

EXHIBIT 1

Before
Federal Communications Commission
Washington, D. C. 20554

Synacom Technology, Inc.

Application for Experimental Authorization
to Conduct Limited Tests on
Broad Band Personal Communications Networks

Synacom Technology, Inc.

3031 Tisch Way
Suite 400
San Jose, CA 95128
(408) 296-0303
(408) 296-0982 FAX
<http://www.Synacom.com>

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1.0 Introduction

Synacom is currently developing a Next Generation Network (NGN) based on Packet transport technology, such as Internet Protocol (IP). This NGN network being developed will support 2nd Generation Mobile Subscriber Units as well as 3rd Generation Mobile Subscriber Units. This highly versatile core network will offer operators a very economical way of supplying service to both voice and data customers.

As part of the development process this IP based NGN, over the air testing with 2nd Generation Mobiles is required. This over the air testing will assure the performance of the radio systems when they are under the control of an IP based NGN. Critical areas of concern include determining that both hard and soft hand-off can be accomplished without any deleterious effects.

Synacom is in the process of acquiring commercial PCS base stations and Mobile Subscriber Units for use in these hand-off tests and wishes to operate this equipment, in a non interfering mode, for over the air testing of the NGN core network being developed.

Therefore, Synacom Technology hereby seeks National experimental authority, pursuant to Part 5 of the Commission's Rules, 47 C.F.R. (Revised October 1, 1995), to operate this equipment in the 1900 MHz Broad Band PCS bands C through F. Although these bands have been licensed by the FCC, at the present time for a variety of reasons, few of these bands is currently being used for commercial service. Synacom anticipates its experiments will be completed before all of the current licensee, or new licensees if some or part of these bands are re-auctioned, starts commercial service.

Synacom requests National authorization to these bands on a non interfering basis, using technical parameters (power, frequency and band width, etc.) in accordance with the FCC rules and regulations the FCC has established for Broad Band PCS (BBPCS).

Specifically, Synacom requests authority pursuant to Section 5.202 (i) of the Commission's Rules to conduct experiments to develop "radio technique, equipment, operational data or engineering data related to an existing or proposed radio service."

Synacom Technology, Inc.

June 13, 2000

The objective of the Broad Band Personal Communication Service being introduced by the FCC in the 1900 MHz band is to foster the development of a data efficient radio service that will thereby avail to a large portion of the population the benefits of a low cost personal communication service. A key element in achieving this vision is a Next Generation Network based on Internet Protocol technology. Proving the viability of the IP technology to achieve timely control as required by hard and soft hand-off in the radio network will significantly enhance the FCC's ability to achieve its ultimate objective with the BBPCS service.

2.0 Qualifications of the Applicant

The IP Core technology being developed in by the Synacom Technology technical team is based on their collective many years of experience in the wireless industry. This experience has enabled the evolution of an innovative and practical technique that will significantly enhance the performance of wireless networks .

The Synacom team is under the leadership of Dr. Ming Lee, founder and CEO of Synacom Technology, Incorporated Dr. Lee is both a wireless entrepreneur and engineer, with many years of engineering and management experience in the wireless industry.

Supporting Dr. Lee as key members of Synacom's technical team is Mr. Kirk Carlson and Mr. Vilnis Grencions. Mr. Kirk Carlson, Executive Director of Network Architecture is well known within the Wireless Network Architecture group having been a major contributor on the development of IS-41 in its various phases of evolution. Mr. Grencions, CTO and co-founder of Synacom, was formerly with Sprint, where he designed their SS7 network and subsequently was a major contributor to the design of Teledesic core network. He has been a major contributor in the development of IS-41.

3.0 Description of the Experiment

3.1 Specific Objective

The prime objective of this test program is to determine the responsiveness of a NGN based on IP technology in supporting real time control of a radio network. Specific areas of investigation are control of activities like soft and hard hand-off.

3.2 Technical and Operational Features

The technical parameters of the radio transmission, and types and projected quantities of equipment to be deployed in Synacom's experimental program are described below.

The power, emissions and bandwidth used by Synacom will all comply the FCC regulations for BBPCS operation in above referenced bands as stated in Sections 24.229 - 24.238 of the Commission's Rules.

3.2.1 Frequency.

Synacom requests specific authority to operate in Broad Band PCS bands C through F. While these bands have been licensed for Broad Band PCS, as of this date, few of these bands is being used operationally. Synacom estimates that many of these bands will not be occupied by the new PCS operators until early to mid 2001 at which time Synacom will have completed its testing.

Specifically, authority is requested for Synacom's experimental transmitters to operate on the following frequencies:

Table 3.2.1-1 Operating Frequencies

	Lower Band		Upper Band		
FCC PCS Band	Lower Frequency	Upper Frequency	Lower Frequency	Upper Frequency	Service Area
C	1895	1910	1975	1990	MTA
D	1865	1870	1945	1950	MTA
E	1885	1890	1965	1970	MTA
F	1890	1895	1970	1975	MTA

3.2.2 Power

The Synacom's transmitters will operate within the power and antenna height restrictions of Section 24.232 of the Commission's Rules. Specifically, the base stations will operated in the C, D, E and F bands will be limited to 1640 watts e.i.r.p., subject further to power restrictions as determined by proximity to the border of the MTA or BTA area, as appropriate. Mobile stations will be limited to 2 watts e.i.r.p. regardless of operating frequency.

3.2.3 Emission and Bandwidth

Three basic modulations will be used: IS-95 CDMA, IS-136 TDMA and GSM-1900 TDMA. These modulations are all in accordance with the FCC regulations for these Broad Band PCS bands.

