SECTION 2.1051 (2.991): SPURIOUS EMISSION AT ANTENNA TERMINAL.

Mobile Emissions in Base Frequency

Equipment:

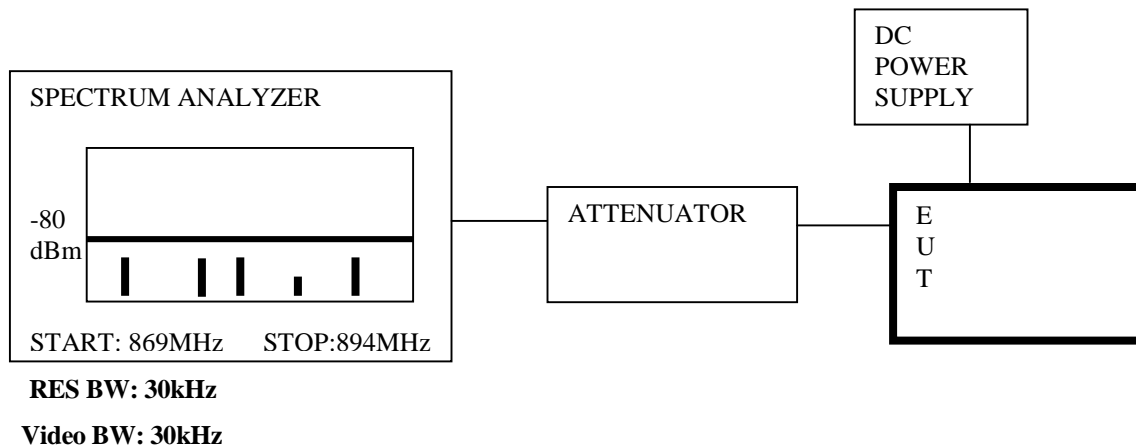**HP Spectrum Analyzer/8593EM**
DC power supply
Low loss cable, .5ft(loss: 0.85dB/ft @ 26GHZ)
ATTENUATORS

Test Setup:

RES BW: 30kHz

Video BW: 30kHz

Minimum Requirement:
Section 22.917(f):
For Mobile stations transmitters in base frequency range the mean power of any emission appearing in the base station frequency range from cellular mobile transmitters operated must be attenuated to a level not exceed –80dBm at the transmitter antenna connector.

Test Procedure:
Set the RES b/w: 30kHz and using the DISPLAY LINE place it at –80dBm. Set START frequency to 869MHz and the STOP frequency to 894MHz to measure any emissions appearing in the base station frequency range. Program the Mobile Tx to transmit at high channel.

When using Average (Video BW: 10Hz or Average mode), separated base station frequency range into 3 scans.

Used enough attenuation to prevent overload on the spectrum analyzer input, which can cause distortion.

