EXHIBIT 11

TEST REPORT

This test report presents the measurement data required by the Commission for certifying the AS5CMP-40 SBEDRU cellular transceiver, subject of this application. All the testing was performed during the period of May 21~July 17, 2001. The measurement results have demonstrated the AS5CMP-40 SBEDRU transceiver is in full compliance with the Rules of the Commission.

SUBEXHIBIT 11.1

Section 2.1033 (c)(14) REQUIRED MEASUREMENT DATA

The required measurement data is presented in the following exhibits as follows:

SUBEXHIBIT 11.2	Section 2.1046	Measurements Required: RF Power Output
SUBEXHIBIT 11.3	Section 2.1047	Measurements Required: Modulation Characteristics
SUBEXHIBIT 11.4	Section 2.1049	Measurements Required: Occupied Bandwidth
SUBEXHIBIT 11.5	Section 2.1051	Measurements Required: Spurious Emissions at Antenna Terminals
SUBEXHIBIT 11.6	Section 2.1053	Measurements Required: Field Strength of Spurious Radiation
SUBEXHIBIT 11.7	Section 2.1055	Measurements Required: Frequency Stability
SUBEXHIBIT 11.8	Section 2.947	Listing of Test Equipment Used

SUBEXHIBIT 11.2

Section 2.1046 MEASUREMENT REQUIRED: RF POWER OUTPUT

This test is a measurement of the RF power level transmitted at the AS5CMP-40 SBEDRU output terminal, as shown in the accompanying test set-up diagram. One SBEDRU was tuned to Channel 400 at 882.0 MHz, which is the approximate mid channel of the Cellular Frequency Band (869.0 – 894.0 MHz). The mean power level at its output terminal was set to approximately +14.5dBm. Then the carrier was tuned to other channels across the Cellular Band in increments of approximately 50 channels and the corresponding mean RF output power level was measured. All the carriers were modulated in all 3 time slots with a pseudo-random data stream.

The channels that were measured are tabulated in the following table:

Cellular Channel No.	Frequency (MHz)	Cellular Frequency Band	SBEDRU Output (dBm)
991	869.04	A”	14.36
1023	870.00		14.47
50	871.50	A	14.43
100	873.00		14.52
150	874.50		14.53
200	876.00		14.52
250	877.50		14.53
300	879.00		14.59
334	880.02	B Setup	14.54
350	880.50	B	14.51
400	882.00		14.50
450	883.50		14.40
500	885.00		14.43
550	886.50		14.55
600	888.00		14.53
650	889.50		14.52
700	891.00	A’	14.47
716	891.48		14.49
750	892.50	B’	14.46
799	893.97		14.54

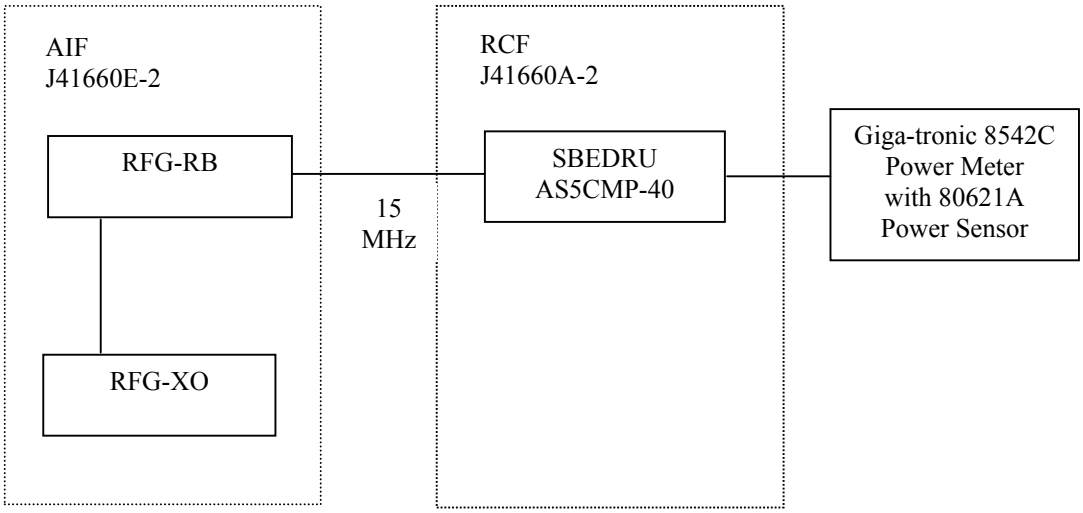
Power measurements were made with a Giga-tronics 8542C Universal Power Meter with 80621A Power Sensor (0.01 – 18 GHz) in the modulated average mode. The test set-up for conducting the RF power output measurement from the SBEDRU is shown in the following figure. All the results are given in the above table. It can be seen from the above table that all the mean RF power outputs measured across the Cellular Frequency Band are within ±0.14 dB of the rated maximum power output +14.5 dBm.

Results:

The RF power outputs of the SBEDRU across the Cellular Frequency Band 869.0 – 894 MHz are in full compliance with the Rules of the Commission.

TEST SET-UP FOR MEASUREMENT OF RADIO FREQUENCY POWER OUTPUT

AIF: Antenna Interface Frame
RCF: Radio Channel Frame
RFG-RB: Reference Frequency Generator with a Rubidium Oscillator
RFG-XO: Reference Frequency Generator with a Quartz Oscillator



SUBEXHIBIT 11.3

Section 2.1047 MEASUREMENT REQUIRED: MODULATION CHARACTERISTICS

The SBEDRU utilizes the standard digital π/4 Differentially Encoded Quadrature Phase Shift Keying (DQPSK) modulation technique. The modulation accuracy measurements were performed with a carrier modulated with a pseudo-random data stream for all three time slots. The measurements were made at the output terminal of the SBEDRU on three channels which correspond to 1) the lowest settable cellular frequency 869.04 MHz at Ch 991 (A-Band), 2) the mid cellular band 882.0 MHz at Ch 400, and 3) the highest settable cellular frequency 893.97 MHz at Ch 799 (B-band). At each of the above three frequencies, the carrier power level was adjusted to the rated maximum mean power +14.5 dBm at the output terminal of the SBEDRU.

