

**Lucent Technologies**  
Bell Labs Innovations



Lucent Technologies Inc.  
67 Whippany Road  
Whippany, NJ 07981

**September 3, 1999**

Mr. Frank Coperich  
Office of Engineering and Technology  
Authorization and Evaluation Division  
Equipment Authorization Branch  
7435 Oakland Mills Road  
Columbia, Maryland 21046

**Re: Measurement of ERP for Integrated Patch Antenna**  
**Application for Certification of FCC ID: AS5CMP-31**  
**Confirmation Number: EA94462**

**Dear Mr. Coperich:**

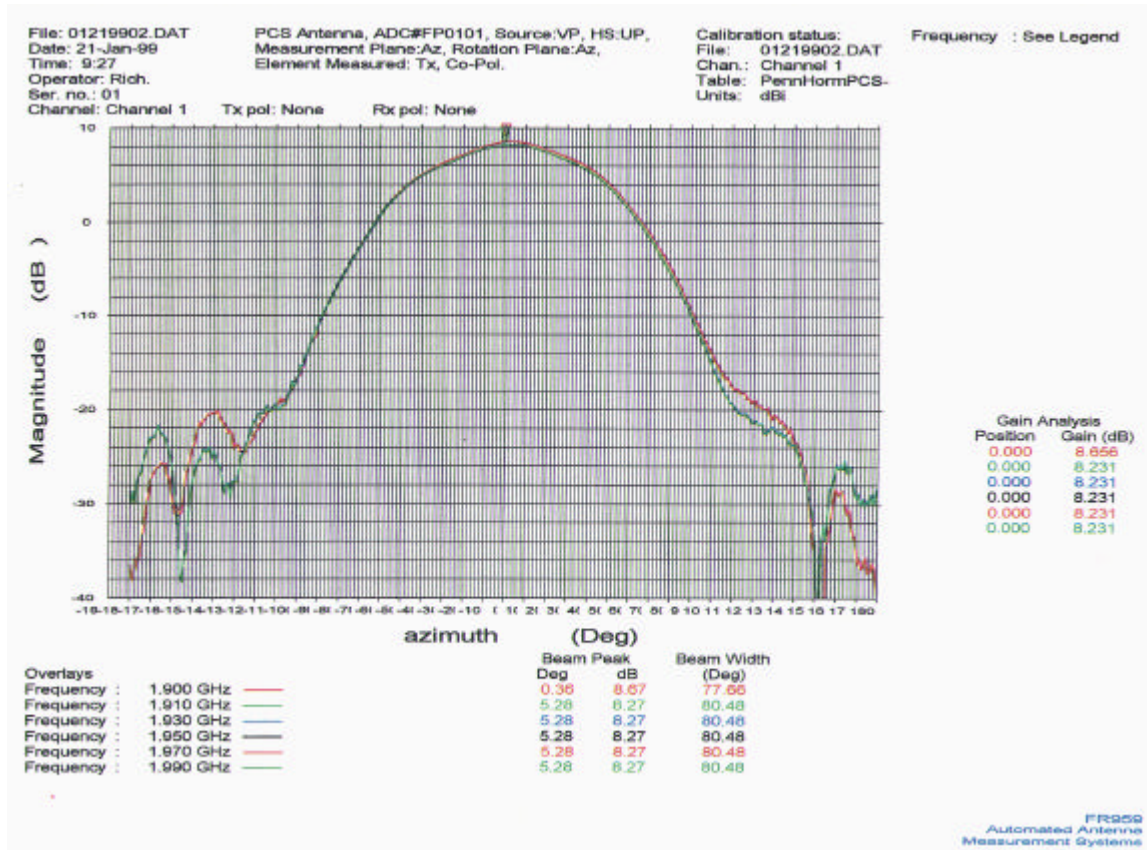
The two attached plots and information is submitted in compliance with your request of August 17 for the measurement of the ERP with the optional integrated patch antenna and per our telephone discussion on August 23 concerning the acceptability of the measurement of the antenna gain profile as a basis to calculate the ERP. The attached gain profile measurements were made for the transmit antenna first in the azimuth (Az) rotation plane and then in the elevation (EL) rotation plane. The peak gain measurements were 8.27 dB and 9.30 dB, respectively, over the PCS transmit frequency band 1930-1990 MHz. The power level at the antenna terminal is 1.2 Watts (30.8 dBm) per single carrier and 12 Watts (40.8 dBm) for a maximum of 10 carriers. The corresponding ERP is then 8.06 Watts (39.1 dBm) and 80.6 Watts (49.1 dBm), respectively, in the Az rotation plane; and 10.2 Watts (40.1 dBm) and 102 Watts (50.1 dBm), respectively, in the EL rotation plane. These measurements represent the the PCS Dual Radio Module (PDRM) transceiver, Part No. 44WR53, covered under AS5CMP-30, operating in combination with the PCS-TDMA Multi Carrier Linear Amplifier (PMCLA), Part No. 44WA28, covered under AS5CMP-31.

