

Measurement: 1

**MEASUREMENT OF RADIO FREQUENCY
POWER OUTPUT**

Section 2.1046

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The test arrangements used to measure the radio frequency power output of the UMTS CDMA Radio (PCS) (UCR) FCC ID: **AS5ONEBTS-04**, is on the following page. Required measurements were made respectively for single, two and three carriers (channels) where occupied Bandwidth measurements must be performed. The use of the UCR is for a single or multiple CDMA carriers. This requires that the RF power output level be calibrated for the specific channels of use. The test configuration, Figure 1A, allowed the measurement of RF output power for channels investigated for Occupied Bandwidth. These included the upper, and lower band edges and at the center channels for 15MHz wide frequency blocks and upper, and lower band edge channels for 5 MHz wide frequency blocks. The IS-97 channel allocations are listed below:

IS 97 channel allocation consists of following channel Blocks:

| Block | Frequency Bands Per FCC 24.229 MHz | Valid CDMA Channel s & Frequency Range | |
|-------------|--|---|---------------------|
| | | Channel No. | MHz |
| A (15 MHz) | 1930.000 – 1945.000 | 25 – 275 | 1931.250 – 1943.750 |
| D (5 MHz) | 1945.000 – 1950.000 | 325 – 375 | 1946.250 – 1948.750 |
| B (15 MHz) | 1950.000 – 1965.000 | 425 – 675 | 1951.250 – 1963.750 |
| E (5 MHz) | 1965.000 – 1970.000 | 725 – 775 | 1966.250 – 1968.750 |
| F (5 MHz) | 1970.000 – 1975.000 | 825 – 875 | 1971.250 – 1973.750 |
| C (15 MHz) | 1975.000 – 1990.000 | 925 - 1175 | 1976.250 – 1988.750 |

The edge channels are 25 and 1175.

The UCR has a maximum RF power output of 0.01 Watts (10dBm) +2/-4 dB, it also has a minimum power output at the antenna terminals of 0.003mWatts (-25dBm) +2/-4 dB, across the PCS band (1930-1990 MHz). The signal applied to the PCBR is defined in Table 1.1. The power was reset to 10dBm at each measurement frequency to verify the spectral performance at that power level. The attenuation range was also verified. The specific Frequencies and channels and set power level was documented on each “Occupied Bandwidth” sheet. (see Measurement-3)

| Type | Number of Channels | Fraction of Power (Linear) | Fraction of Power (dB) | Comments |
|---------|--------------------|----------------------------|------------------------|--|
| Pilot | 1 | 0.2000 | -7.0 | Walsh 0 |
| Sync | 1 | 0.0471 | -13.3 | Walsh 32, always 1/8 rate |
| Paging | 1 | 0.1882 | -7.3 | Walsh 1, full rate only |
| Traffic | 6 | 0.09412 each | -10.3 each | Variable Walsh Assignments, full rate only |

TABLE 1.1 BASE STATION TEST MODEL, NOMINAL**TEST SETUP FOR MEASUREMENT OF RADIO FREQUENCY POWER OUTPUT****EQUIPMENT:**

| | |
|-----------------------------|---|
| Cabinet | Flexent One BTS Modcell 4.0 Outdoor |
| UCR: | UMTS CDMA Radio (PCS) (FCCID:AS5ONEBTS-04) |
| Flexent PA | Power Amplifier (FCCID: AS5ONEBTS-02) |
| Transmit Filter: | PCS Band Transmit Filter appropriate for the investigated Band |
| Directional Coupler: | HP 778D Dual Directional Coupler |
| Power Meter: | HP 437B with HP 8481A Power Head |
| Plotter: | HP Model 520 DeskJet |
| Spectrum Analyzer: | Rohde & Schwarz FSEK EMI Test Receiver |

RESULTS:

