APPLICANT: Lucent Technologies FCC ID: AS5CMP-32

## **EXHIBIT 16**

## Section 2.1049 Measurements Required: Occupied Bandwidth

In compliance with Section 2.1049(h), a single TDMA carrier was modulated by a pseudo-random data bit stream for all 3 time slots, and the Cellular TDMA Dual Radio Module (CDRM) output power level set to approximately +15.5 dBm at it's output terminal. The occupied bandwidth measurements were made at the CDRM transmit terminal on the backplane and with CDRM tuned to: 1) the lowest settable Cellular channel, A-Band Ch 991 869.04 MHz; 2) mid Cellular Band Ch 400 882.00 MHz; and 3) the highest settable Cellular channel B-Band Ch 799 893.97 MHz

The occupied bandwidth limitations and emission mask for a 30 kHz TDMA carrier, i.e., digital transceiver, is specified in Part 22.917(d)(1-3) as:

Displacement from the	Required Attenuation Below the Carrier
Carrier Center Frequency	
Greater than 20 kHz up to 45 kHz	At least 26 dBc
Greater than 45 kHz up to 90 kHz	At least 45 dBc
Greater than 90 kHz up to 1st harmonic	At least 60 dBc
	Or 43 + 10 log (Carrier Power in Watts) dBc
	Or whichever is the lesser attenuation

Part 22.917 specifies that the measurement instrumentation resolution bandwidth be set to 300 Hz for displacements from the carrier center frequency equal to or less than 60 kHz. For the 30 kHz TDMA carrier, the spectrum analyzer resolution bandwidth was set to 300 Hz. The standard measurement procedure is to align the center of the carrier with the top of the spectrum analyzer display reticle (i.e., 0 dBm) and reference the required "attenuation below the carrier" (dBc) to the 0 dBm reference. Attenuation below the carrier is then read directly off the 0 dBm to -110 dBm scale. Using the 300 Hz resolution bandwidth requires displacing (offsetting) the 30 kHz modulated carrier from the 0 dBm reference line by:

 $10 \log$  (carrier bandwidth/instrumentation resolution bandwidth)  $10 \log (30 \text{ kHz}/300 \text{ Hz}) = 20 \text{ dB offset}$ 

#### **EXHIBIT 16**

#### **RESULTS:**

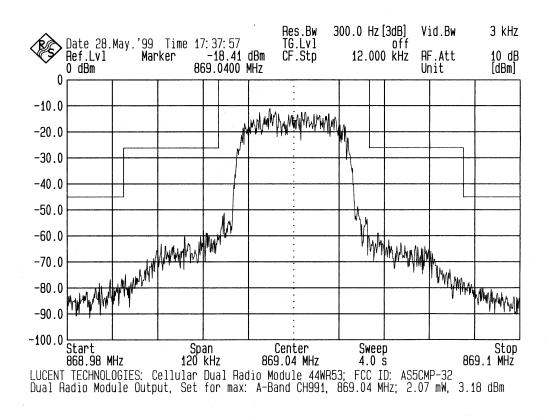
The attached occupied bandwidth plots demonstrate full compliance with the requirements of Part 22.917 for the cellular frequencies specified above. At each test frequency, the carrier was well within the required emission mask; the Cellular TDMA Dual Radio Module (CDRM), 44WR54, demonstrated full compliance with Part 22.917 for occupied bandwidth requirements.

Test set-up for measuring the occupied bandwidth of the Cellular TDMA Dual Radio Module transceiver.

FLEXENT™ Cellular TDMA Microcell J41698B-1 Simplex Transmit Bandpass Filter Cellular Multi Carrier Linear Amplifier (CMCLA) AS5CMP-33 HP 8495B Attenuator/70 dB Backplane variable Nominal 13 dB Attenuation HP 8494B **TOM** Attenuator/11 dB RF Out variable  $+15.5\ dBm$ **CDRM** TRC Rohde & Schwarz EMI Test Receiver AS5CMP-32 **ESMI PCU** 20 Hz - 26.5 GHzTOM: TDMA Oscillator Module Primary Distribution Cabinet TRC: TDMA Radio Controller PCU: Power Conversion Unit CDRM: Cellular TDMA Dual Radio Module transceiver AC LISN: Line Impedance Stabilization Network Utility LISN Power Line 115Vac

**EXHIBIT 16** 

## OCCUPIED BANDWIDTH PLOTS:



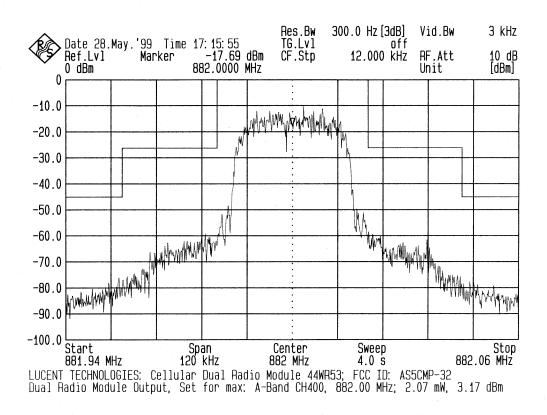
Cellular A-Band: Lower Edge Channel

Channel 991, 869.04 MHz

Cellular TDMA Dual Radio Module transceiver output at the backplane terminal

**EXHIBIT 16** 

# OCCUPIED BANDWIDTH PLOTS:

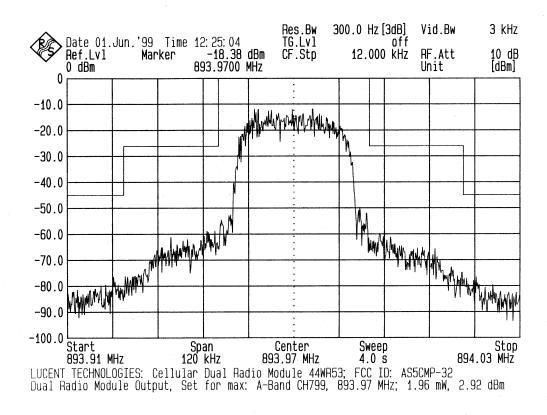


Mid Cellular Frequency Band:

Channel 400, 882.00 MHz
Cellular TDMA Dual Radio Module transceiver output at the backplane terminal

**EXHIBIT 16** 

## OCCUPIED BANDWIDTH PLOTS:



Cellular B-Band: Upper Edge Channel

Channel 799, 893.970 MHz

Cellular TDMA Dual Radio Module transceiver output at the backplane terminal