

**APPLICANT: Lucent Technologies****FCC ID: AS5CMP-32****EXHIBIT 16****Section 2.1051 Measurements Required: Spurious Emissions at Antenna Terminal**

Spurious emissions conducted to the transmit terminal of the Analog Cellular Dual Radio Module (CDRM) transceiver were investigated from the lowest RF frequency, 15 MHz, to the 10<sup>th</sup> harmonic of the carrier, 10 GHz, as required by Part 2.1057(a)(1). Part 2.1057(c) specifies that spurious emissions attenuated more than 20 dB below the required limitation do not need to be reported. A single unmodulated carrier was adjusted to provide an output power level of approximately +15.5 dBm (36 mW) at the CDRM output terminal. Conducted spurious emission measurements were then made at the output terminal for three carrier frequencies corresponding to **1**) the lowest settable Cellular Frequency Ch 991, 869.040 MHz; **2**) the Mid-Cellular Band Frequency Ch 400, 882.000 MHz; and **3**) the highest settable Cellular Frequency Ch 799, 893.970 MHz.

In compliance with Part 22.917(h), measurements were made with the instrumentation resolution bandwidth set to 30 kHz. The limitation for the Cellular Frequency Band is specified in Part 22.917(e) as: "The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P in Watts) ..... by at least  $43 + 10 \log (P)$  dBc." For the CDRM output power at +15.5 dBm (36 mW), the required emission attenuation below the carrier is then 28.6 dBc; the reportable band extends to 48.6 dBc. Two plots were made for each channel listed above: 15 MHz – 1 GHz and 1 GHz – 10 GHz. A variable attenuator was used to adjust the unmodulated carrier peak to the 0 dBm reticle line, of the spectrum analyzer, as a reference line to facilitate reading the *attenuation below the carrier* direct from the vertical display grid. Part 2.1051 also states that: "The magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified."

**RESULTS:**

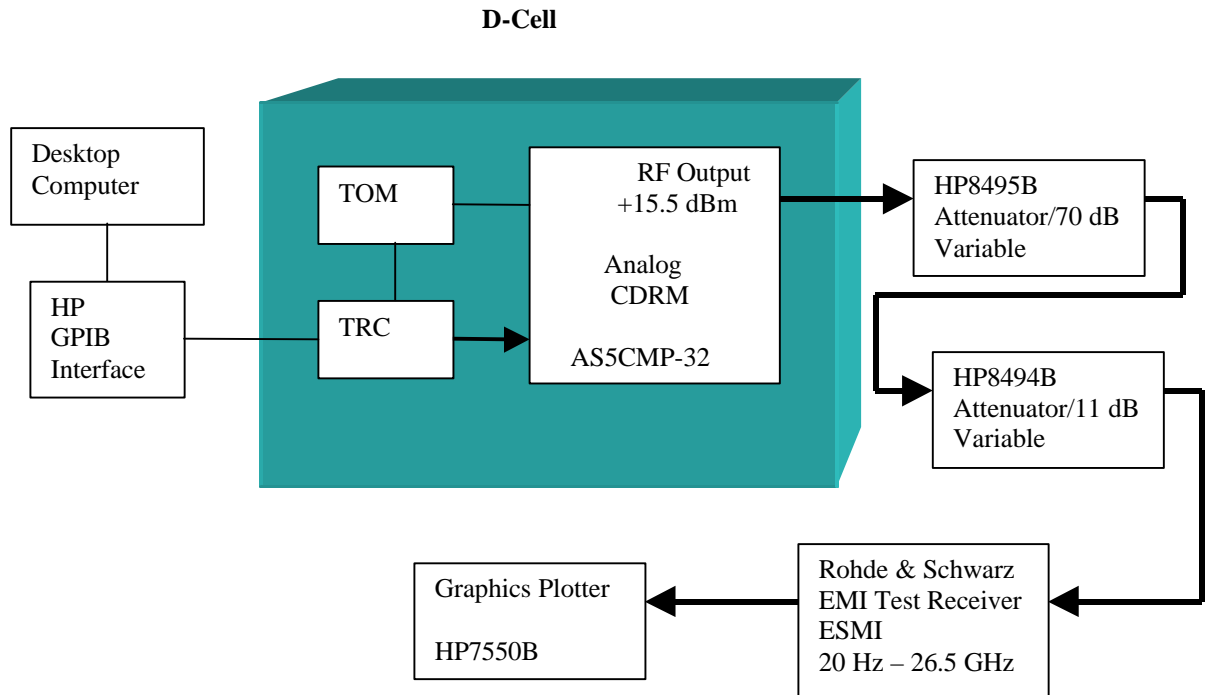
In each of the attached data plots, the instrumentation noise floor far exceeded the 28.6 dBc limitation by much greater than 20 dB, with no measurable spurious emissions. The Analog Cellular Dual Radio Module (CDRM), 44WR54, transceiver demonstrated full compliance with the requirements of Part 2.1051 and Part 22.917. A block diagram of the test set-up and all data plots are attached to this exhibit.

