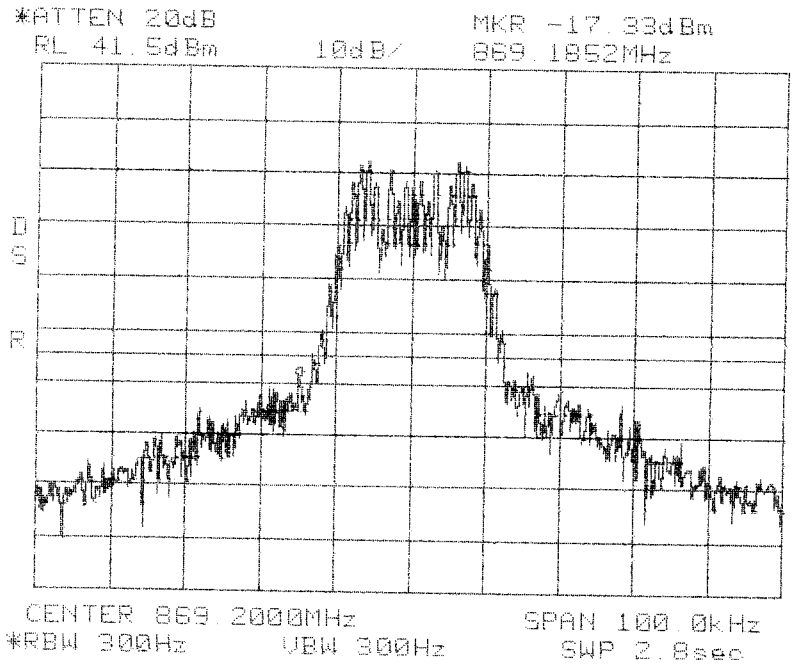
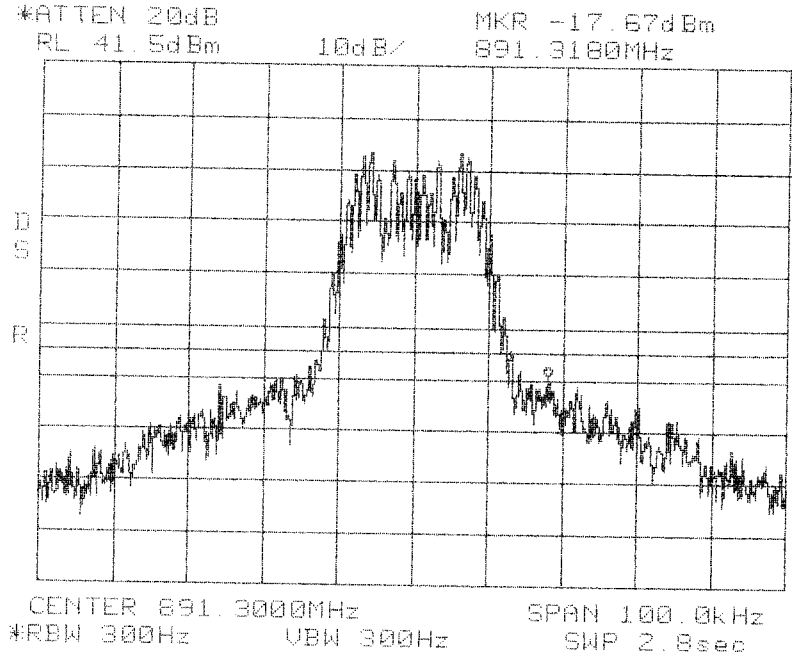
Center: 869.2 MHz
Span: 100 kHz
RBW/VBW: 300 Hz / 300 Hz



