EXHIBIT No. 1

Frequency in MHZ	Power			Emission	Modulaing Signal	Necessary Bandwidth (khz)
	(a)	(c)	(d)	(e)	(f)	(g)
880.71/835.71	.5 Watt	5 Watts	Mean	f3e		30K0
882.36/837.36	.5 Watt	5 Watts	Mean	f3e		30K0
882.39/837.39	.5 Watt	5 Watts	Mean	f3e		30K0
882.72/837.72	.5 Watt	5 Watts	Mean	f3e		30K0
883.35/838.35	.5 Watt	5 Watts	Mean	f3e		30K0
883.98/838.98	.5 Watt	5 Watts	Mean	f3e		30K0
884.61/839.61	.5 Watt	5 Watts	Mean	f3e		30K0
885.24/840.24	.5 Watt	5 Watts	Mean	f3e		30K0
885.87/84[illegible]87	.5 Watt	5 Watts	Mean	f3e		30K0
892.88/847.88	.5 Watt	5 Watts	Mean	f3e		30K0
893.09/848.09	.5 Watt	5 Watts	Mean	f3e		30K0
893.30/840.30	.5 Watt	5 Watts	Mean	f3e		30K0
893.51/848.51	.5 Watt	5 Watts	Mean	f3e		30K0
893.72/848.72	.5 Watt	5 Watts	Mean	f3e		30K0
893.93/848.93	.5 Watt	5 Watts	Mean	f3e		30K0
1865-1870	1 Watt	10 Watts	Mean	f3e		30K0
1945-1950	1 Watt	10 Watts	Mean	f3e		30K0
1885-1895	1 Watt	10 Watts	Mean	f3e		30K0
1965-1975	1 Watt	10 Watts	Mean	f3e		30K0
881.25/836.25	.5 Watt	5 Watts	Mean	g7e	CDMA	1M25

see amendment

Exhibit #2

Location of Operation

1. 8700 148th Ave NE,
   Redmond, Wa 98052
   LAT: 47.68116N
   LONG: 122.14572W

Natural formations or man-made structures:
There is a hill southwest of the building. It's location is approximately 200 yards away and rises approximately 100 feet above the building. The hill posses numerous tree that extend well over 50 feet above ground.

2. 15379 NE 90th St,
   Redmond, WA 98052
   LAT: 47.405527N
   LONG: 122.08848

Natural formations or man-made structures:
There are several buildings in the immediate area that extend pass the height of the antenna.

3. 10525 Willows Rd.
   Redmond, WA 98052
   LAT: 47.41885N
   LONG: 122.9161W

Natural formations or man-made structures:
There is a hill west of the building. The building is located at the base of the hill and rises approximately 100 feet above the building. The hill posses numerous tree that extend well over 50 feet above ground.

Note: Metawave Communications will be consolidating operations at site 3 after June 1st 1998. Sites 1 & 2 will be active until that date.

Exhibit #3

CDMA:

1.) The complete program of research and experimentation proposed including description of equipment and theory of operation

Metawave Communications Corporation is currently in the process of developing a smart antenna product for use in IS-95A CDMA cellular mobile radio networks. The product concept allows sector configurations to be changed on-the-fly to optimize performance under time-varying traffic loading and interference conditions. The CDMA smart antenna system consists of a phased array antenna, beamforming network, monitoring circuitry, and a computer controller. Based on real-time measurements of forward and reverse link traffic loading, the antenna system adjusts sector beamwidths and azimuth pointing angles to load balance traffic. In addition, each sector's RF footprint can be sculpted to accentuate coverage in particular directions or to reduce interference in other directions.

2.) The specific objectives sought to be accomplished

The objectives of the experimental license are to verify performance of Metawave's IS-95A CDMA smart antenna system. On-the-air transmission tests will be conducted with CDMA waveforms to assure that the smart antenna system, including both the hardware platform and software algorithms, meets the goals of improving capacity, coverage and quality of cellular networks.

3.) How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of the radio art, or is along line not already investigated.

Adaptive antenna technology is at the forefront of advanced research and development in the radio art in the U. S., Europe, and Asia. In particular, smart antenna techniques have the potential to dramatically improve the capacity, and hence the spectral efficiency, of both analog and digital air interfaces. Phased array antennas allow cellular subscribers to be separated spatially, in addition to the traditional methods of time, frequency, or code division access. By exploring intelligent antenna solutions utilizing both switched-beam and adaptive-beamforming techniques, the experimental program is turning the theoretical promise into practical, economical reality. Commercial deployments have already proven the effectiveness of smart antennas in analog cellular networks; the experimental program outlined in this application takes the next step to CDMA digital cellular networks.

GSM:

1.) The complete program of research and experimentation proposed including description of equipment and theory of operation

Metawave Communications Corporation is currently in the process of developing a smart antenna product for use in Global System for Mobile communications (GSM) cellular and PCS mobile radio networks. The product concept allows specific users to be tracked with a narrow antenna beam in order to improve the forward and reverse link Carrier-to-Interference (C/I) ratios. The GSM smart antenna system consists of a phased array antenna, beamforming network, monitoring circuitry, and a computer controller. Based on real-time measurements of forward and reverse link signal levels and C/I ratios, the antenna system selects among a set of fixed-beams to provide the best link for each traffic channel. Multiple GSM mobiles can be simultaneously tracked using the switched-beam architecture, allowing network-wide improvements in C/I and hence the deployment of tighter frequency reuse schemes.

2.) The specific objectives sought to be accomplished

The objectives of the experimental license are to verify performance of Metawave's GSM smart antenna system. On-the-air transmission tests will be conducted with GSM waveforms to assure that the smart antenna system, including both the hardware platform and software algorithms, meets the goals of improving capacity, coverage and quality of cellular networks.

3.) How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of the radio art, or is along line not already investigated.

Adaptive antenna technology is at the forefront of advanced research and development in the radio art in the U. S., Europe, and Asia. In particular, smart antenna techniques have the potential to dramatically improve the capacity, and hence the spectral efficiency, of both analog and digital air interfaces. Phased array antennas allow cellular subscribers to be separated spatially, in addition to the traditional methods of time, frequency, or code division access. By exploring intelligent antenna solutions utilizing switched-beam techniques, the experimental program is turning the theoretical promise into practical, economical reality. Commercial deployments have already proven the effectiveness of smart antennas in analog cellular networks; the experimental program outlined in this application takes the next step to GSM digital cellular networks. GSM is the most widely deployed digital cellular air interface in the world.