## EXHIBIT 16

## Test Set-Up Block Diagram

Test set-up for measuring the occupied bandwidth output from the Analog Cellular Dual Radio Module transceiver using a FLEXENT Development Cell (D-Cell).

TOM: TDMA Oscillator Module [15 MHz Reference Frequency]  
 TRC: TDMA Radio Controller  
 CDRM: TDMA/Analog Cellular Dual Radio Module

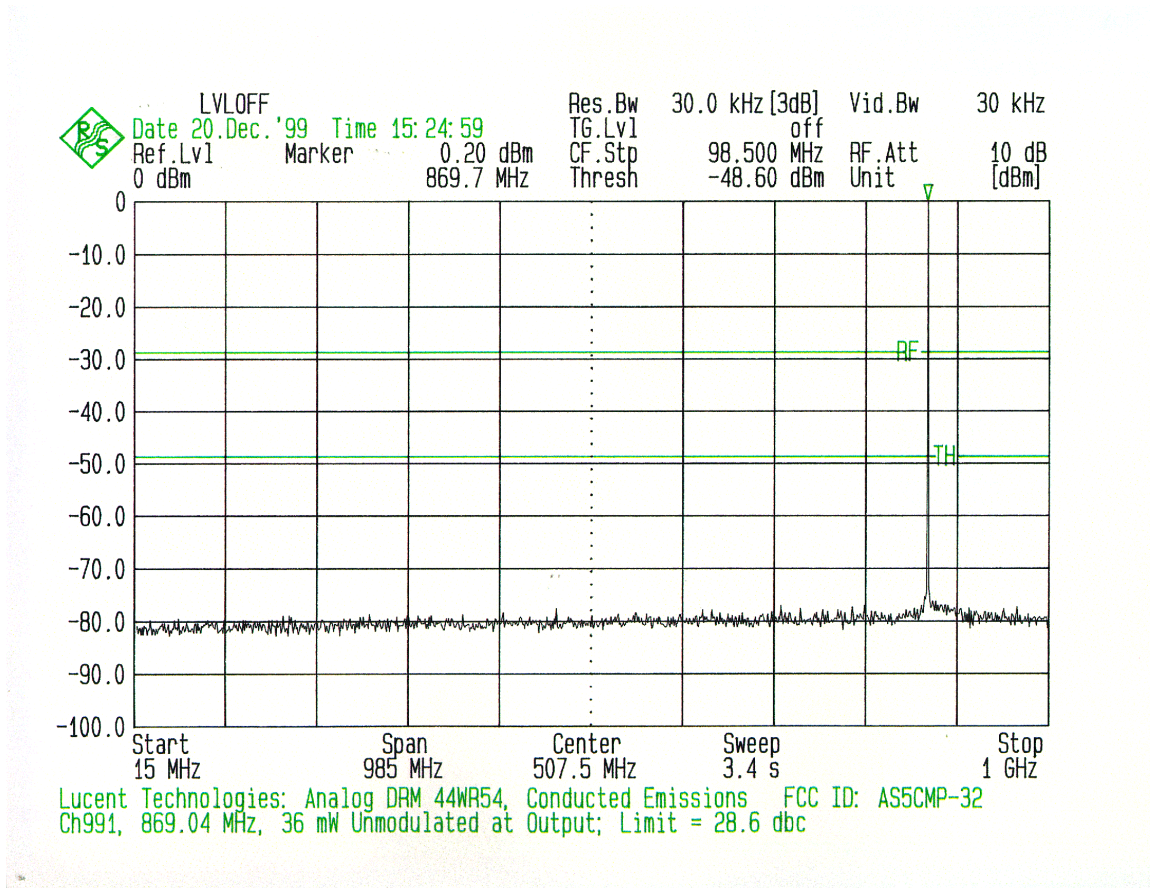