Sincerely,

Michael P. Farina  
Member of Technical Staff  
Certification Test Group  
Phone: 973-386-4344  
FAX: 973-386-5384  
E-Mail: mpfarina@lucent.com

Applicant: Lucent Technologies

FCC ID: AS5CMP-31  
Confirmation Number: EA94462



**Integrated Patch Transmit Antenna**

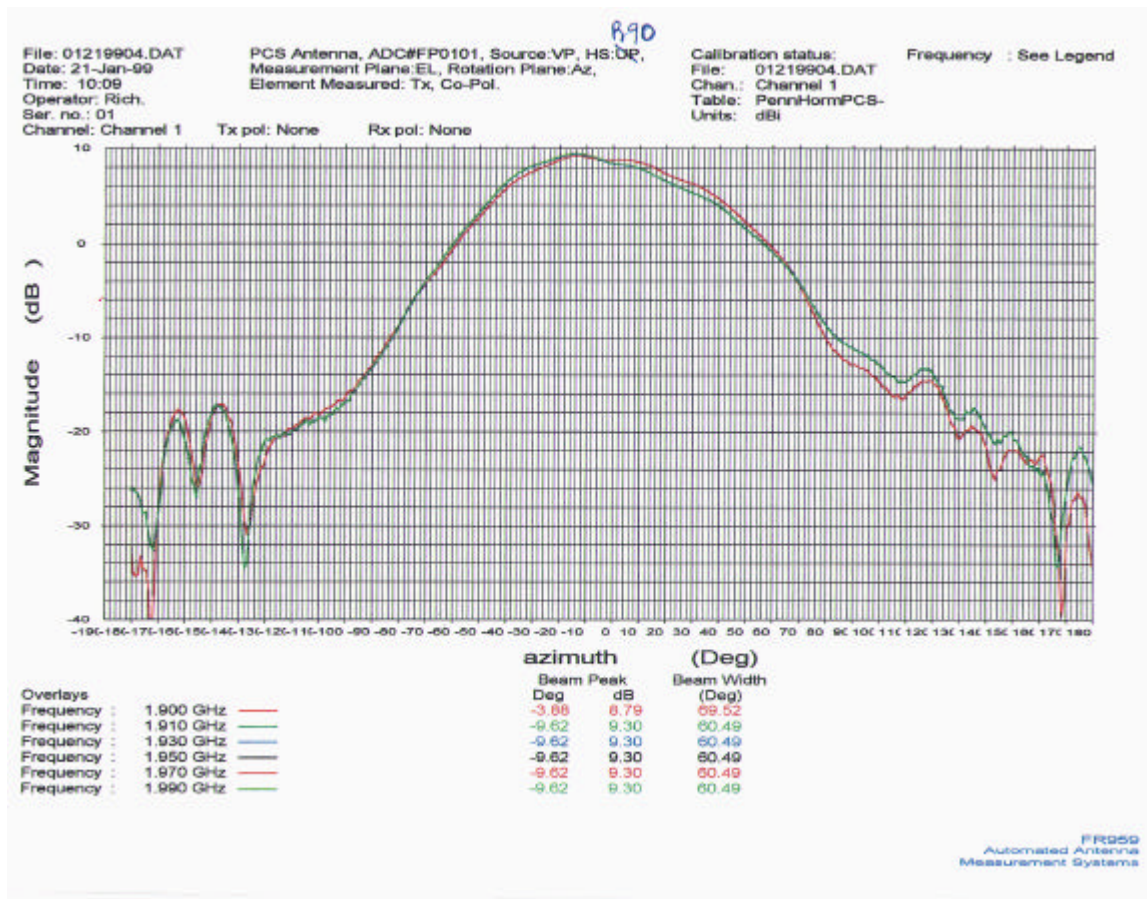
**Gain profile measured in the azimuth (Az) rotation plane.**

The ERP is calculated from the measured power at the antenna terminal + measured antenna gain over the PCS transmit frequency band.

Measurement Frequency PCS Transmit Band	Peak Gain dB	Antenna Terminal Single Carrier 1.2 Watts	ERP per Single Carrier	Antenna Terminal Maximum 10 Carriers Total Composite 12 Watts	Maximum ERP per 10 Carriers Total Composite
1.930 GHz	8.27	30.8 dBm	39.1 dBm/8.06 W	40.8 dBm	49.1 dBm/80.6 W
1.950 GHz	8.27	30.8 dBm	39.1 dBm/8.06 W	40.8 dBm	49.1 dBm/80.6 W
1.970 GHz	8.27	30.8 dBm	39.1 dBm/8.06 W	40.8 dBm	49.1 dBm/80.6 W
1.990 GHz	8.27	30.8 dBm	39.1 dBm/8.06 W	40.8 dBm	49.1 dBm/80.6 W

Applicant: Lucent Technologies

FCC ID: AS5CMP-31  
Confirmation Number: EA94462



**Integrated Patch Transmit Antenna**

**Gain profile measured in the elevation (EL) rotation plane.**

The ERP is calculated from the measured power at the antenna terminal + measured antenna gain over the PCS transmit frequency band.

Measurement Frequency PCS Transmit Band	Peak Gain dB	Antenna Terminal Single Carrier 1.2 Watts	ERP per Single Carrier	Antenna Terminal Maximum 10 Carriers Total Composite 12 Watts	Maximum ERP per 10 Carriers Total Composite
1.930 GHz	9.30	30.8 dBm	40.1 dBm/10.2 W	40.8 dBm	50.1 dBm/102.1 W
1.950 GHz	9.30	30.8 dBm	40.1 dBm/10.2 W	40.8 dBm	50.1 dBm/102.1 W
1.970 GHz	9.30	30.8 dBm	40.1 dBm/10.2 W	40.8 dBm	50.1 dBm/102.1 W
1.990 GHz	9.30	30.8 dBm	40.1 dBm/10.2 W	40.8 dBm	50.1 dBm/102.1 W