Test result:
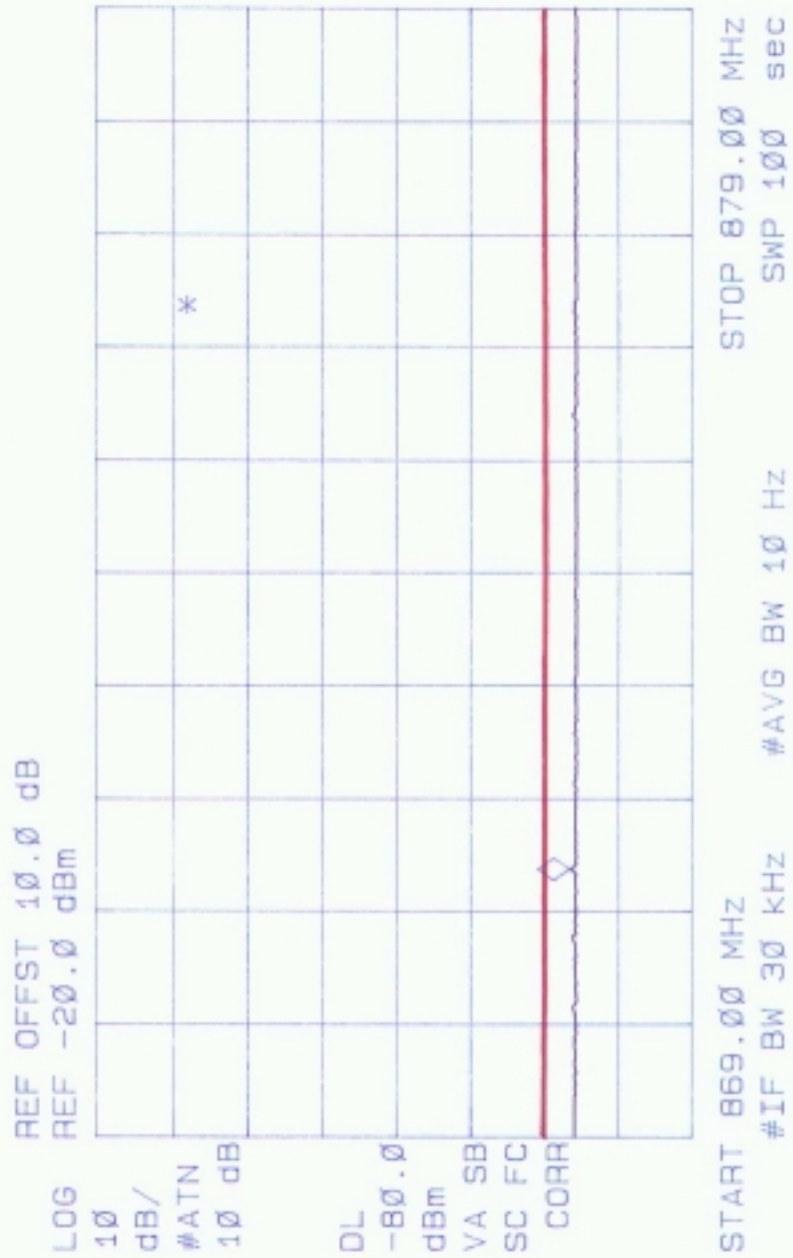Made three plots:

First from 869 to 879 MHz (plot#**1**)
Second from 879 to 889 MHz (plot#**2**)
Third from 889 to 894 MHz (plot#**3**)

Plot#1

14:58:39 MAR 17. 1999
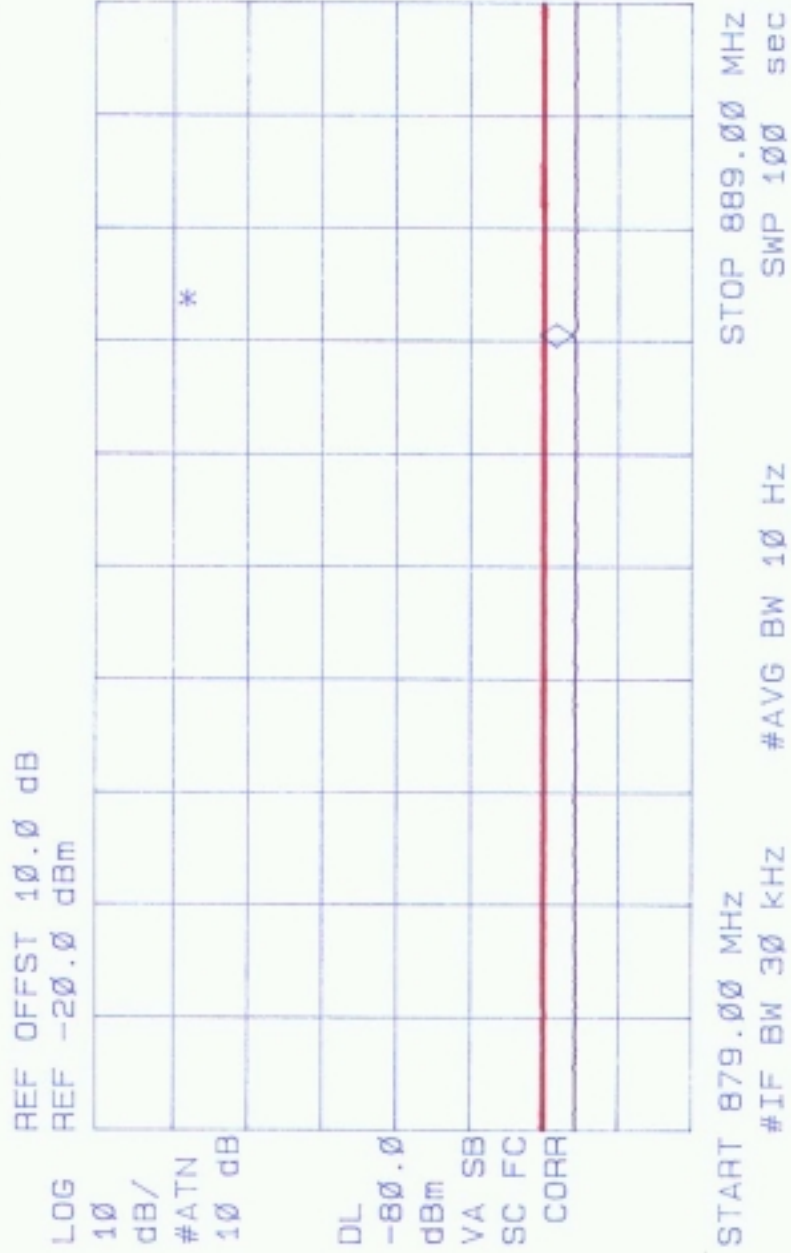SECTION 22.917 (f): TECOM (AMPS CELLEMENTARY)

