

Exhibit #1
Terabeam Corporation
57.05GHz to 64.0GHz Experimentation Program

Overview: The basic intent of this experimentation program is to optimize the performance of the Terabeam millimeter-wave radio product for range and bandwidth. Based on our success with the current Gigalink™ product, Terabeam Corp. wishes to evaluate newer circuit designs and antenna configurations for the purposes of developing longer range and higher data rate versions for FCC Part 15 unlicensed certification. The Terabeam corporate equipment and wireless network test facilities in and around Seattle, WA currently provide controlled experiments for Terabeam's Free Space Optics (FSO) unlicensed wireless communication equipment. These facilities will provide a practical model for high data rate transmissions within operational SONET and Ethernet Networks, as well as validation of hybrid millimeter-wave and FSO Network architectures. Restricted access and 24 hr. monitored security will insure undisturbed testing and safety from unintended exposure. Testing will be performed under the direct control of Terabeam Corp.

Several antenna configurations will be tested as outlined below. In all experiments, the Transmit Power shall be limited to prevent the proposed maximum ERP (100W, mean) from being exceeded.

Antenna Configuration Testing:

All testing will be performed utilizing equipment similar, but not necessarily identical, in design but operating within the same frequency band and transmit power constraints as the FCC Part 15 type Certified Terabeam Gigalink product. This will establish a control model for direct evaluation of new antenna configurations.

We will attempt to increase the range of our system by incrementally evaluating higher directivity antennas while maintaining compliance with the accepted MPE (maximum permissible exposure) limits of Part 15, CFR 47, Section 1.1307. With each incremental antenna test, receive levels will be recorded and long term Bit Error Rate tests made in order to evaluate reliability under actual field conditions.

The time required to complete the antenna testing will be determined by the lead-time of the purchased prototype antennae. Each antenna configuration will be tested over a period of several weeks to determine long-term reliability and Bit Error Rate Performance.

Preliminary Antenna Configuration Test Plan:

<u>Antenna Description</u>	<u>Gain</u>	<u>Beamwidth</u>	<u>Range</u>	<u>Active Test Period</u>
Single 13" Parabola (diplexed)	38dBi	1.7 degrees	800M	2 Weeks OC3
			600M	6 Weeks OC12
Single 18" Parabola (diplexed)	42dBi	1.3 degrees	1,000M	2 Weeks OC3
			800M	6 Weeks OC12
Single 24" Parabola (diplexed)	48dBi	1.0 degrees	1,200M	2 Weeks OC3
			1,000M	6 Weeks OC12
Dual 3" Patch (non-diplexed)	28dBi	3.5 degrees	400M	2 Weeks OC3
			200M	6 Weeks OC12
Dual 13" Parabola (non-diplexed)	38dBi	1.7 degrees	1,200M	2 Weeks OC3
			1,000M	6 Weeks OC12
Dual 18" Parabola (non-diplexed)	42dBi	1.3 degrees	1,400M	2 Weeks OC3
			1,200M	6 Weeks OC12
Dual 24" Parabola (non-diplexed)	48dBi	1.0 degrees	1,600M	2 Weeks OC3
			1,400M	6 Weeks OC12

Total Testing Program Length, subject to antenna availability	52 Weeks
--	-----------------

Test points:

- 1.) IF Monitor detected voltages, characterized for receive level in dBm.
- 2.) Long-term Bit Error Rate test using Acterna ANT20, Digital Lightwave NIC, Ixia Ethernet tester, or similar.

Data Rate (Gigabit Ethernet, OC48) Testing:

Terabeam Corp. intends to develop Gigalink radio products capable of Gigabit Ethernet (1,250Mbps) and OC48 (2,488Mbps) data rate. Terabeam will design and bench test RF modulator circuitry to enable the current Gigalink™ product to achieve these higher data rates. This circuit design effort will run concurrently with the antenna testing and culminate with a complete test of all antenna configurations with the expanded data rate radio transceivers.

<u>Antenna Description</u>	<u>Gain</u>	<u>Beamwidth</u>	<u>Range</u>	<u>Active Test Period</u>
Single 13" Parabola (diplexed)	38dBi	1.7 degrees	400M	2 Weeks 1,000 SX
			200M	6 Weeks OC48
Single 18" Parabola (diplexed)	42dBi	1.3 degrees	800M	2 Weeks 1,000SX
			400M	6 Weeks OC48
Single 24" Parabola (diplexed)	48dBi	1.0 degrees	1,000M	2 Weeks 1,000SX
			600M	6 Weeks OC48
Dual 3" Patch (non-diplexed)	28dBi	3.5 degrees	300M	2 Weeks 1000SX
			200M	6 Weeks OC48
Dual 13" Parabola (non-diplexed)	38dBi	1.7 degrees	1,200M	2 Weeks 1,000SX
			800M	6 Weeks OC48
Dual 18" Parabola (non-diplexed)	42dBi	1.3 degrees	1,400M	2 Weeks 1,000SX
			1,000M	6 Weeks OC48
Dual 24" Parabola (non-diplexed)	48dBi	1.0 degrees	1,600M	2 Weeks 1,000SX
			1,200M	6 Weeks OC48
Total Testing Program Length, subject to circuit design success				52 Weeks

Test points:

- 1.) IF Monitor detected voltages, characterized for receive level in dBm.
- 2.) Long-term Bit Error Rate test using Acterna ANT20, Digital Lightwave NIC, Ixia Ethernet tester, or similar.

Summary:

Terabeam Corp. created the Gigalink™ family of point-to-point millimeter wave radio products to enable very broadband data transport over shorter ranges ($\leq 2.0\text{km}$). Our current Part 15 Product has proven this concept, but we feel that improvements in both data rate and range are attainable.

The unique oxygen absorption properties of this frequency range (57-64GHz) make it ideal for dense deployments while minimizing interference and exposure to dangerous RF levels. The testing sequence detailed above will determine the range and data rate performance envelopes possible with our technology and modulation technique. The testing shown will be performed under close supervision with terminal locations chosen to minimize un-intended exposure to RF energy. Narrow beamwidth antennae will focus the radiation on to the intended receiver while minimizing the radiation side lobes.

The intended result of these two testing sequences will be a full characterization of the relationships between antenna directivity, antenna gain, RF path range, attainable fade margin, measured power and

exposure levels for wideband signal transmission in the 57.05 – 64 GHz band under actual environmental conditions.

While we estimate that this testing can be completed in less than two years, several factors beyond our control may apply. Antenna tests concurrently with multiple data rates may be possible if circuit tests progress quickly. The testing sequence will also be adjusted in response to actual antenna delivery timing and test results may influence the course of testing. Also, antenna configurations initially found to be unusable may not be tested at higher data rates.

Terabeam is prepared to begin testing immediately upon issuance of an experimental license and complete testing as quickly as possible.