The measurements were performed with a Rohde & Schwarz FSEB30 Spectrum Analyzer with option FSE-B7 which was calibrated in accordance with ISO 9001 process.

The measurement results are summarized in the following table.

Channel No.	Frequency (MHz)	RMS Error Vector Mag (%)
991	869.04	2.63
400	882.00	2.56
799	893.97	2.64

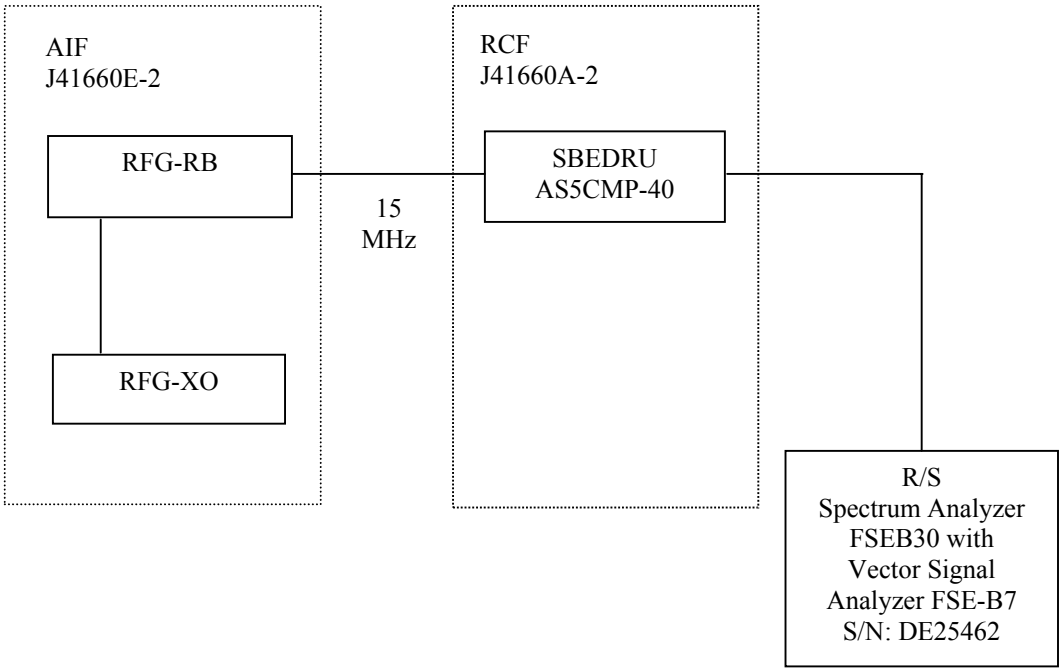
Results:

The above measurement results show that the error vector magnitudes measured at all three channels are insignificant and the modulation accuracy of the SBEDRU is in full compliance with the Rules of the Commission across the Cellular Frequency Band 869.0 – 894.0 MHz.

The test set-up diagram is given in the following figure.

TEST SET-UP FOR MEASUREMENT OF MODULATION ACCURACY

AIF: Antenna Interface Frame
RCF: Radio Channel Frame
RFG-RB: Reference Frequency Generator with a Rubidium Oscillator
RFG-XO: Reference Frequency Generator with a Quartz Oscillator



SUBEXHIBIT 11.4

Section 2.1049 MEASUREMENT REQUIRED: OCCUPIED BANDWIDTH

In compliance with Section 2.1049(h), a single TDMA carrier was modulated by a pseudo-random data stream for all three time slots. The occupied bandwidth measurements were made at the output terminal of the SBEDRU on three channels which correspond to 1) the lowest settable cellular frequency 869.0 MHz at Ch 991 (A-Band), 2) the mid cellular band 882.0 MHz at Ch 400, and 3) the highest settable cellular frequency 893.97 MHz at Ch 799 (B-band). At each of the above three frequencies, the carrier power level at the output terminal of the SBEDRU was adjusted to the maximum rated mean power +14.5 dBm.

The emission limitations and the setting of measurement equipment for the occupied bandwidth measurement of a 30 kHz TDMA carrier specified in Sections 22.917(d) and 22.917(h)(2), respectively, are

Displacement from the Carrier Center Frequency f_c	Required Minimum Attenuation below the Mean Carrier Power P	Resolution Bandwidth of Spectrum Analyzer
20 kHz < $\|f - f_c\|$ ≤ 45 kHz	26 dBc	300 Hz
45 kHz < $\|f - f_c\|$ ≤ 60 kHz	45 dBc	300 Hz
60 kHz < $\|f - f_c\|$ ≤ 90 kHz	45 dBc	30 kHz
90 kHz < $\|f - f_c\| < f_c$	*Min* {60, 43 + P dBW) dBc	30 kHz

