MEASUREMENT OF RADIO FREQUENCY POWER OUTPUT SECTION 2.1046

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MEASUREMENT: 1

MEASUREMENT OF RADIO FREQUENCY POWER OUTPUT

SECTION 2.1046

The test arrangements used to measure the radio frequency power output of the FCC ID: AS5BTS2K-01 "GSM 1900 Transceiver" Model SRFU19 is on the following page. Measurements were made respectively at each frequency where occupied Bandwidth measurements were performed. The use of the SRFU19 is for a Single GSM Carrier. This requires that the J4 power level be calibrated for the specific channel of use. The test configuration, Figure 1A and Figure 1B, allowed the measurement of RF output power for channels investigated for Occupied Bandwidth. The test set up for Figure 1A for two carriers and Figure 1B for single carrier. These included the upper lower band edges and at the center channel for each Band.

A single SRFU19 system has a maximum power output at the antenna terminals of 27 Watts (44.3 dBm) +0.5/-2 dB, it also has a minimum power output at the antenna terminals of 0.002 Watts (+0.5/-2 dB), across the PCS band (1930.2 –1989.8 MHz). Two SRFU19s combined system for two carriers have a maximum power output at the antenna terminals of 34 Watts (45.3 dBm) +0.5/-2 dB, it also has a minimum power output at the antenna terminals of 0.005 Watts (+0.5/-2 dB), across the PCS band (1930.4 –1989.6 MHz). Digitized pseudo-random traffic stored in an EROM in SRFU19 was used as input. The power was reset to 27 Watts at each measurement frequency or 34W for two carrier combined to verify the spectral performance at that power level at each specific frequency of interest. The attenuation range was also verified. The specific frequencies and channels and set power level was documented on each "Occupied Bandwidth" sheet in Measurement 3A.

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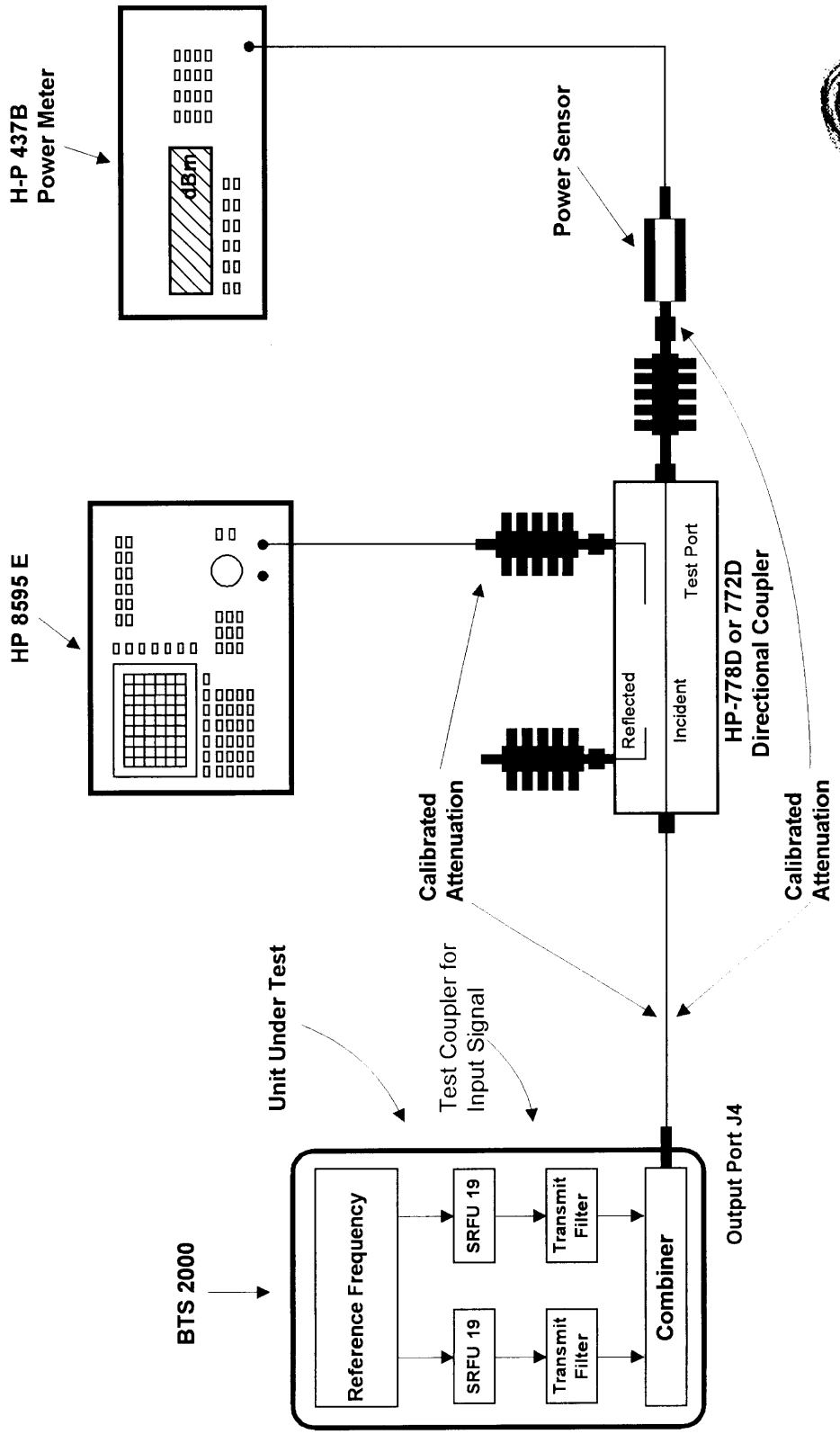
EQUIPMENT:

BTS 2000:	**BTS 2000 – 1900 MHz Cabinet**
SRFU19:	**Single Radio Frequency Unit**
ACU 19-4UV	**Combiner**
Transmit Filter:	**Cellular Band Transmit Filter**
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 SRFU19 was configured in the test setup shown in Figure 1A. For each of the PCS channels tested the SRFU19 delivered a 27 Watts and two PCS channels tested by combining two SRFU 19 delivered 34 Watts when measured at the J4 output connection. This data is recorded on the SRFU19 Occupied Bandwidth Data Sheets.

Figure 1A TEST CONFIGURATION FOR RF POWER MEASUREMENT



All components are calibrated over the frequency range of interest

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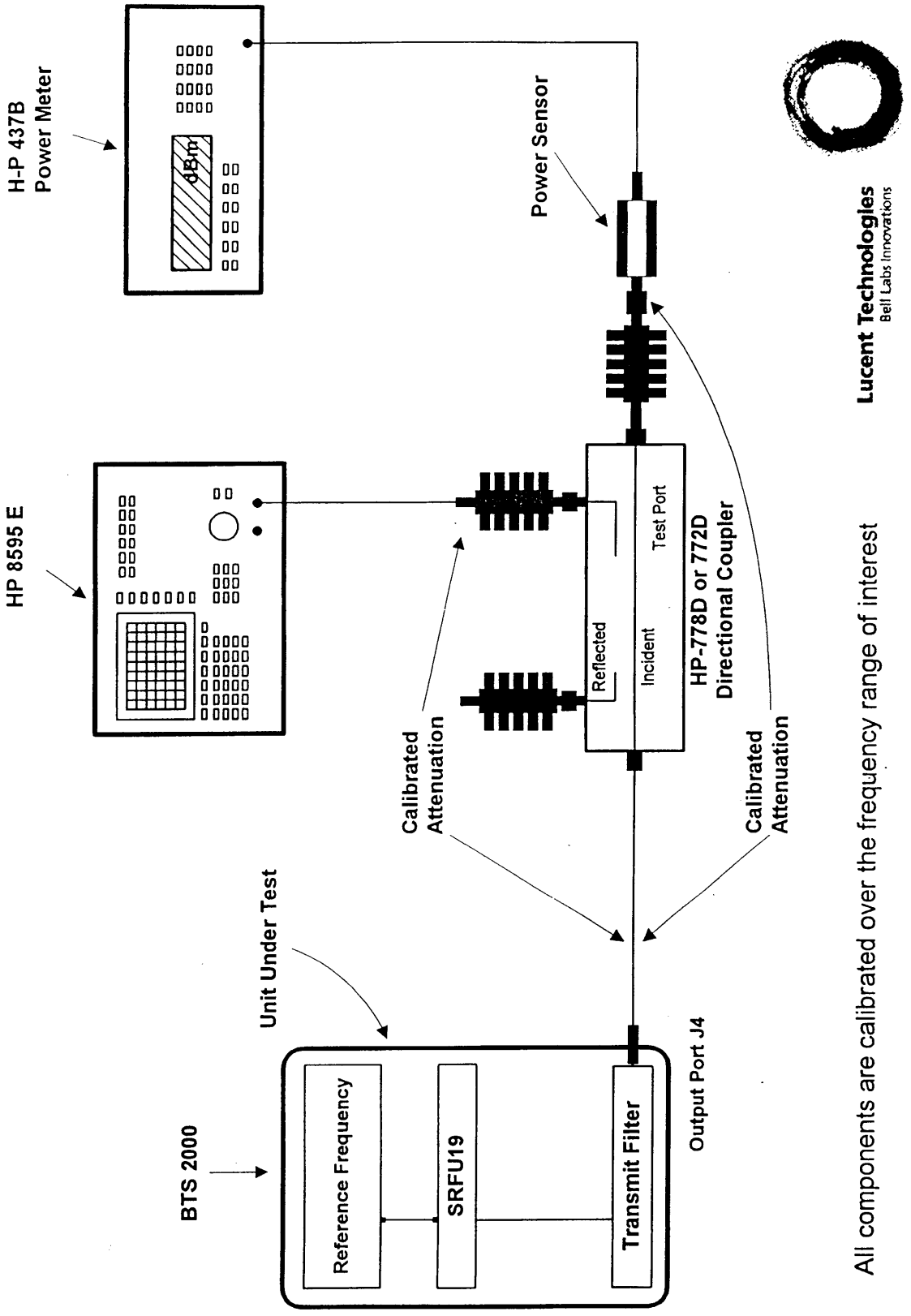
Figure 1B. TEST CONFIGURATION FOR RF POWER OUTPUT



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