APPLICANT: Lucent Technologies

FCC ID: AS5CMP-32

## EXHIBIT 16

## Data Plots of Conducted Spurious Emissions:



## Cellular A-Band: Lowest Edge Channel

Channel 991, 869.040 MHz unmodulated carrier

Analog Cellular Dual Radio Module transceiver output terminal

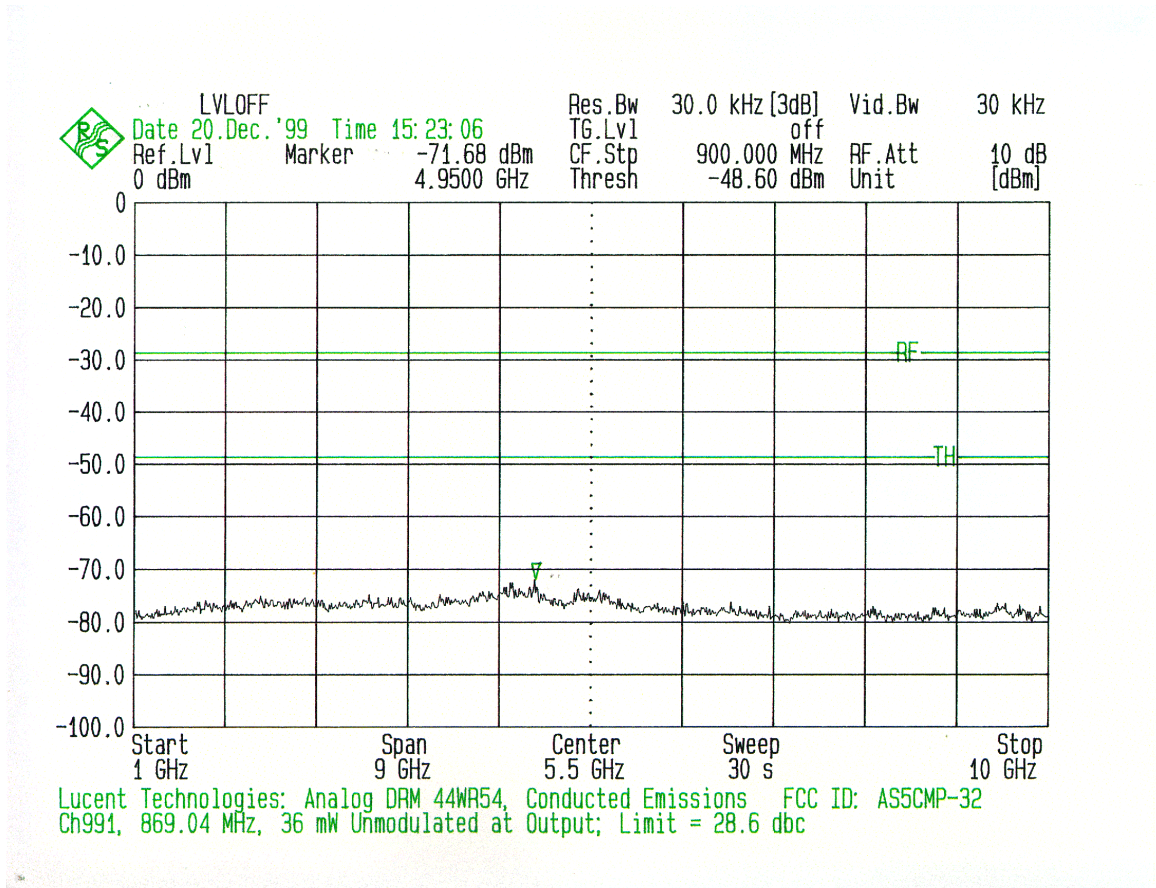
Plot 1 of 2

APPLICANT: Lucent Technologies