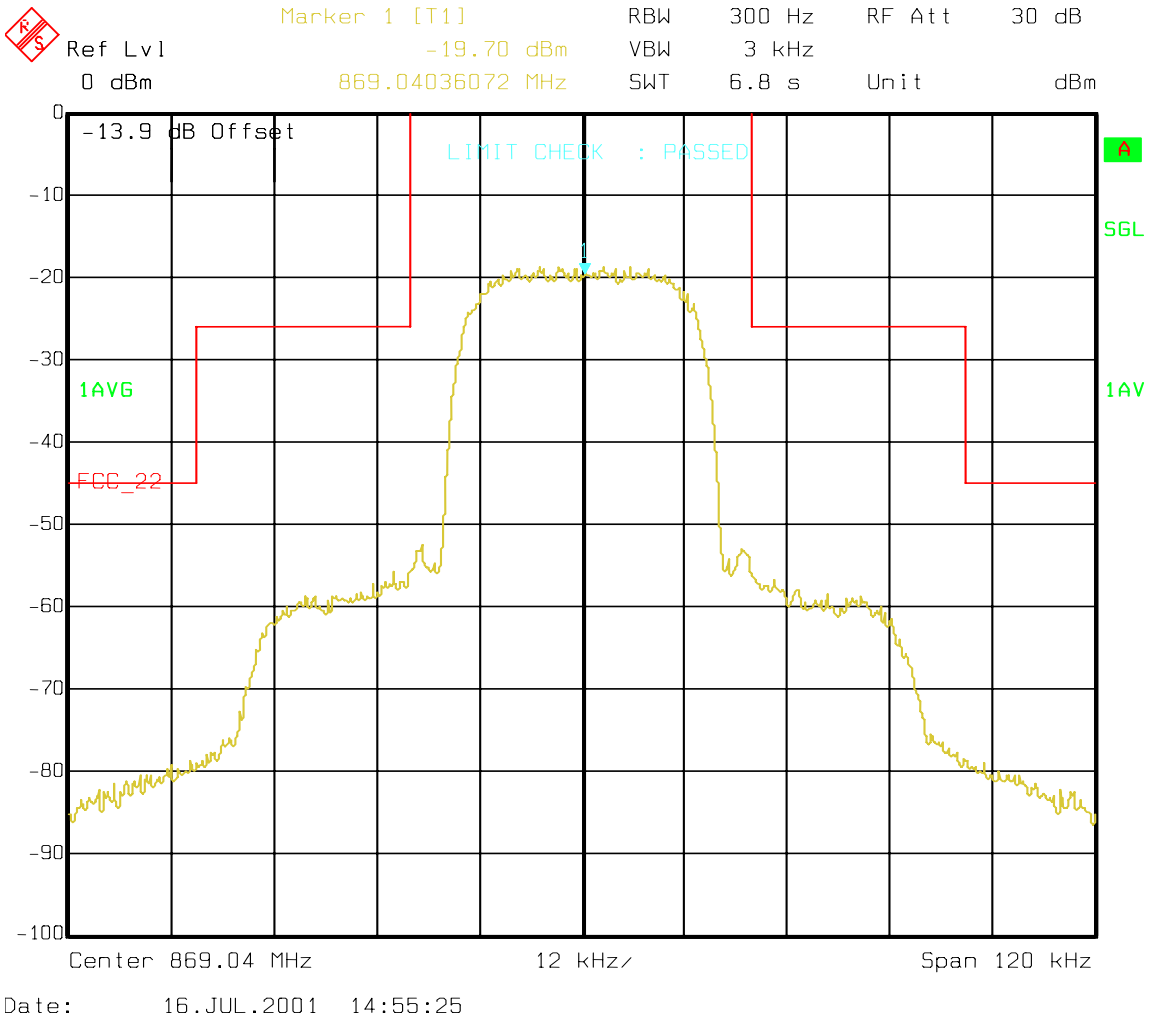
The measurements were performed with a Rohde & Schwarz FSEB30 Spectrum Analyzer which was calibrated in accordance with ISO 9001 process. The test set-up diagram is given in the following.

The spectrum analyzer was set with a 300 Hz resolution bandwidth and a 120 kHz span, as shown in the plots of the occupied bandwidth measurement attached in the following pages. The emissions outside the 120kHz span was evaluated in Measurement Required: Spurious Emissions at the Antenna Terminal. The maximum mean output power of the TDMA carrier, measured with a 100 kHz resolution bandwidth, aligns with the top of the spectrum analyzer display reticule, i.e., 0 dBm, by adjusting the REF LEVEL OFFSET of the spectrum analyzer. The top of the carrier measured with a 300 Hz resolution bandwidth, thus, was 20 dB below the carrier power measured with a resolution bandwidth greater than the carrier bandwidth 30 kHz. This 20dB offset was due to the fact that 10 log (30kHz/300Hz) = 20 dB.

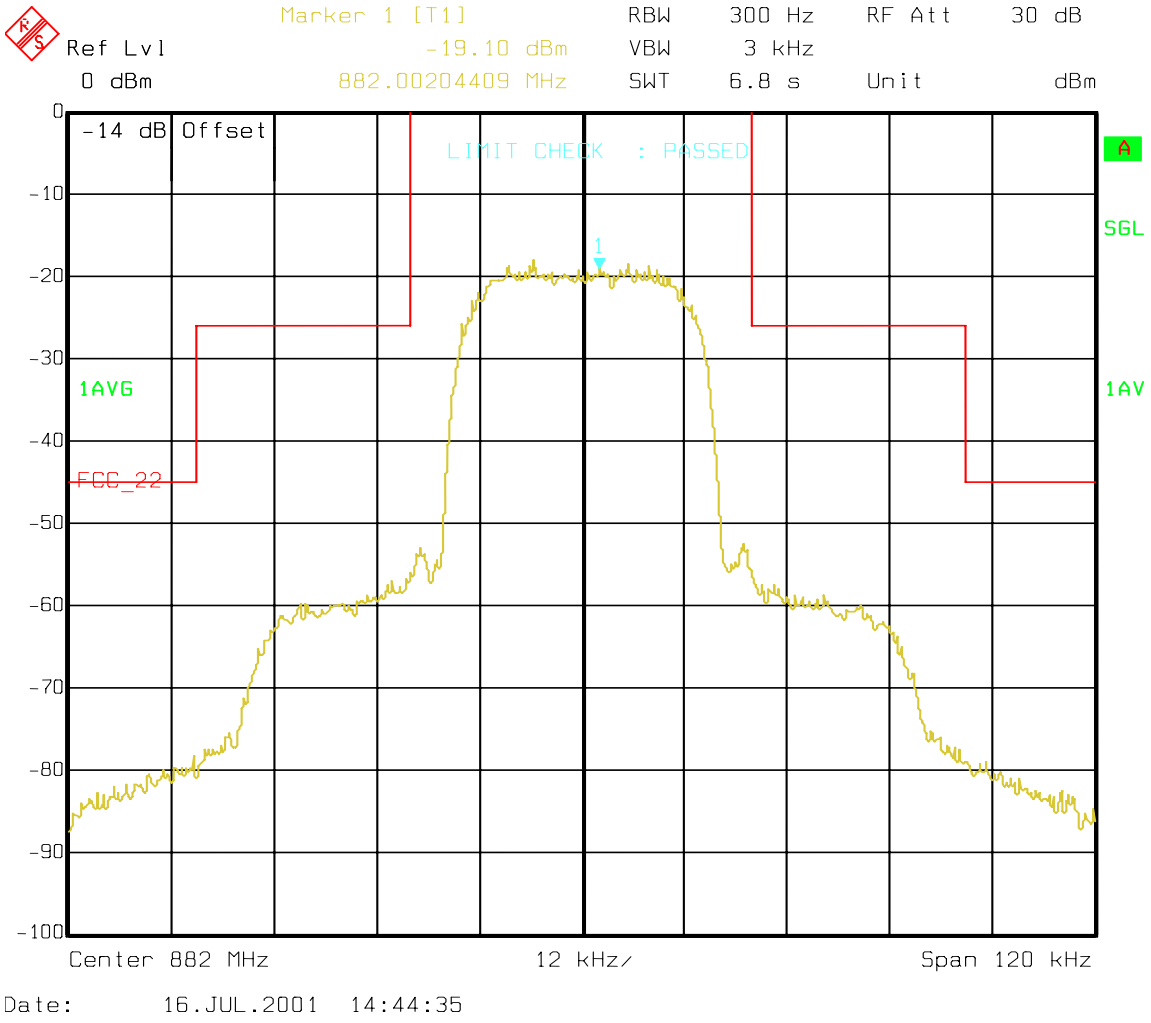
Results:

From the occupied bandwidth plots attached in the following, it can be seen that all the waveforms are under the required emission mask with adequate margins. The measurement results demonstrate the full compliance with the Rules of the Commission at the lowest, middle and highest settable channels of the Cellular Frequency Band 869.0 – 894.0 MHz.

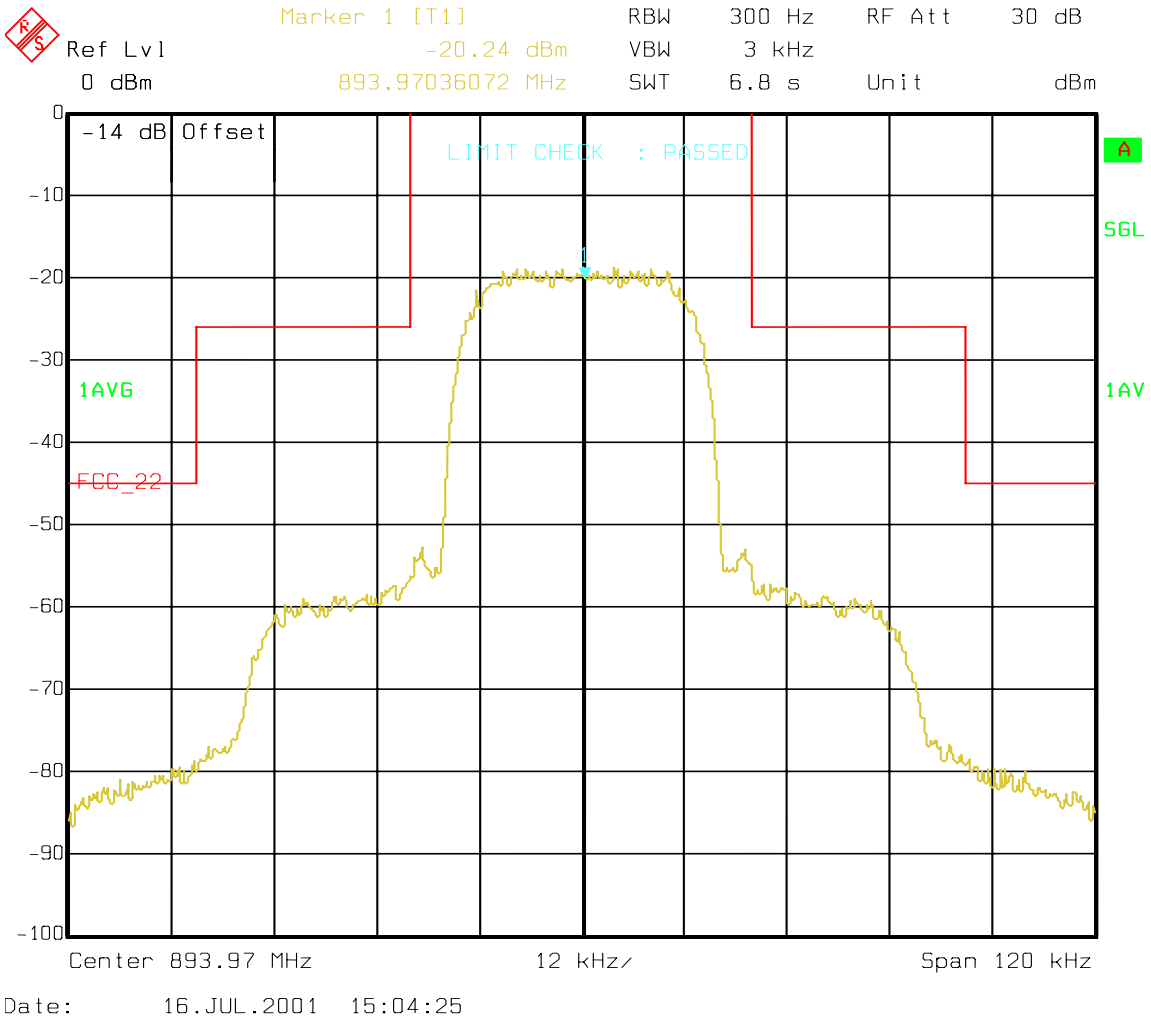
Occupied Bandwidth Plots:



Cellular A-Band: Lower Edge Channel
Channel 991, 869.04 MHz
Measured at the output of SBEDRU transceiver, backplane terminal



