EXHIBIT 15

FREQUENCY STABILITY MEASUREMENTS

Measurements of frequency stability were performed in accordance with the requirements of §§ 24.235 and 2.1055; procedures and results are described in this exhibit.

Requirements

In general, as required by § 24.235, the frequency stability of broadband PCS equipment "shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block." However, as a GSM-compliant terminal, the stability of the Eagle II carrier frequency is accurate to within ±0.1 ppm (±200 Hz in 2000 MHz) of the received frequency from the base station; refer to J-STD007, Air Interface: Volume 1, Section 7.4.1; and GSM 05.10, "Digital cellular telecommunications system (Phase 2); Radio subsystem synchronization".

Measurements of transmitter frequency stability are described in § 2.1055 and are necessary to obtain a Certification grant of equipment authorization. As required by § 2.1055, these measurements are to be made as follows:

1. Over variations of ambient temperature from -30° to +50° centigrade at intervals of 10° centigrade.
2. Over variations of primary supply voltage from 85 to 115 percent of the nominal input voltage.

The Eagle II has a specified input voltage of 4.7 VDC nominal with a tolerance of +/- 0.5 VDC. However, to demonstrate compliance with FCC requirements, measurements of frequency stability were performed beyond the specified input voltage range, at 85% and 115% of the nominal rated input voltage (at 4.0VDC and 5.4 VDC, respectively).

Measurement Procedure

Measurements of Eagle II frequency stability were performed using the Racal 6103E Digital Radio Test Set. Ambient temperature was varied by placing the EUT in a Tenny Jr temperature chamber; DC input voltage was varied by through the use of a DC power supply. Specific procedures for powering the Eagle II are as follows:

1. Configure the EUT:
    - Location — Tenny Jr. temperature chamber
    - Input voltage — DC input varied (4.0 to 5.4 VDC)
    - Temperature — Measured using thermocouple on PCB
    - Mode — Transmit, random data pattern selected using PC controller
    - RF Output Power — Maximum level (step 0, 30 dBm nominal) selected using the PC controller
    - Frequency — Channel 661 (1880.0 MHz) selected using the PC controller
2. Power EUT off and set the Tenny Jr temperature chamber to -30° C. Once the EUT PCB has reached temperature, soak for an additional for ten minutes to ensure steady state temperature has been achieved.
3. Set DC input to unit to 4.0 VDC; power EUT on.
4. Measure and record peak frequency error over three minute interval using Racal 6103E.
5. Power EUT off, soak for ten minutes to ensure steady state temperature has been achieved
6. Set DC input to unit to 5.4 VDC; power EUT on.
7. Measure and record peak frequency error over three minute interval using Racal 6103E.
8. Power EUT off and increase chamber temperature by 10° C. Once EUT PCB reaches desired temperature, soak for an additional for ten minutes to ensure steady state at new temperature has been reached.
9. Repeat steps 3 through 7 until final measurements made at +50° C.

Measurement Results

Table E15.1 summarizes the Eagle II frequency stability measurements taken in accordance with the preceding procedures. The Maximum Frequency Deviation column shows the maximum frequency deviation (in Hertz) from the desired carrier frequency during the three minute measurement period at each combination of temperature and DC input voltage. A plot of these results (maximum deviation from desired carrier in Hertz) is presented in Figure E15.1. In all cases, the frequency stability of the RM over variations in ambient temperature and DC input voltages are sufficient to ensure that the fundamental emission will stay within its authorized frequency block.

Table E15.1. Frequency stability measurement results.

Ambient Temperature (degrees C)	Line DC input Voltage(VDC)	Maximum Frequency Deviation (Hz)
50°	4.2	-40
	5.2	-43
40°	4.2	-43
	5.2	-42
30°	4.2	-39
	5.2	-48
20°	4.2	-52
	5.2	-48
10°	4.2	-55
	5.2	-75
0°	4.2	-61
	5.2	-63
-10°	4.2	-62
	5.2	-62
-20°	4.2	-38
	5.2	-51
-30°	4.2	-69
	5.2	-78

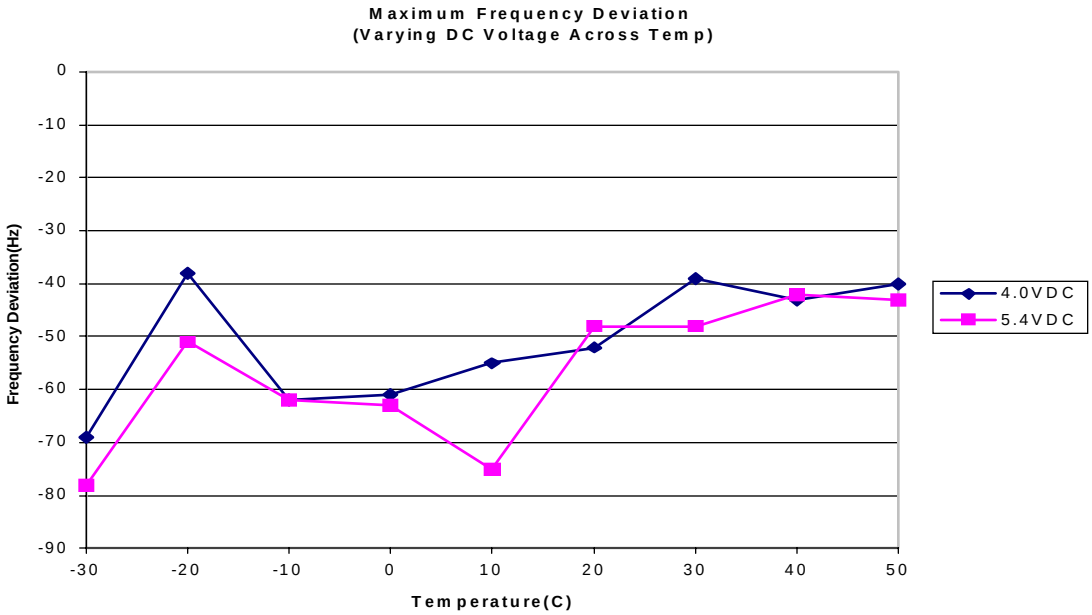

Figure E15.1. Graphical representation of Frequency Stability Results.

During normal operation, the GSM (PCS 1900) network and terminal (mobile) work in conjunction to ensure an overall (long-term) frequency stability of better than ±0.1 ppm (±200 Hz in 2000 MHz). The base station measures the frequency of the signal received from each terminal and, once every ten TDMA frames (once every 46.15 ms), commands the terminal to adjust its RF carrier frequency as required to maintain the required accuracy. The measurements of frequency stability described in this Exhibit were performed with this closed-loop frequency adjustment enabled using the radio test station to perform the function of the base station.