(Note: Bandwidth is calculated per Section 2.202 of the Commission's Rules.)

Table 3.2.1-1 Operating Frequencies

Modulation Type	Technical Description	Modulation Rate (KHz)	Multiple Access Method	Channel Spacing (kHz.)	Modulation designator
CDMA	IS-95	1,288	CDMA/FDM	1250	QPSK
TDMA	IS-136	48.6	TDMA/FDM	30	$\pi/4$ DQSPK
TDMA	GSM-1900	270.833	TDMA/FDM	200	GMSK

3.2.4 Areas of operation

Synacom is requesting national authority to conducted these experimental tests. The primary venue will be within the San Francisco BTA, but Synacom anticipates being asked to demonstrate performance at various locations within the United States and therefore is applying for national authorization.

Synacom is aware of Commission's Rules, Section 5.65 that requires specific notification to the FCC Engineer in Charge of the Radio District of the actual location of operation upon commencing operation under this experimental license and Synacom will fully comply this that requirement.

In addition Synacom will be fully compliant with FAA notifications and permits as required by Section 24.416 of the Commission's Rules.

3.2.5 Number of units.

Synacom requests authority to operate up to 6 base stations and 20 mobile stations under this license. These base stations will be operated in clusters consisting of 1 to 3 bases station and authority for 6 base stations will allow two experimental clusters to be used. Two clusters will allow experiments to be done in parallel, if necessary.

The 20 mobile units will allow approximately 10 mobiles to be used on each cluster to facilitate parallel data collection.

3.2.6 Description of equipment.

The Synacom's BBPCS system will consist of both custom prototype and commercial BBPCS equipment. All equipment will comply with the FCC regulations for operation in the PCS bands as described in Sections 24.229 -24.238 of the Commission's Rules.

3.3 Projected course of the experiment.

As discussed above, Synacom proposes to build an experimental PCS system in one or more areas of the San Francisco BTA as described in Section 3.2.4 above. In subsequent phases these experimental PCS systems maybe temporarily located other than in the San Francisco BTA. The experiment is expected to progress in accordance with the phased program described below. In some cases, multiple phases of the experiment will be conducted concurrently.

3.3.1 Coordination with existing licensees on FCC PCS bands C through F

Synacom believes FCC PCS bands C through D are currently unoccupied in the San Francisco BTA. Licenses for these bands have been auctioned by the FCC, but , but for a variety of reasons the licensee of these bands C through D have not yet started to deploy their networks.

In any case, Synacom recognizes operation in the 1865-1910 or 1945-1990 MHz band will require prior frequency coordination with 2 GHz microwave users and consent of PCS licensees to avoid interference and Synacom hereby assures the Commission that it will meet that obligation.

3.3.3 System Engineering and network design.

Synacom will complete its system engineering and network design for the experiment. The experimental system, as currently envisioned, will consist of 1 to 3 base stations, installed in a laboratory facility and operated a very low power.

3.3.4 Evaluation and selection of test range equipment.

Synacom will be acquiring base station equipment from commercial manufactures (or test equipment manufactures) for these tests. This equipment will be operated within the FCC regulations for Broad Band PCS.

3.4.5 Construction and installation of experimental system.

Upon completion of the above identified tasks and approval of experimental authorization by the Commission, Synacom will construct the experimental system and verify that it complies with the FCC regulations and is compatible with other users in the same or adjacent frequency bands.

3.4.6 Operational tests of installed equipment.

Synacom will conduct a rigorous series of operational tests of the installed system to verify complete system functionality and effects on either in band operators and/or adjacent band operators.

3.4.7 Technical tests of installed equipment.

Synacom will conduct a rigorous series of technical tests of the installed system to obtain the quantitative data identified in the test objectives in section 3.1 of this document.

4.0 Conduct of the Experiment

Synacom Technology Inc. seeks experimental authority pursuant to Part 5 of the Commission's Rules, 47 C.F.R. (October 1, 1995), to use the PCS Bands C through F to conduct limited technical tests of Broad Band PCS technology. Synacom requests experimental authority for a period not to exceed 24 months pursuant to Section 5.63 of the Commission's Rules. Upon request of the Commission, Synacom will provide reports on test results data to the Commission staff. If the Commission requests that Synacom submit experimental reports, Synacom requests these reports be withheld from the public as provided by the Commission's Rules, Section 5.204 (c). Consistent with Sections 5.67 and 5.151 of the Commission's Rules, Synacom will take all necessary steps to ensure that there will be no possibility of harmful interference to existing users of the spectrum.

Synacom requests a waiver of Section 5.152 of the Commission's Rules, which requires that each class of station in the experimental services must transmit its call sign at the end of each complete transmission. Compliance with this requirement is not feasible due to the technical configuration of the experimental systems proposed and the operating characteristics of the available and planned equipment. Synacom thus submits that the public interest would favor a waiver of Section 5.152 of the Commission's Rules in this instance.

5.0 Conclusion

Synacom asks the Commission to move expeditiously on granting the requested experimental authority to conduct the technical tests for the BBPCS systems as described in this application. Synacom anticipates that engineering data gathered in the course of the proposed BBPCS experimental program will contribute significantly to the existing public body of knowledge concerning. The public interest would therefore be service by a grant of the requested experimental license to Synacom Technology, Inc.

Synacom expressly recognizes, under the Commission's Rules, that grant of its application confers on it no continuing right to operate the system, and that the temporary authorization may be changed or canceled by the Commission at any time. Fully mindful of these conditions and limitations, and the costs involved, Synacom remains fully committed to conducting the experimental program as proposed in this application.