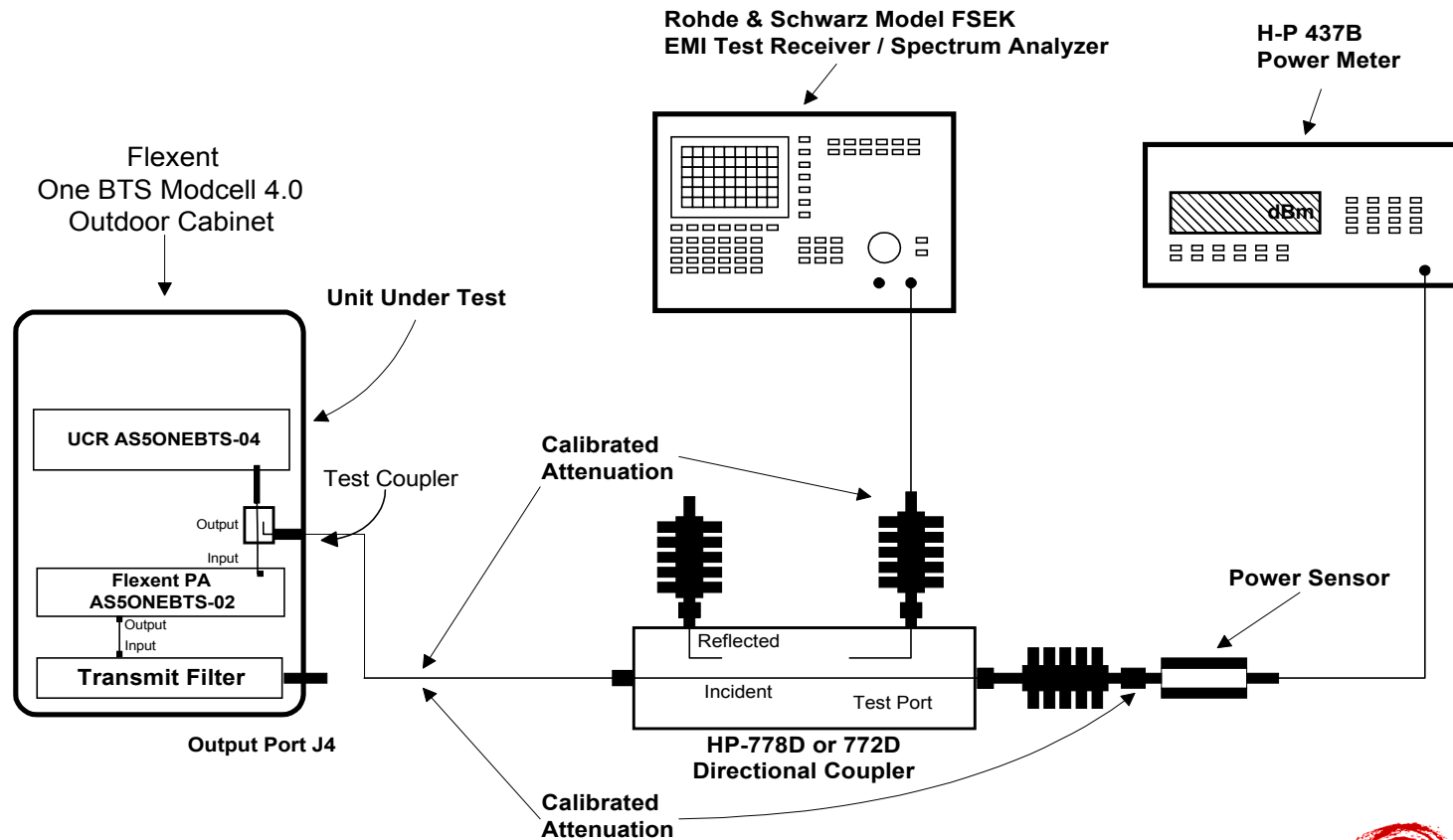
The UMTS CDMA Radio (PCS) (UCR) (FCCID:AS5ONEBTS-04) was configured in the test setup shown in Figure 1A. For each of the PCS channel and channel groups tested the UCR delivered a 10 dBm when measured at the RF output connection. This data is recorded on the Occupied Bandwidth Data Sheets (see Measurement : 3).

Figure 1A. TEST CONFIGURATION FOR RF POWER OUTPUT

APPLICANT: Lucent Technologies

FCC ID: AS5ONEBTS-04

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Use pursuant to Company Instructions



All components are calibrated over the frequency range of interest

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