FCC ID: AS5CMP-32

## EXHIBIT 16

## Data Plots of Conducted Spurious Emissions:



## Cellular A-Band: Lowest Edge Channel

Channel 991, 869.040 MHz unmodulated carrier

Analog Cellular Dual Radio Module transceiver output terminal

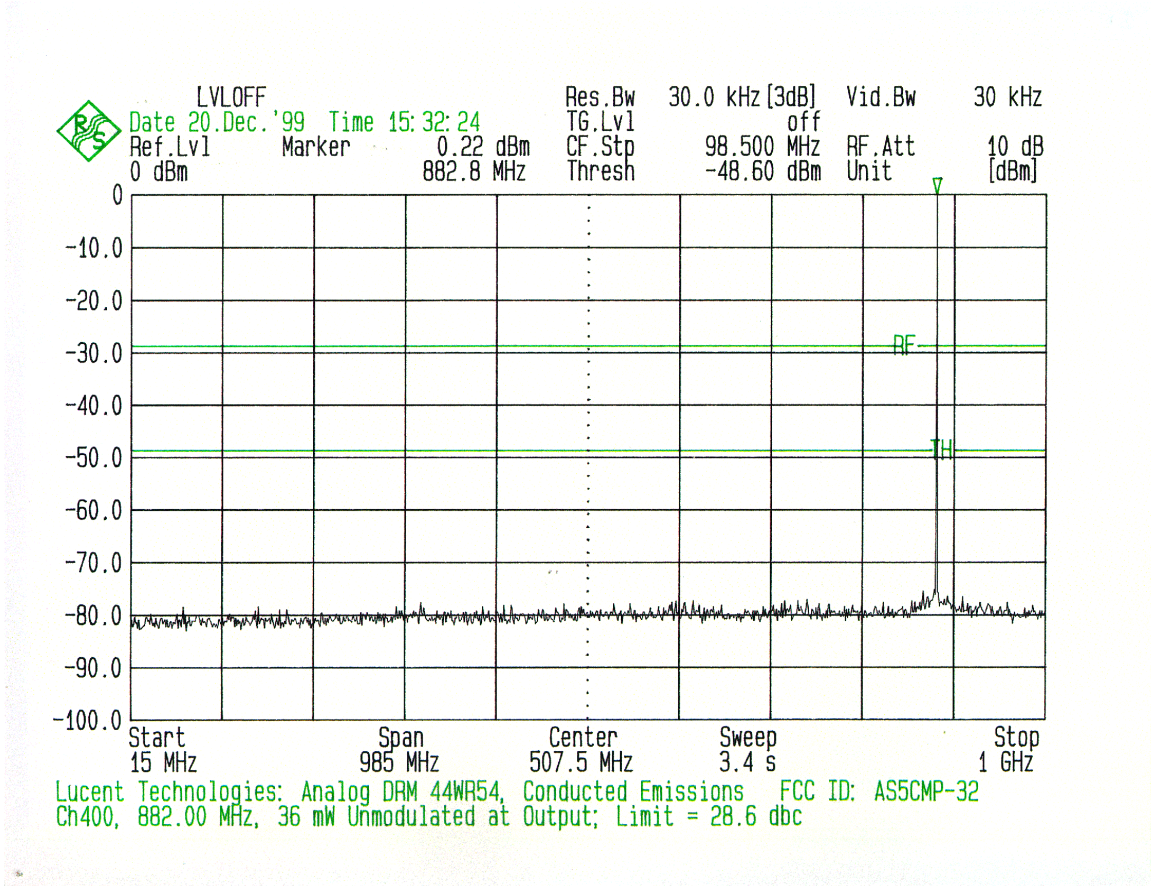
Plot 2 of 2

APPLICANT: Lucent Technologies

FCC ID: AS5CMP-32

EXHIBIT 16