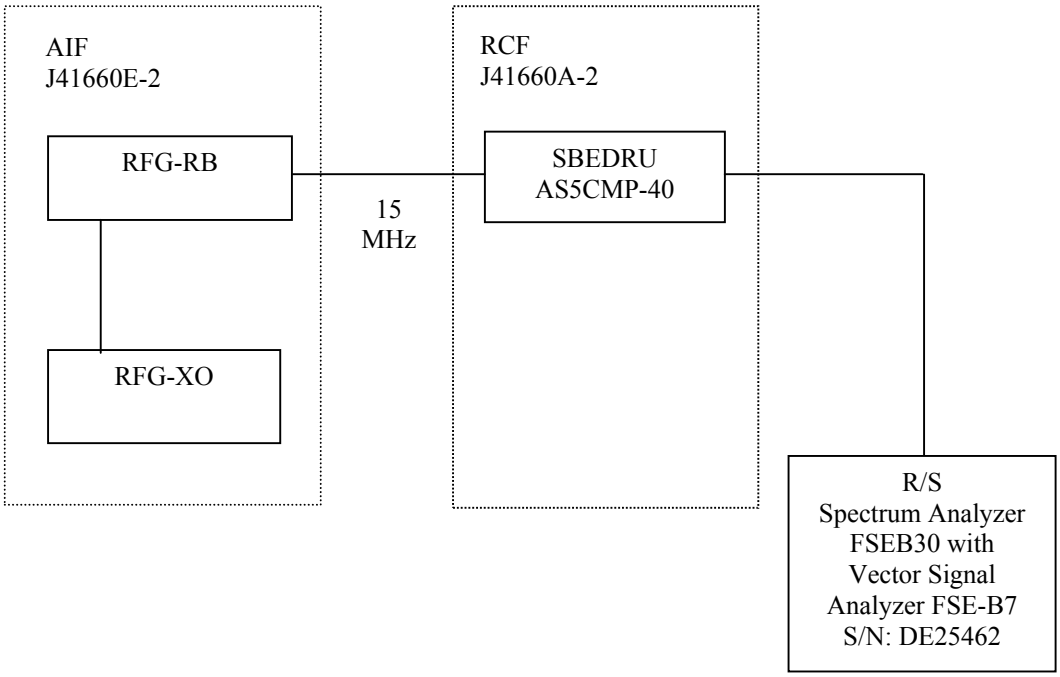
Mid Cellular Frequency Band:
Channel 400, 882.00 MHz
Measured at the output of SBEDRU transceiver, backplane terminal



Cellular B-Band: Upper Edge Channel
Channel 799, 893.97 MHz
Measured at the output of SBEDRU transceiver, backplane terminal

TEST SET-UP FOR MEASUREMENT OF OCCUPIED BANDWIDTH

AIF: Antenna Interface Frame
RCF: Radio Channel Frame
RFG-RB: Reference Frequency Generator with a Rubidium Oscillator
RFG-XO: Reference Frequency Generator with a Quartz Oscillator



SUBEXHIBIT 11.5

Section 2.1051 MEASUREMENT REQUIRED: SPURIOUS EMISSIONS AT THE ANTENNA TERMINALS

The spurious emissions at the output terminal of the SBEDRU were investigated from 10 MHz to the 10th harmonic of the carrier or 10 GHz, per Section 2.1057(a)(1). A single TDMA carrier was modulated by a pseudo-random data stream for all three time slots. The measurements were made at the output terminal of the SBEDRU on three channels which correspond to 1) the lowest settable cellular frequency 869.0 MHz at Ch 991 (A-Band), 2) the mid cellular band 882.0 MHz at Ch 400, and 3) the highest settable cellular frequency 893.97 MHz at Ch 799 (B-band). At each of the above three frequencies, the carrier power level at the output terminal of the SBEDRU was adjusted to the maximum rated mean power +14.5 dBm.

The emission limitations and the setting of measurement equipment for the spurious emissions measurement of a 30 kHz TDMA carrier specified in Sections 22.917(d)(e) and 22.917(h)(2), respectively, are

Displacement from the Carrier Center Frequency f_c	Required Minimum Attenuation below the Mean Carrier Power P	Resolution Bandwidth of Spectrum Analyzer
60 kHz < $\|f - f_c\| \le$ 90 kHz	45 dBc	30 kHz
90 kHz < $\|f - f_c\| < f_c$	*Min* {60, 43 + P dBW) dBc	30 kHz
$f > 2 f_c$	(43 + P dBW) dBc	30 kHz

For the mean output power at +14.5 dBm (28.2 mW), the required attenuation is 27.5dBc. Sections 2.1051 and 2.1057(c) specify that the spurious emissions attenuated more than 20 dB below the permissible value need not be reported.

The measurements were performed with a Rohde & Schwarz ESMI Spectrum Analyzer which was calibrated in accordance with ISO 9001 process. The test set-up diagram is given in the following.