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 871.38 MHz
-83.82 dBm

REF OFFST 10.0 dB
REF -20.0 dBm

LOG
10
dB/

#ATN
10 dB

DL
-80.0
dBm
VA SB
SC FC
CORR

START 869.00 MHz
#IF BW 30 kHz

STOP 879.00 MHz
SWP 100 sec
#AVG BW 10 Hz

Plot#2

15:10:20 MAR 17, 1999

SECTION 22.917(f): TECOM (AMPS CELLEMENTARY)

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 886.05 MHz
−84.14 dBm

REF OFFST 10.0 dB
REF −20.0 dBm

LOG
10
dB/

#ATN
10 dB

DL
−80.0
dBm
VA SB
SC FC
CORR

START 879.00 MHz
#IF BW 30 kHz

STOP 889.00 MHz
SWP 100 sec

#AVG BW 10 Hz

3

Plot # 3

15:17:20 MAR 17, 1999
#2 SECTION 22.917 (f): TECOM (AMPS CELLEMENTARY)

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 890.700 MHz
-82.78 dBm

REF OFFST 10.0 dB
LOG REF -20.0 dBm
10
dB/
#ATN
10 dB

DL
-80.0
dBm
VA SB
SC FC
CORR
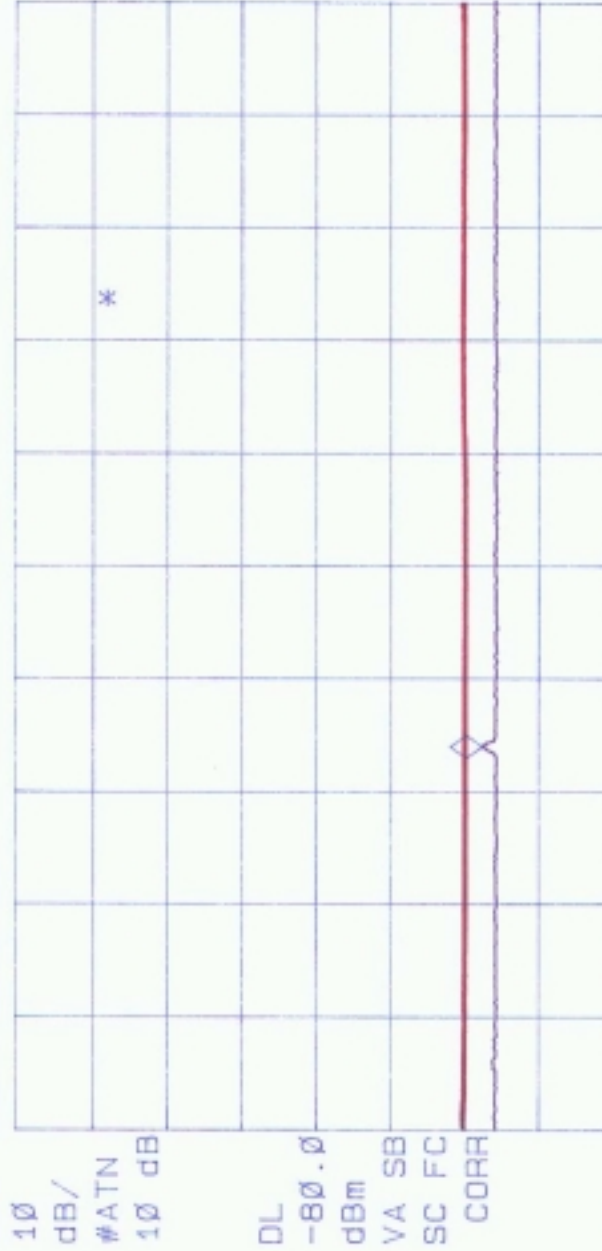
START 889.000 MHz   STOP 894.000 MHz
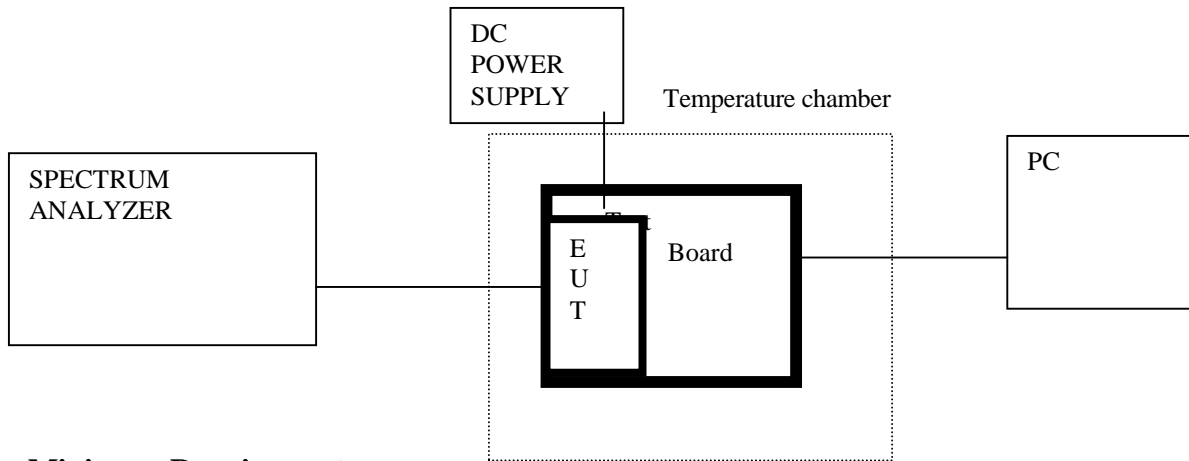#IF BW 30 kHz   #AVG BW 10 Hz   SWP 50.0 sec

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SECTION 2.995 (1) FREQUENCY VS. TEMPERATURE
SECTION 22.355 FREQUENCY TOLERANCE.

Test Equipment:

HP Spectrum Analyzer/8593EM
FLEXCO cable; 1ft. coaxial cable (loss: .9dB/ft @ 26GHz)
Wyse PC/Presario 2240
DC power supply

Test Setup:

Minimum Requirement:

Mobile $\leq$ 3 Watts, 821 – 896 MHz: 2.5ppm

Test Procedure:

Temperature: Vary the ambient temperature from –30 to + 50°C, in 10 degrees increments, allowing the EUT to stabilize at each temperature.

Test Result:

Please refer to Spreadsheet attached.

Frequency Stability (22.355)

Tecom (Amps Cellementary)

Tx Output (MHz)	ppm	limit (Hz)
835.19982	2.5	2087.999

Frequency (MHz)	Temp	Delta (Hz)
EUT stopped functioning before exceeding limit	-30	
835.199445	-20	-0.000375
835.200007	-10	0.000187
835.200133	0	0.000313
835.200058	10	0.000238
835.199720	20	-0.000100
835.199495	30	-0.000325
835.199358	40	-0.000462
835.199443	50	-0.000377