Data Plots of Conducted Spurious Emissions:



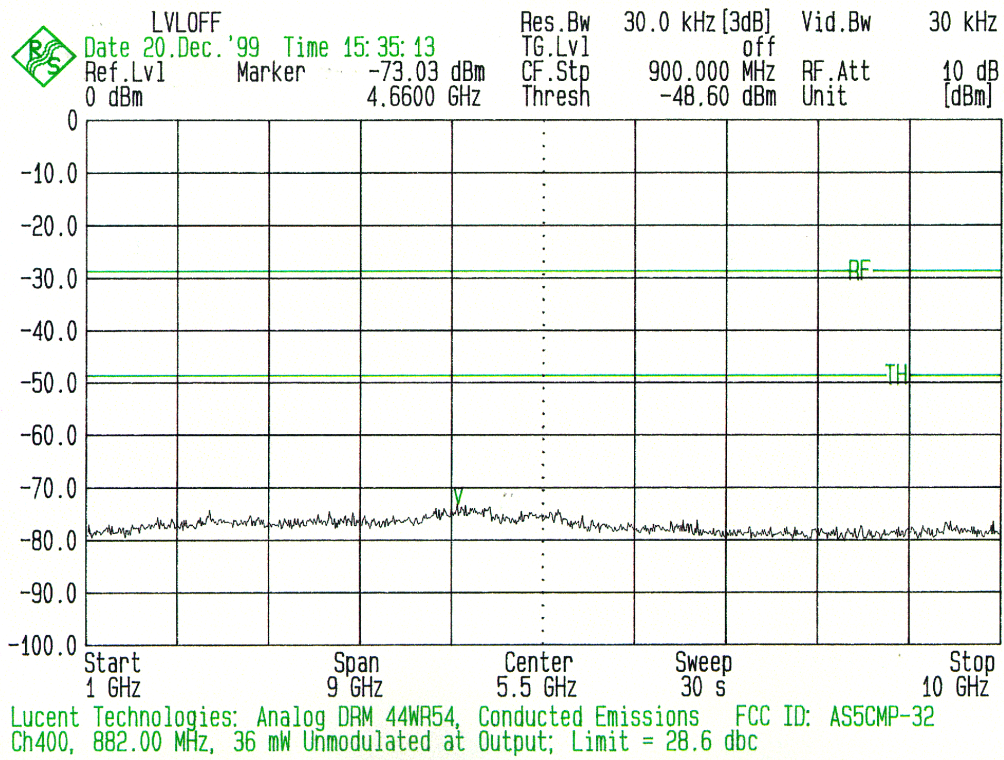
Cellular A-Band: Mid Cellular Frequency Band  
Channel 400, 882.000 MHz unmodulated carrier  
Analog Cellular Dual Radio Module transceiver output terminal  
Plot 1 of 2

APPLICANT: Lucent Technologies

FCC ID: AS5CMP-32

EXHIBIT 16

Data Plots of Conducted Spurious Emissions:



Cellular A-Band: Mid Cellular Frequency Band

Channel 400, 882.00 MHz unmodulated carrier

Analog Cellular Dual Radio Module transceiver output terminal

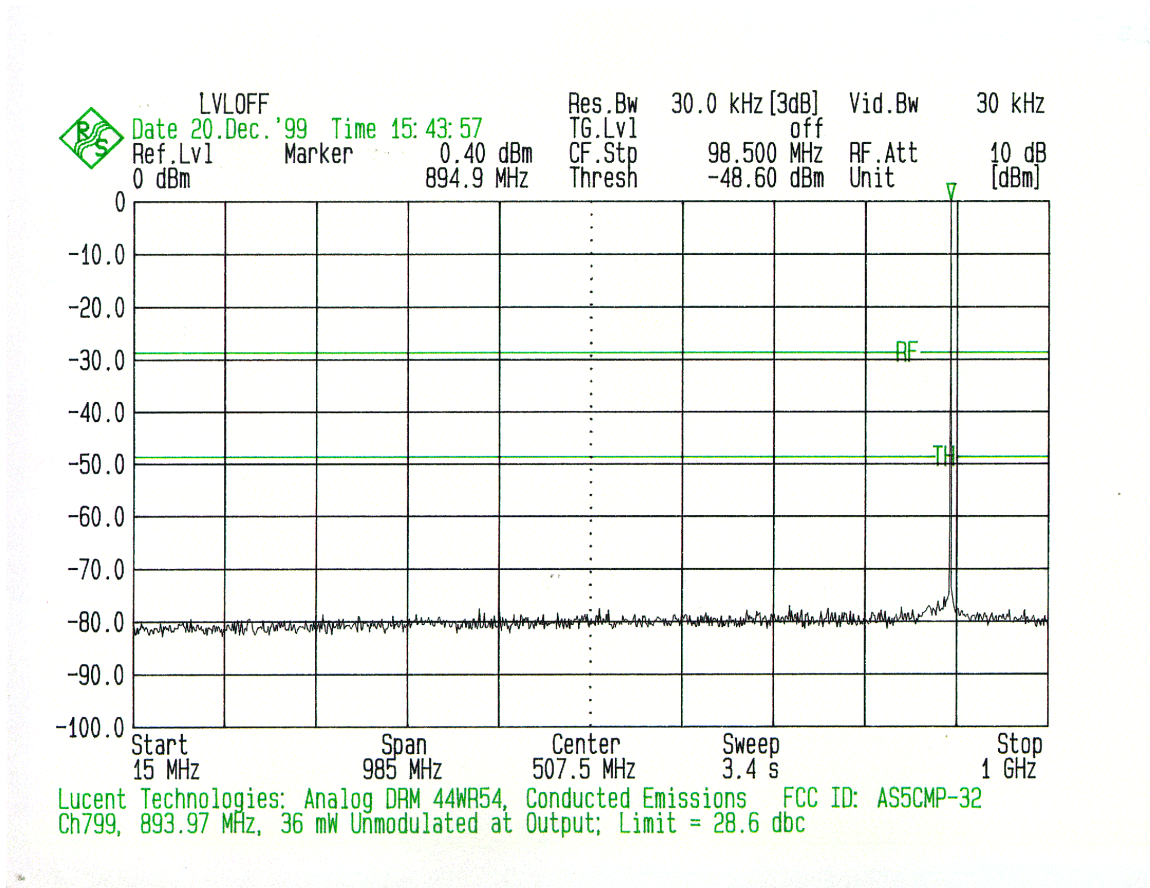
Plot 2 of 2

APPLICANT: Lucent Technologies

FCC ID: AS5CMP-32

## EXHIBIT 16

## Data Plots of Conducted Spurious Emissions:



Cellular B-Band: Highest Edge Channel

Channel 799, 893.97 MHz unmodulated carrier