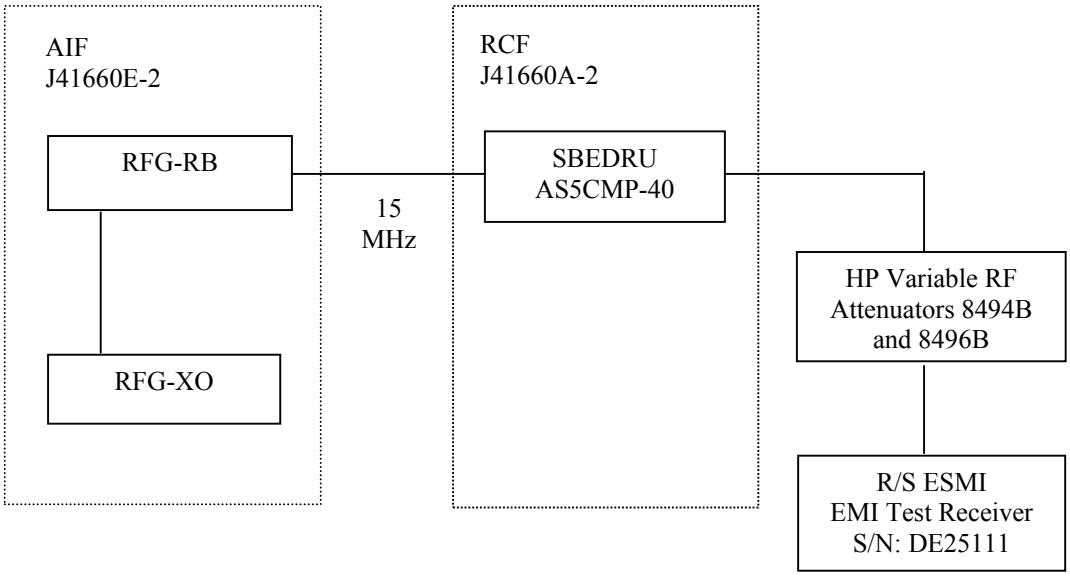
The carrier power level at the output terminal of the SBEDRU was calibrated before the conducted spurious emissions testing at each frequency. The limited line is 27.5 dB below the carrier power and the reportable limit is 47.5 dBc.

Results:

No reportable conducted spurious emissions were detected at the output terminal of the SBEDRU transceiver during the entire spectrum investigated (10MHz to 10GHz). The measurement results of the AS5CMP-40 SBEDRU transceiver, subject of this application, demonstrate the full compliance with the Rules of the Commission at the lowest, middle and highest settable channels of the Cellular Frequency Band 869.0 – 894.0 MHz.

TEST SET-UP FOR MEASUREMENT OF CONDUCTED SPURIOUS EMISSIONS

AIF: Antenna Interface Frame
RCF: Radio Channel Frame
RFG-RB: Reference Frequency Generator with a Rubidium Oscillator
RFG-XO: Reference Frequency Generator with a Quartz Oscillator



SUBEXHIBIT 11.6

Section 2.1053 MEASUREMENT REQUIRED: FIELD STRENGTH OF SPURIOUS RADIATION

The field strength measurements of radiated spurious emissions were made in a FCC registered five meter semi-anechoic chamber which is maintained by Lucent Technologies Bell Laboratories in Columbus, Ohio.

The RCF which incorporates 28 SBEDRU transceivers and the associated AIF were investigated from 10 MHz to the 10th harmonic of the carrier or 10 GHz, per Section 2.1057(a)(1). The cellular band transmitting filters were not used. The equipment under test (EUT) was configured as in the normal mode of the installation and operation. The recommendations of ANSI C63.4–1992 were followed for EUT testing setup and cabling. In order to simulate the worst case in terms of radiated emissions, all 28 SBEDRUs were tuned to specific channels at an approximately 21 channel spacing. Each carrier was modulated with a pseudo-random data bit stream for three time slots. Only a single TDMA carrier was transmitting at the mid cellular band Channel 400 or 882 MHz to a non-radiating 50 Ω resistive load. All three transmitting terminals at the top of RCF were terminated with non-radiating 50 Ω resistive loads. The mean carrier power was set to +14.5 dBm at the SBEDRU output terminal.

The emission limitation and the setting of measurement equipment for the spurious emissions measurement of a 30 kHz TDMA carrier with a mean power level of +14.5dBm specified in Sections 22.917(d)(e) and 22.917(h)(2), respectively, are

Displacement from the Carrier Center Frequency f_c	Required Minimum Attenuation below the Mean Carrier Power P	Resolution Bandwidth of Spectrum Analyzer
90 kHz < $\|f - f_c\|$	(43 + P dBW) dBc	30 kHz

By using the relation between the electric field strength of an ideal dipole and its excitation power given in Reference Data for Radio Engineers, page 676, 4th edition, ITT Corp., the emission limit calculated equals

Frequency of Emission (MHz)	**Separation Distance (m)**	**E (dBμV/m)**	**Detector/RBW**
10-10,000	3	84.1	Average/30kHz

The field strength of radiated spurious emissions measured was determined by

$$E\ (\text{dB}\mu\text{V/m}) = V_{\text{meas}}\ (\text{dB}\mu\text{V}) + \text{Cable Loss (dB)} + \text{Antenna Factor (dB1/m)}.$$

Sections 2.1051 and 2.1057(c) specify that the spurious emissions attenuated more than 20 dB below the permissible value need not be reported. Therefore, the reportable limit at 3 meter is 64.1 dBμV/m.

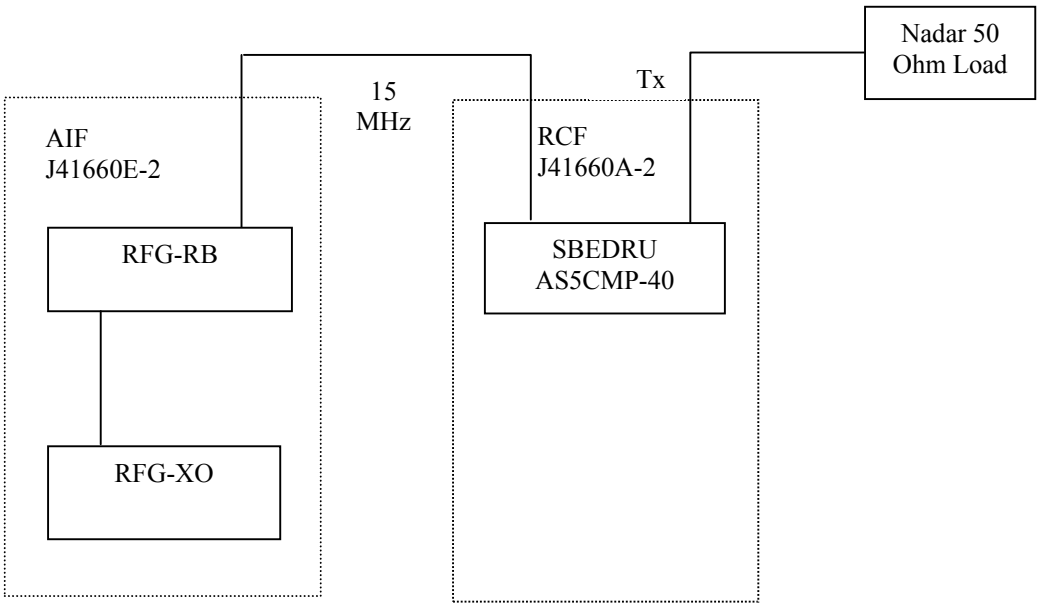
All the measurement equipment used, including antennas, R/S ESMI EMI Test Receiver (S/N: DE25102), HP Spectrum Analyzer, pre-amplifier, etc., was calibrated in accordance with ISO 9001 process. The EUT configuration diagram is given in the following.

