**EXHIBIT I**



| FREQUENCY MHz | POWER (WATTS) | | | | | | EMISSION | MODULATION | NECESSARY BANDWIDTH |
|---|---|---|---|---|---|---|---|---|---|
| | (B) | | (C) | | (D) | | (E) | (F) | (G) |
| | BS | SS | BS | SS | BS | SS | | | |
| 454.275 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 454.375 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 454.525 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 454.625 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 459.275 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 459.375 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 459.525 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 459.625 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |

**EXHIBIT I**



| FREQUENCY MHz | POWER (WATTS) (B) BS | SS | (C) BS | SS | (D) BS | SS | EMISSION (E) | MODULATION (F) | NECESSARY BANDWIDTH (G) |
|---|---|---|---|---|---|---|---|---|---|
| 357.100 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.125 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.150 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.175 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.200 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.225 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.250 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.275 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.300 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.325 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.350 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.375 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.400 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.425 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.450 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.475 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.500 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.525 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.550 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.575 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.950 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 357.975 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.100 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.125 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.150 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.175 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.200 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.225 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.250 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.275 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.300 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.325 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.350 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.375 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.400 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.425 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.450 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.475 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |

| FREQUENCY MHz | POWER (WATTS) (B) BS | (B) SS | (C) BS | (C) SS | (D) BS | (D) SS | EMISSION (E) | MODULATION (F) | NECESSARY BANDWIDTH (G) |
|---|---|---|---|---|---|---|---|---|---|
| 343.500 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.525 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.550 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.575 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.950 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 343.975 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.000 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.025 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.050 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.075 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.100 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.125 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.150 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.175 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.200 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.225 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.250 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.275 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.300 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.325 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.350 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.375 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.400 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.425 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.450 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.475 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.500 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.525 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.550 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.575 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.600 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.625 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.650 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.675 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.700 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.725 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.750 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.775 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.800 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |

| FREQUENCY MHz | POWER (WATTS) (B) BS | SS | (C) BS | SS | (D) BS | SS | EMISSION (E) | MODULATION (F) | NECESSARY BANDWIDTH (G) |
|---|---|---|---|---|---|---|---|---|---|
| 358.825 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.850 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.875 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.900 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.925 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.950 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 358.975 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.000 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.025 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.050 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.075 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.100 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.125 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.150 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.175 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.200 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.225 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.250 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.275 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.300 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.325 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.350 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.375 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.400 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.425 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.450 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.475 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.500 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.525 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.550 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.575 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.600 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.625 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.650 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.675 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.700 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.725 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.750 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.775 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |

| FREQUENCY MHz | POWER (WATTS) (B) BS | SS | (C) BS | SS | (D) BS | SS | EMISSION (E) | MODULATION (F) | NECESSARY BANDWIDTH (G) |
|---|---|---|---|---|---|---|---|---|---|
| 344.800 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.825 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.850 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.875 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.900 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.925 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.950 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 344.975 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 359.000 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 359.025 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 359.050 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 359.075 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 359.100 | 2 | | 20 | | MEAN | | 20K0G1E | 64 KBPS | 20 KHZ |
| 345.000 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 345.025 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 345.050 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 345.075 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |
| 345.100 | | 2 | | 20 | | MEAN | 20K0G1E | 64 KBPS | 20 KHZ |

**EXHIBIT II**



The base station will use an omni-directional antenna. The subscriber stations will use directional antennas aimed at the base station and with varying beam widths of less than 40 degrees. In addition, certain subscribers will use omni-directional antennas.

InterDigital Communications Corporation (IDC) is developing the UltraPhone 100 digital radio-telephone system in response to the telephone industry's need for a cost-effective alternative to conventional wireline outside plant facilities for basic telephone service. The UltraPhone system is based upon technology which will allow telephone companies to provide service to remote or distant areas which are difficult to serve at present.

