

Box 400, Holmdel, New Jersey 07733

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
SPECIAL TEMPORARY AUTHORIZATION

EXPERIMENTAL
(Nature of Service)

K E 2 X G F
(Call Sign)

XD FX
(Class of station)

S-0201-EX-89
(File number)

NAME AT & T BELL LABORATORIES

Vicinity of Murray Hill and Crawford Hill, New Jersey
(Location of station)

Special Temporary Authority is hereby granted to operate the radio transmitting apparatus described below:

| Frequency MHz | Authorized Power (watts) | Emission Designator |
|------------------|-----------------------------|------------------------|
| 19000 | 1 (ERP) | 1G00W7D |
| 22000 | 1 (ERP) | 1G00W7D |

This special temporary authorization is granted upon the express condition that it may be terminated by the Commission at any time without advance notice or hearing if in its discretion the need for such action arises. Nothing contained herein shall be construed as a finding by the Commission that the authority herein granted is or will be in the public interest beyond the express terms hereof.

This special temporary authorization shall not vest in the grantee any right to operate the station nor any right in the use of the frequencies designated in the authorization beyond the term hereof, nor in any other manner than authorized herein. Neither the authorization nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This authorization is subject to the right of use of control by the Government of the United States conferred by Section 606 of the Communications Act of 1934.

This authorization effective August 1, 1989 and
will expire 3:00 A.M. EST. February 1, 1990

FEDERAL
COMMUNICATIONS
COMMISSION

890201



AT&T Bell Laboratories
Crawford Hill Laboratory

Box 400
Holmdel, NJ 07733
201 949-3000
FAX 201 888-7074

July 18, 1989

Mr. H. Franklin Wright, Chief
Frequency Liaison Branch
Spectrum Engineering Division
Room 7326
Federal Communications Commission
1919 M Street N.W.
Washington, D.C. 20554

Dear Mr. Wright:

This is to request a Special Temporary Authority (STA) for our Radio Station License KE2XGF, File 1361-EX-R-87 for a period of four months from August 1, 1989 to December 1, 1989. Previous testing at microwave frequencies has been successful but we now need to study the characteristics of high data rate channels at millimeter wave frequencies to determine the effects of multipath and cross-polarization coupling on digital signals.

The attachment to this request gives all the pertinent technical information relative to these additional tests. We also request that the station identification requirements of Sec.5.152 of the Commissions Rules again be waived.

We are aware that commercial use of the previously reserved channels is now authorized and we will coordinate our use of the reserved frequencies to avoid interference.

We thank you for your previous assistance, and we trust that the information furnished is sufficient for the Commission's purposes. Should any additional information be required we will be glad to accommodate you.

Yours truly,

A handwritten signature in cursive script that reads "M. J. Gans".

M. J. Gans
Supervisor, Millimeter Wave
Propagation Test Group

Copy to:
R. W. Willis
W. Buckalew
R. D. Gitlin
H. Oswald

7/27

EQUIPMENT:

Experimental - AT&T Bell Laboratories

FREQUENCIES:

1 Duplex Channel in the reserve bands 17.7 to 19.7 GHz and 21.2 to 23.6 GHz
Mobile XMIT 19.000 GHz (Cell Site Receive) $\pm 1.0\text{ppm}$
Cell Site XMIT 22.000 GHz (Mobile Receive) $\pm 1.0\text{ppm}$

POWER:

Not to exceed
Cell Site Station - 1 watt ERP
Mobile Station - 1 watt ERP

EMISSIONS:

19.000 GHz 1G0W7D
22.000 GHz 1G0W7D

Experimental Spectrum

4 Quadrature Phase Modulation
Bit rate fixed for any test but can vary from 40 Mb/s - 1 Gb/s

ANTENNA & LOCATION

| | |
|-------------------------------|--|
| Mobile and Cell Site Antennas | Consistent with the requirements of class A. US FCC Parts 21 and 94 47.9dB gain parabolic Andrew HPX6-180 or 49.7dB gain parabolic Andrew HPX6-220 0.65 degrees vertical and horizontal beamwidths. Antennas may be mounted on 80 ft. tower at Murray Hill or 20 ft. tower at Crawford Hill. These towers are presently used at lower frequencies and conform to FCC requirements. Antennas may also be mounted on the existing Holmdel Building and do not extend more than 6 meters above the building. |
|-------------------------------|--|

TRANSMISSION LOCATIONS:

| | |
|--|--|
| Latitude 40 ° 21' 52" North Longitude 74 ° 10' 28" West | AT&T Bell Laboratories Crawford Corners Road Holmdel, New Jersey 07733-1988 |
| Latitude 40 ° 23' 38" North Longitude 74 ° 11' 06" West | AT&T Bell Laboratories Keyport Holmdel Road Crawford Hill Laboratory Holdmel, NJ 07733-0400 |
| Latitude 40 ° 40' 55" North Longitude 74 ° 23' 41" West | AT&T Bell Laboratories 600 Mountain Avenue Murray Hill, New Jersey 07974-2070 |

POINT OF CONTACT

M. J. Gans
Room HOH R-215
(201) 888-7142

File KE2XGF
[Handwritten signature]



AT&T
Bell Laboratories

Mr. H. Franklin Wright
Chief, Frequency Liaison Branch, OST
Federal Communications Commission
Washington, D.C. 20554

Crawfords Corner Road
Holmdel, New Jersey 07733
Phone (201) 949-3000

September 30, 1987

Dear Mr. Wright:

OCT 05 1987

This is to advise that we have turned on an experimental 11 Ghz radio link between Glenloch and Palmetto as of Sep. 16, 1987. The link is being used to study rain attenuation along a 19.2 mile path between the two sites under experimental license KE2XGF.

The details of our experiment are as follows:

| LOCATION | Palmetto, Ga | Glenloch, Ga |
|----------------|-----------------|--------------|
| Station Call # | KIK95 | KE2XGF |
| AT&T Station | Palmetto | # 3 |
| Lat. | 33-31-35 | 33-25-16 |
| Long. | 84-45-13 | 85-02-54 |
| Frequency | 11.605 GHz REC. | 11.605 XMT. |
| Power out. | | +14.0 dBm |

A second frequency of 11.155 GHz will be available at a later date.

In support of this study we have obtained prior coordination and we are satisfied that no harmful interference should occur to any licensed entity from the operation of the proposed study. Should there be any need for contact for operational reasons, Mr. Ashley Barker at (404) 463-3101 will be available for such purposes. Should any additional information be required, please contact Mr. Joseph Rossabi at (201) 949-4497.

Sincerely,
W.T. Barnett
W.T. Barnett

Copy to
Resident Engineer in Charge
Federal Communications Commission
P.O. Box 85
Powder Springs, Georgia 30073

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