Results:

Over the frequency spectrum investigated (10MHz to 10GHz), no reportable radiated spurious emissions were detected. The measurement results of the SBEDRU transceiver, subject of this application, demonstrate the full compliance with the Rules of the Commission.

EUT FOR MEASUREMENT OF RADIATED SPURIOUS EMISSIONS

AIF: Antenna Interface Frame
RCF: Radio Channel Frame
RFG-RB: Reference Frequency Generator with a Rubidium Oscillator
RFG-XO: Reference Frequency Generator with a Quartz Oscillator



SUBEXHIBIT 11.7

Section 2.1055 MEASUREMENT REQUIRED: FREQUENCY STABILITY

The output frequency of the SBEDRU is determined by the internal transmit synthesizer and the external Reference Frequency Generator (RFG). The RFG has been incorporated in both Lucent TDMA Series II Cellular System and TDMA PCS Minicell for providing a 15 MHz reference frequency to the transceivers. The frequency stability of the RFG has been evaluated and authorized by the Commission under the Type Acceptance for AS5CMP-6 Radio Channel Unit (RCU) transceiver. The frequency tolerance of both RFG modules (RFG-RB and RFG-XO) continues to be in full compliance with the rules in Part 22.355.

The frequency stability testing of the AS5CMP-40 SBEDRU was conducted in the TDMA PCS Minicell Primary frame with AS5CMP-19 TTUs. The TDMA PCS Minicell uses the same RFGs as in TDMA Series II Cellular System. The stability of the SBEDRU output frequency was measured at the SBEDRU output terminal from –30 °C to +50 °C in 10 °C steps and with a variation of primary supply voltage from 85% to 115% of the nominal value per Section 2.1055. The nominal supply voltage is 24 VDC. The 85% of 24 VDC is 20.4 V and 115% is 27.6 V. One SBEDRU was set to transmit at an AMPS Channel 250, 877.50 MHz. The carrier was modulated in all three time slots with pseudo-random data. The output power of the PCS Minicell was set to its maximum rated value 16 watts at the J4 transmitting antenna terminal (see pg.2 of Exhibit 2).

The TDMA PCS Minicell was installed in an environmental chamber. At each temperature and each supply voltage, the EUT was given sufficient time for its thermal stabilization. Thermal-couplers were attached to the SBEDRU faceplate, RFG faceplate and the exterior surface of the Minicell. The primary RFG (RFG-RB) was used for providing 15MHz reference frequency to the SBEDRU transceiver. The temperature was recorded during the testing to ensure that the thermal stability was achieved at each temperature prior to frequency measurement.

The minimum requirement specified in Section 22.355 for TDMA Cellular transmitter is ±1.50 ppm.

The measured frequency derivations (Δf) from 877.500MHz are summarized in the following table.

Stabilized Temp. (°C)	**Δf 85% V_{norm} (ppm)**	**Δf 100% V_{norm} (ppm)**	**Δf 115% V_{norm} (ppm)**
-30	2.11E-3	1.75E-3	2.40E-3
-20	1.32E-4	1.32E-4	4.16E-4
-10	1.74E-3	1.32E-4	5.02E-4
0	1.29E-3	2.71E-4	7.90E-5
+10	1.19E-4	1.25E-4	2.25E-4
+20	6.87E-4	3.70E-4	3.57E-4
+30	2.05E-4	6.47E-4	1.39E-4
+40	1.52E-4	2.91E-4	3.30E-5
+50	1.85E-4	5.30E-5	1.59E-4

