#### **SECTION 2.1046**

### **MEASUREMENT OF RADIO FREQUENCY POWER OUTPUT**

The test arrangements used to measure the radio frequency power output of the **ULAM / AS5CMP-34** Ultra Linear Amplifier Module is on the following page. Measurements were made respectively at each frequency where Occupied Bandwidth measurements were performed. The use of the ULAM requires that the J4 power level be calibrated for each specific channel of use. The test configuration, Figure 12a, allowed the measurement of output power for each channel investigated for Occupied Bandwidth. These included the "Left" and "Right" Edge of Block and at a center channel for each Block.

The ULAM system has a maximum power output at the antenna terminals of 16.0 Watts (42.04 dBm) +2/-4 dB per Carrier or 48 Watts total. It also has a minimum power output at the antenna terminals of 0.16 Watts (+2/-4 dB, across the PCS downlink Band (1930.00-1990.00 MHz). The signal applied to the ULAM is defined in Table 12.1. The power was reset to 16.0 Watts/carrier at each measurement frequency to verify the spectral performance at that power level at each specific frequency of interest. The attenuation range was also verified. The specific Frequencies, channels and set power level was documented on each "Occupied Bandwidth" data sheet. These were performed for single dual and three carrier configurations.

Туре	Number of	Fraction of	Fraction of	Comments
	Channels	Power (Linear)	Power (dB)	
Pilot	1	0.1490	-8.3	Walsh 0
				Walsh 32, always 1/8
Sync	1	0.015/p	-18.3	rate
	4		107	Walsh 1, full rate
Paging	I	0.054	-12.7	only
				Variable Walsh
	6	0.13	-8.8	Assignments, full
Traffic		each	each	rate only

The applied signal met the recommended characteristics per ANSI J-STD-008 section 3.1.4 as defined below.

### **TABLE 12.1 Base Station Test Model, Nominal**



**Lucent Technologies Inc. - Proprietary** Use pursuant to Company Instructions.

# Exhibit 12

## Equipment used in Figure 12 For Measurement of RF Power

Modular Cell	Fully Populated PCS Modular Cell		
OM 1&2 :	Oscillator Module, 15 MHz Rubidium and Crystal types		
CBR: 1-9	CDMA Baseband Radio (FCC ID: AS5CMP-26)		
ULAM: 1-9	Ultra Linear Amplifier Module (FCC ID: AS5CMP-34)		
<b>Transmit Filter:</b>	PCS Block Transmit Filter appropriate for the investigated Block		
<b>Directional Coupler:</b>	HP 778D and 772D Dual Directional Coupler		
<b>Power Meter:</b>	HP E4419A Power Meter with EPC-E18A Power Head		
Plotter:	HP Model 7470A Plotter		
Attenuators, Variable	HP 8494B and 8495B digital attenuators		
Attenuators, Fixed	Weinschel Corp DC-18 GHz, various values		
Spectrum Analyzer:	Rohde & Schwarz ESMI EMI Test Receiver		

# Exhibit 12

### **RESULTS:**

The ULAM/ AS5CMP-34 was configured in the test setup shown in Figure 12A. For each of the PCS channels tested the ULAM/ AS5CMP-34 delivered a minimum of 16.0 Watts per carrier +2/-0 dB when measured at the J4 output connection.

This data is recorded on the Occupied Bandwidth Data Sheets for "Left edge", "Center", and "Right Edge" of each frequency Block. Data is presented for Blocks "A", and "B".

Note: The **ULAM**/**AS5CMP-34** can be operated as a single carrier or as a Multiple Carrier CDMA amplifier. The maximum power level are verified at each cell site during setup of the PCS CDMA Modular Cell and installation of the **CBR**, **FCC ID: AS5CMP-26**.