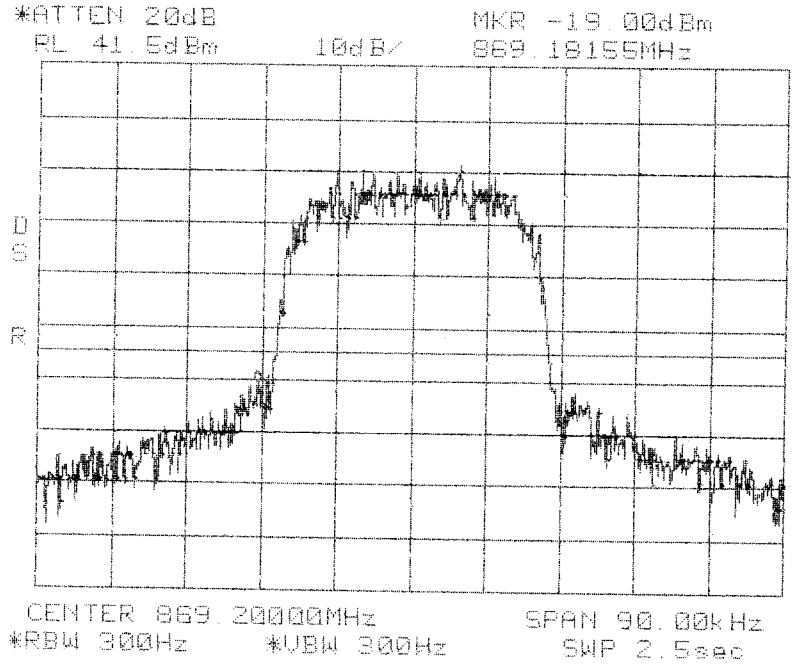
Conducted Emissions
Band Edge
FM
Cellular 800 MHz
A Band



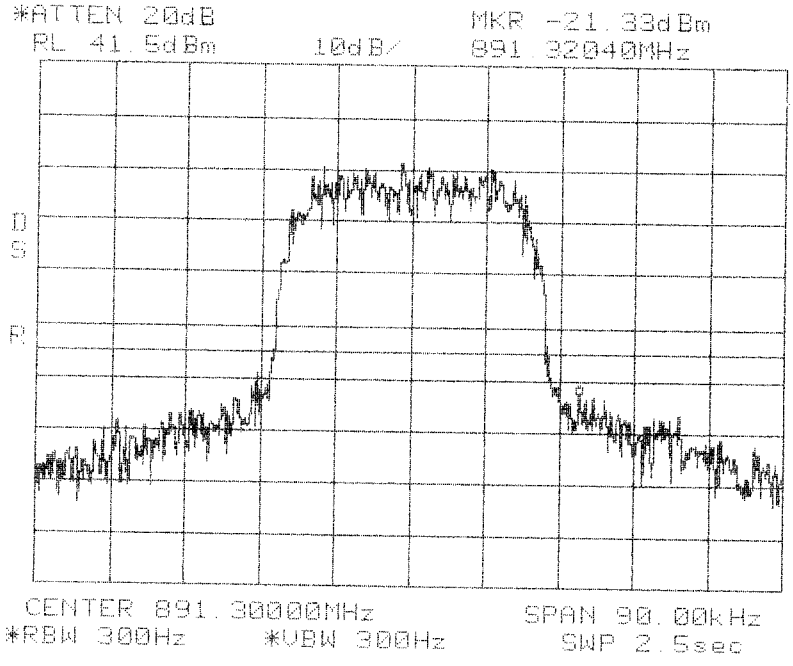
Conducted Emissions
Band Edge
FM
Cellular 800 MHz
A Band

Center: 891.3 MHz
Span: 100 kHz
RBW/VBW: 300 Hz / 300 Hz

Center: 869.2 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 300 Hz



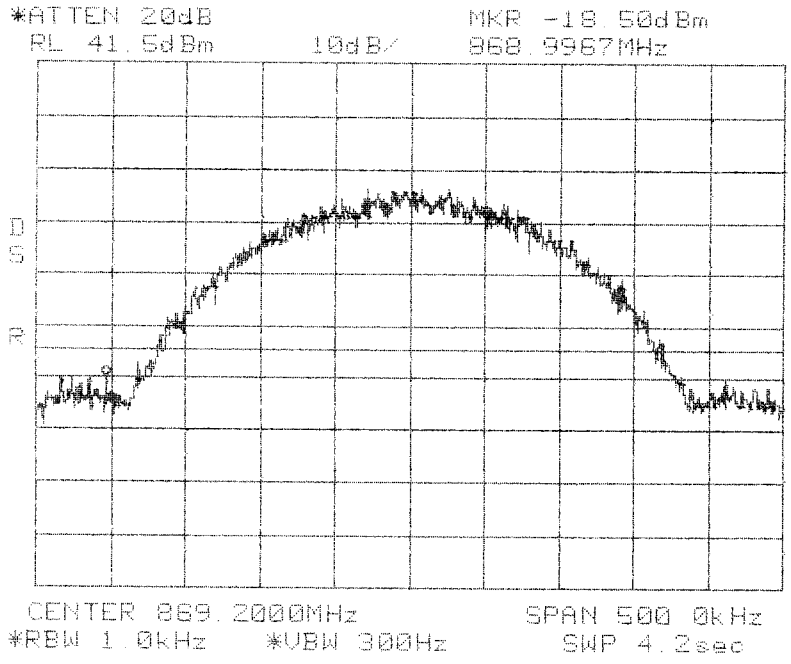
Conducted Emissions
Band Edge
TDMA
Cellular 800 MHz
A Band



