F _{6A}		3482.50		3582.50
F _{6B}		3486.00		3586.00
F _{6C}		3489.50		3589.50
F _{6D}		3493.00		3593.00

Exhibit 2 Narrative Statement

L-3 Communications Systems West ("L-3 Comm" or "Applicant") intends to conduct experimental research on the performance of its 3.5 GHz Fixed Wireless Loop (FWL) Subscriber Unit (SU) Radio Frequency Front End Assembly (RFFE). The SU is a low cost RF modem which links with a Radio Base Unit (RBU) to operate as a full duplex fixed wireless loop telephony system. The system employs synchronous CDMA spread-spectrum data transmission in a QAM-style modulation, which is capable of up to 128 active channels. L-3 Comm will rotate units for testing, and may have up to 256 units in testing at any given time.

The objective of this research is to ensure that Applicant's wireless local loop product meets specification, and to ensure that any new features that may be added will be fully functional prior to presentation to current or potential customers. Applicant will also use the system as a demonstration system for customers, and to aid in product development.

This request for an Experimental Radio License is for the testing of a product to be exported only. The product is not intended to be used in the United States.

The product will not interfere with other spectrum users since Applicant's site is located in a valley which limits emissions to a small geographic area. Additionally, spread spectrum transmission techniques will be utilized which minimize peak output power. In the event that interference does occur, L-3 Comm's product can be easily modified by changing the channels on the system through the programming of the base station and subscriber units.

This program has a reasonable promise of contributing to the development of communication technology. Fixed Wireless Loop technology can be useful in areas where wireline facilities would be too expensive or difficult to install. Potential applications of this technology include connection of subscribers in rural areas where FWL may be more cost-effective than a wireline alternative, and connection of subscribers awaiting fiber installation, such as in the case of new residential neighborhoods. Research and development of Applicant's product will thus provide a valuable contribution to the radio art.

Exhibit 3 Transmitting Equipment

Radio Base Units (RBUs):

Manufacturer: L-3 Communications Systems West

Number of Units: a maximum of two (2) RBUs will be in use at any one (1) time

Model Numbers: T RBU 120-00

T RBU 240-01

Subscriber Units (SUs):

Manufacturer: L-3 Communications Systems West

Number of Units: a maximum of 120 units will be in operation at any one (1) time

Model Numbers: SU-XX10YYZ00 - this model number will consist of an arbitrary mix where the figures "XX", "YY", and "Z" will be replaced by any of the following identifiers:

"XX" will be replaced with any one (1) of the following identifiers:

DT is defined as Dual Telephony

ST is defined as Single Telephony

QT is defined as Quad Telephony

ET is defined as Octal Telephony

SX is defined as Single X.21 Data

DP is defined as Dual Payphone

XT is defined as Single X.21 Data and Telephone

DX is defined as Dual X.21 Data

IS is defined as ISDN Modem

"YY" will be replaced with any one (1) of the following identifiers:

18 is defined as 3.4 - 3.6 GHz Band, Channel 1

19 is defined as 3.4 - 3.6 GHz Band, Channel 2

20 is defined as 3.4 - 3.6 GHz Band, Channel 3

21 is defined as 3.4 - 3.6 GHz Band, Channel 4

22 is defined as 3.4 - 3.6 GHz Band, Channel 5

23 is defined as 3.4 - 3.6 GHz Band, Channel 6

"Z" will be replaced with any one (1) of the following identifiers:

R is defined as Right Hand Circularly Polarized Antenna

L is defined as Left Hand Circularly Polarized Antenna

Therefore, a Model Number SU-DT1018R00 will be defined as a subscriber unit incorporating Dual Telephony utilizing Channel 1 in the 3.4 - 3.6 GHz Band and a Right Hand Circularly Polarized Antenna.