The UltraPhone system is an all digital, trunked, radio subscriber loop carrier system designed to provide service between individual subscribers and the serving central office. The service employs advanced digital voice coding and signal processing to allow four simultaneous conversations per each radio frequency pair. In addition, the UltraPhone system will supplement outside plant be serving as links between the subscriber and the central office:

- in cases where existing plant provides inadequate service but conventional wireline improvements are made impracticable by either cost or terrain;

- where service has not been provided due to the high cost or impracticability of conventional cable;

- where temporary or short notice requirements exceed the capabilities of existing plant.

The UltraPhone system is designed specifically to provide basic telephone service in a manner that is transparent to the subscriber, providing voice quality, reliability and grade of service equivalent to wireline facilities. Design specifications emphasize reliability to operate in extreme weather conditions. As a digital multiplexed system, UltraPhone offers a level of privacy to the subscriber comparable to existing wireline service. The system is designed to comply with FCC Rules and Regulations for type acceptance, certification, verification, and registration as laid out in FCC Parts 2, 15, 21, 22, 68 and 90.

Background of UltraPhone Project

IDC undertook the development of a digital radio-telephone in 1981. The Company engaged M/A-COM Linkabit, Inc. in that year as an independent contractor to commence development of a spectrum-efficient digital system. The first phase of the project was completed by M/A-COM Linkabit, Inc. in 1982 with the delivery of a System Architecture and Feasibility Assessment.

The second phase of the project commenced in June, 1983. Its goal was to build an engineering prototype of the UltraPhone base station and fixed subscriber units. The second phase achieved four specific milestones:

1. Demonstration of the voice coding subsystems (Codec), which was completed in July, 1984.

2. Demonstration of the digital modulation and demodulation subsystem (modem), which was completed in stages in October, 1984 and May, 1985.

3. Demonstration of the entire system in the laboratory over a simulated radio channel, which was completed in June, 1985.

4. Filed demonstration of an engineering prototype over live radio, (FCC Experimental License #1134-EX-PL-84) which was completed in June, 1985.

5. Grant of equipment authorization for prototype subscriber station on September 15, 1987 (File No. 31010/EQU 17.9).

6. Grant of equipment authorization for prototype base station on October 19, 1987 (File No. 31010/EQU 17.9).

IDC believes that the UltraPhone program will contribute strongly to the development and extension of radio technology and will foster the efficient use of radio spectrum. The system increases by a factor of four the available electromagnetic spectrum that may potentially service rural subscribers who today suffer from degraded or non-existent telephone service. The Company's use of digital radio technology may potentially contribute to the radio art by:

1. Improving message quality and integrity under poor channel conditions;

2. Providing greater inherent security against unauthorized interception and decoding of transmission (which the Company believes may be preferred for military, governmental, sensitive business telephone applications);