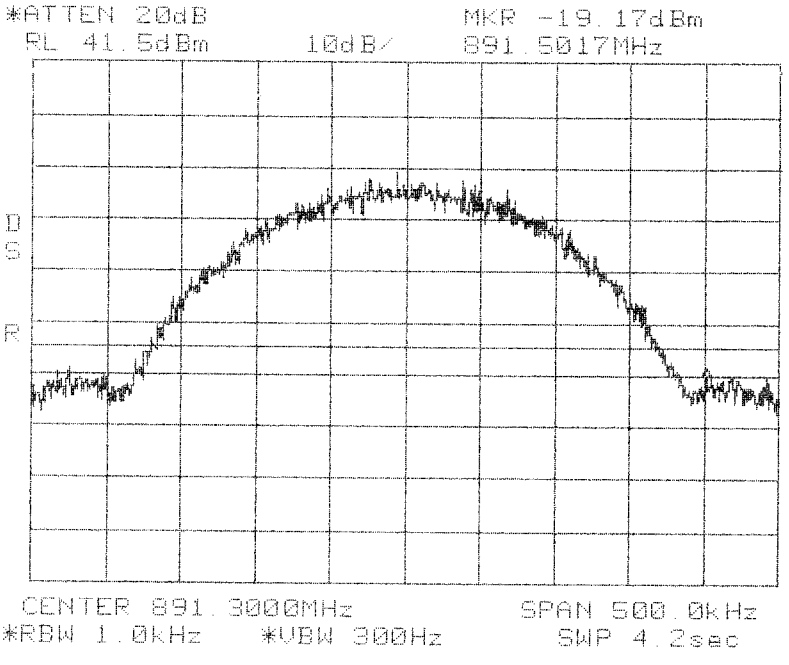
Conducted Emissions
Band Edge
TDMA
Cellular 800 MHz
A Band

Center: 891.3 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 300 Hz

Center: 869.2 MHz
Span: 500 kHz
RBW/VBW: 1 kHz / 300 Hz



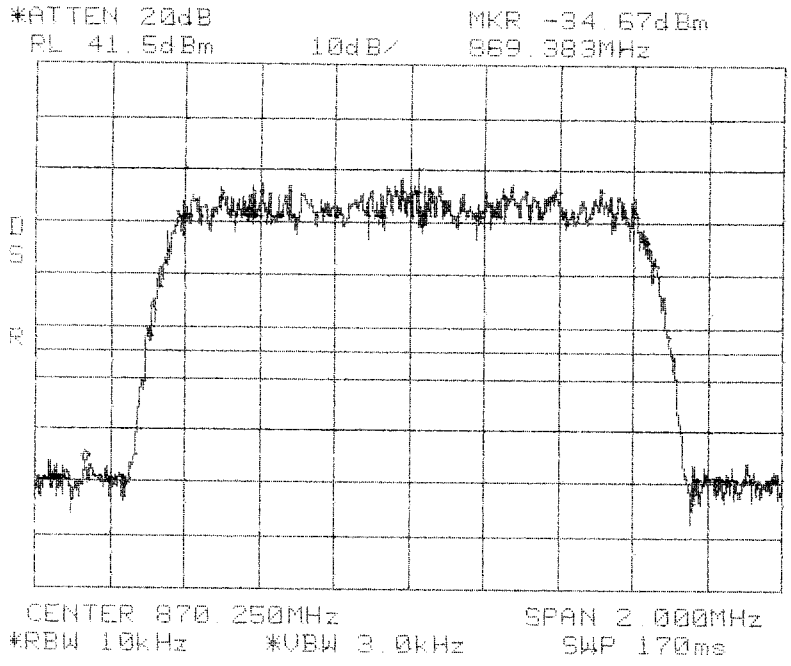
Conducted Emissions
Band Edge
GSM
Cellular 800 MHz
A Band



