

**Exhibit 12****SECTION 2.1046****MEASUREMENT OF RADIO FREQUENCY POWER OUTPUT**

The test arrangements used to measure the radio frequency power output of the **BCR / AS5CMP-24** is on the following page. Measurements were made respectively at each frequency where Occupied Bandwidth measurements were performed. The use of the BCR 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.

The **BCR** has a maximum power output at its terminals of 0.001 Watts (0.0 dBm) +2 / -4 dB for a single Carrier. It also has a minimum power output at its output terminals of -30 dBm ( +2 / -4 dB, across the Cellular down-link Band (869.00-894.00 MHz). The output signal parameters for these tests is defined in Table 12.1. The power was reset to 0.001 Watts 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.

The applied signal met the recommended characteristics per IS-97 (and when upconverted to PCS frequencies per ANSI J-STD-008 section 3.1.4) as defined below.

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

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

**RESULTS:**

The **BCR / AS5CMP-24** was configured in the test setup shown in Figure 12A. For each of the Cellular channels tested the **BCR/ AS5CMP-24** delivered a minimum of 0.001 Watts +2/-0 dB when measured at its output connection.

This data is recorded on the Occupied Bandwidth Data Sheets for all of the Cellular Channels tested and these include the "Left edge", and "Right Edge" channels for each frequency Band.

## Exhibit 12

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

| <b><u>Equipment</u></b>     | <b><u>Description</u></b>                                                                                               |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>PCS Mini Cell:</b>       | Fully Populated PCS Mini Cell                                                                                           |
| <b>RFTGu :</b>              | Reference Frequency Timing Generator RFTGu or RFTGm                                                                     |
| <b>BCR:</b>                 | CDMA Baseband Radio (FCC ID: AS5CMP-24)                                                                                 |
| <b>Transmit Filter:</b>     | Cellular Transmit Filter appropriate for the investigated Band                                                          |
| <b>Directional Coupler:</b> | HP 778D and 772D Dual Directional Coupler                                                                               |
| <b>Power Meter:</b>         | HP E4419A Power Meter with EPC-E18A Power Head                                                                          |
| <b>Test Cables:</b>         | W.L. Gore; Low loss test cables custom mfg. for Lucent FCC Laboratory                                                   |
| <b>Plotter:</b>             | HP Model 7470A Plotter                                                                                                  |
| <b>Printer:</b>             | HP Model 4500DN Printer                                                                                                 |
| <b>Attenuator, Variable</b> | HP 8494B and 8495B DC-18 GHz digital attenuators                                                                        |
| <b>Attenuator, Fixed</b>    | Weinschel Corp DC-18 GHz, various values                                                                                |
| <b>Band Pass Filters:</b>   | Trialithic, 0.8-20 GHz, Custom manufactured for Lucent FCC Laboratory                                                   |
| <b>Spectrum Analyzer:</b>   | Rohde & Schwarz ESMI EMI Test Receiver                                                                                  |
| <b>Computer Controller:</b> | EG Technology, Custom Mfg for FCC Laboratory Intel™ Pentium II& III,<br>450 and 550 MHz controllers with TILE™ software |

Exhibit 12 Figure 12A RF Power Test Configuration