3. Providing easier and general integration of voice and data in the same transmission systems;

4. Lowering operating equipment and maintenance costs;

5. Increased spectrum efficiency;

6. Provide a method of providing emergency service; and

7. Allow telephone service to be provided to customers that could not be served otherwise.

SPECIFIC OBJECTIVE OF KING OF PRUSSIA EXPERIMENTAL SITE

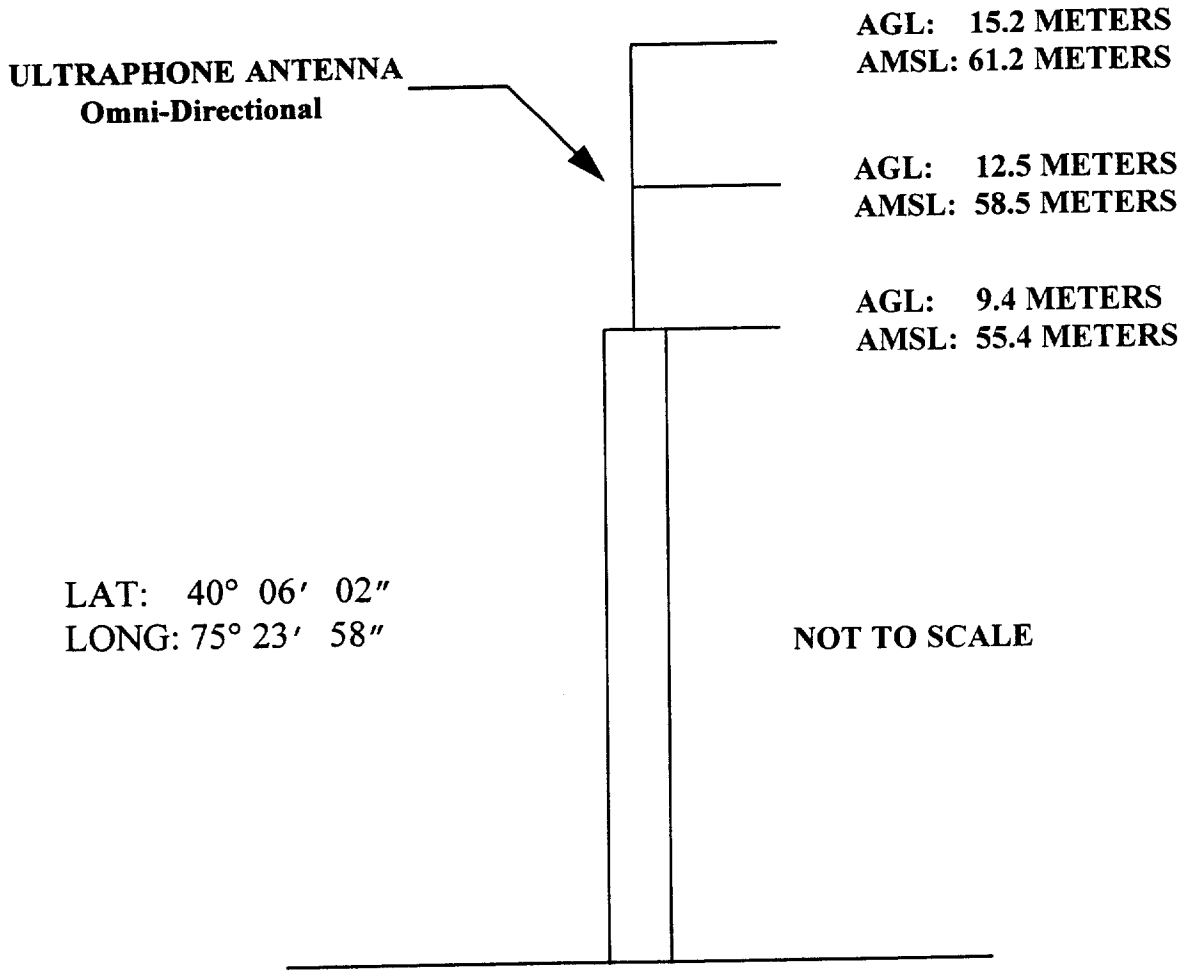
IDC intends to further develop their advanced spectral efficient TDMA technology to provide services to urban and mobile subscribers. There are still a large number of unknowns in the propagation environment for 16 level differential phase shift keying modulation and a large amount of experimentation must be accomplished to determine the major parameters that will allow key decisions to be made to provide the optimum system for service to urban and mobile radio users. For example, experiments will be made to evaluate performance of such modulation in severe multipath and Rayleigh fading environments. Additional testing will be performed to determine the optimal diversity and equalization that will reduce intersymbol interference and combat time dispersion.

REQUEST FOR WAIVER OF SECTION 5.152 OF THE COMMISSION'S RULES

IDC requests an exemption from Section 5.152 requiring experimental licensees to transmit their assigned call sign at the end of each complete transmission. Such a waiver is needed because the UltraPhone system employs continuous radiation with multichannel transmission by application of Time Division Multiplex/Time Division Multiple access techniques.

**EXHIBIT IV**

# TOWER SKETCH




**LOCATION: KING OF PRUSSIA**
**CITY: KING OF PRUSSIA**
**COUNTY: MONTGOMERY**
**STATE: PENNSYLVANIA**