Analog Cellular Dual Radio Module transceiver output terminal

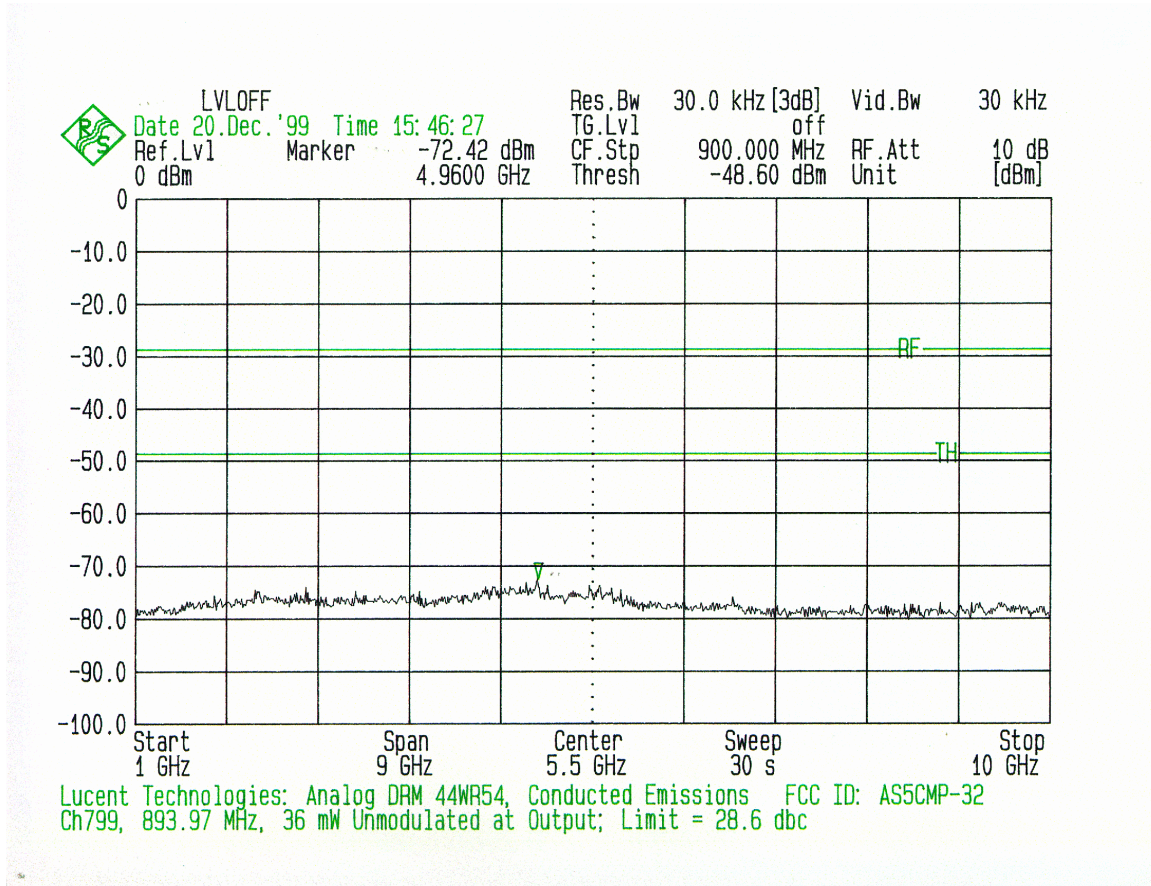
Plot 1 of 2

APPLICANT: Lucent Technologies

FCC ID: AS5CMP-32

## EXHIBIT 16

## Data Plots of Conducted Spurious Emissions:



**Cellular B-Band: Highest Edge Channel**  
**Channel 799, 893.97 MHz unmodulated carrier**  
**Analog Cellular Dual Radio Module transceiver output terminal**  
**Plot 2 of 2**