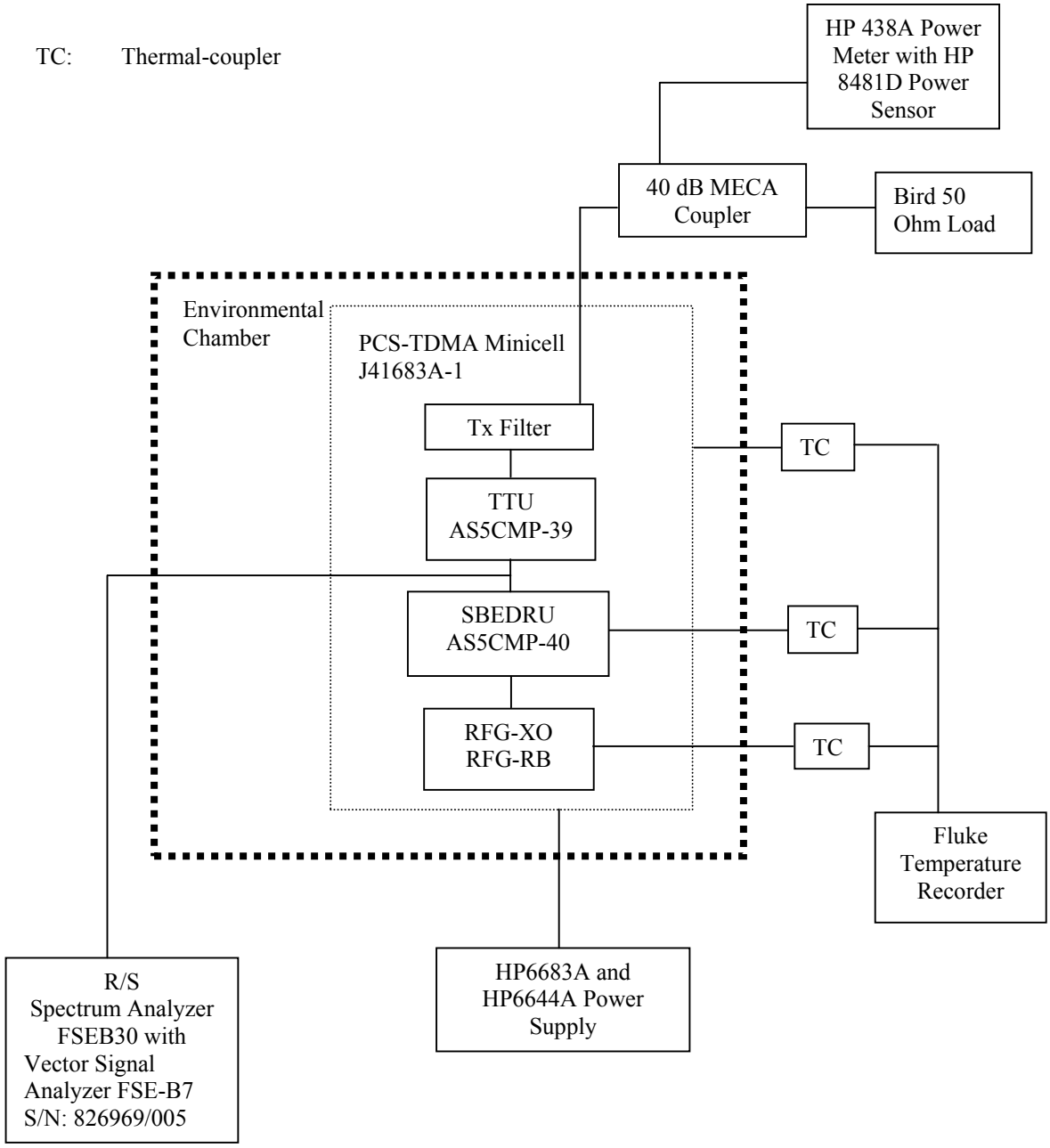
All the measurement equipment was calibrated in accordance with ISO 9001 process. The EUT configuration diagram is given in the following.

Results:

The output frequency of the SBEDRU at the AMPS Channel 250 deviated from the 877.500 MHz by 3.30E-5 ppm to 2.4E-3 ppm. The AS5CMP-40 SBEDRU transceiver, subject of this application, demonstrate full compliance with the Rules of the Commission.

SET-UP FOR MEASUREMENT OF FREQUENCY STABILITY

TC: Thermal-coupler



SUBEXHIBIT 11.8

Section 2.947 LISTING OF TEST EQUIPMENT USED

Equipment	Manufacturer	Model	Serial No.	Calibrated Date	Due Cal. Date
Power Meter	Giga-tronics	8542C	1834280	8/23/00	8/23/01
Power Sensor	Giga-tronics	80621A	1950054	2/16/01	2/16/02
Power Meter	Hewlett-Packard	438A	207720	7/31/00	7/31/01
Power Sensor	Hewlett-Packard	8481D	BC-208187	12/12/00	12/12/01
Spectrum Analyzer	Rohde & Schwarz	FSEB 30	DE25462	11/15/00	11/15/01
Spectrum Analyzer	Rohde & Schwarz	FSEB 30	826969/005	8/2/00	8/2/01
Spectrum analyzer	Hewlett-Packard	8566B	3014A06682	10/4/00	10/4/01
EMI Test Receiver	Rohde & Schwarz	ESMI	DE25111	8/1/00	8/1/01
EMI Test Receiver	Rohde & Schwarz	ESMI	DE25102	5/9/01	5/9/02
Variable Attenuator	Hewlett-Packard	8494B	3308A40034	N/A	N/A
Variable Attenuator	Hewlett-Packard	8496B	3308A72244	N/A	N/A
Attenuator	Weinschel	6dB	AV9010	N/A	N/A
Active Monopole Antenna	EMCO	3301B	9312-3477	3/22/01	3/22/02
Biconical Antenna	EMCO	3110B	9807-3127	3/2/00	3/2/02
Log-periodic Antenna	EMCO	3148	9707-1030	5/23/01	5/23/03
Double Ridged Horn Ant.	EMCO	3115	9812-5638	1/10/01	1/10/03
Pre-amplifier	Hewlett-Packard	8449B	3008A01355	1/3/01	1/3/02
Pre-amplifier	Sonoma	310	185661	2/14/01	2/14/02
Multi-device Controller	EMCO	2090	9912-147-7	N/A	N/A
Temperature Record	Fluke	Hydra Series II	7096500	7/5/00	7/5/01
Thermal Coupler	Omega	T	N/A	N/A	N/A
Directional Coupler	MECA	715-40-3.5	N/A	N/A	N/A
50Ω Resistive Load (3)	Narda	370 BNM	N/A	N/A	N/A
50Ω Resistive Load	Bird Electronic	8401	6908	N/A	N/A
50Ω Resistive Load	Bird Electronic	8401	6909	N/A	N/A
50Ω Resistive Load	Bird Electronic	8401	6910	N/A	N/A
28V Power Supply	Hewlett-Packard	6456B	5H0232	N/A	N/A
28V Power Supply	Hewlett-Packard	6456B	5H0646	N/A	N/A
28V Power Supply	Hewlett-Packard	6684A	US36410432	N/A	N/A
28V Power Supply	Hewlett-Packard	6684A	US36410429	N/A	N/A
28V Power Supply	Hewlett-Packard	6684A	US36410433	N/A	N/A
DC Power Supply	Hewlett-Packard	6683A	203001/485	12/19/00	12/19/01
DC Power Supply	Hewlett-Packard	6644A	227573A	8/11/00	8/11/01
Multi-meter	Fluke	23	49330331	1/4/01	1/4/02
Clip-on AC/DC Meter	F.W. Bell	C-600	94040227	1/4/01	1/4/02