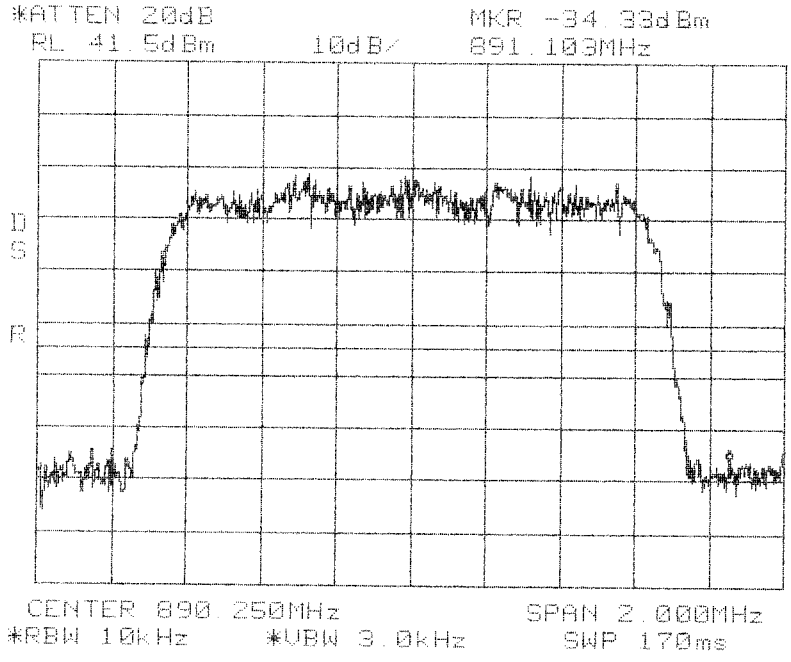
Conducted Emissions
Band Edge
GSM
Cellular 800 MHz
A Band

Center: 891.3 MHz
Span: 500 kHz
RBW/VBW: 1 kHz / 300 Hz

Center: 870.25 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz



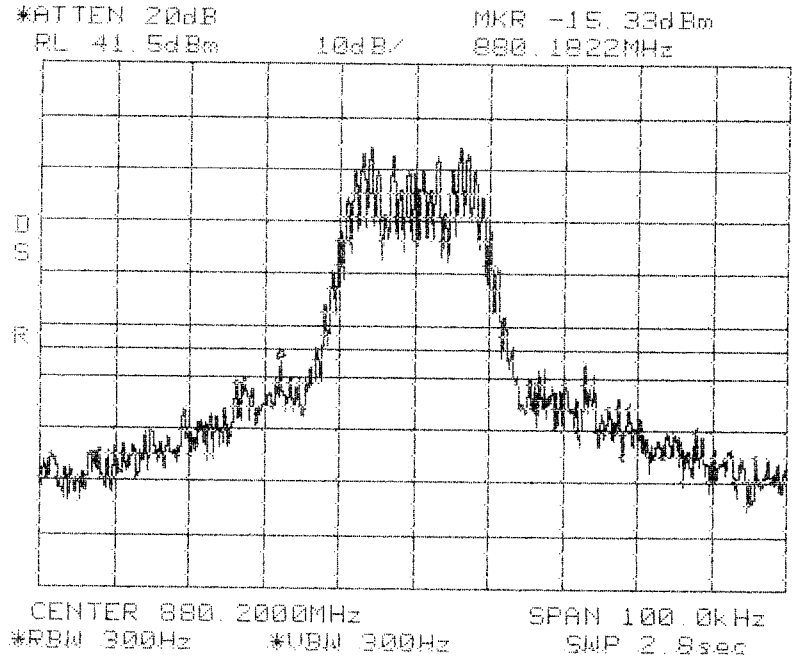
Conducted Emissions
Band Edge
CDMA
Cellular 800 MHz
A Band



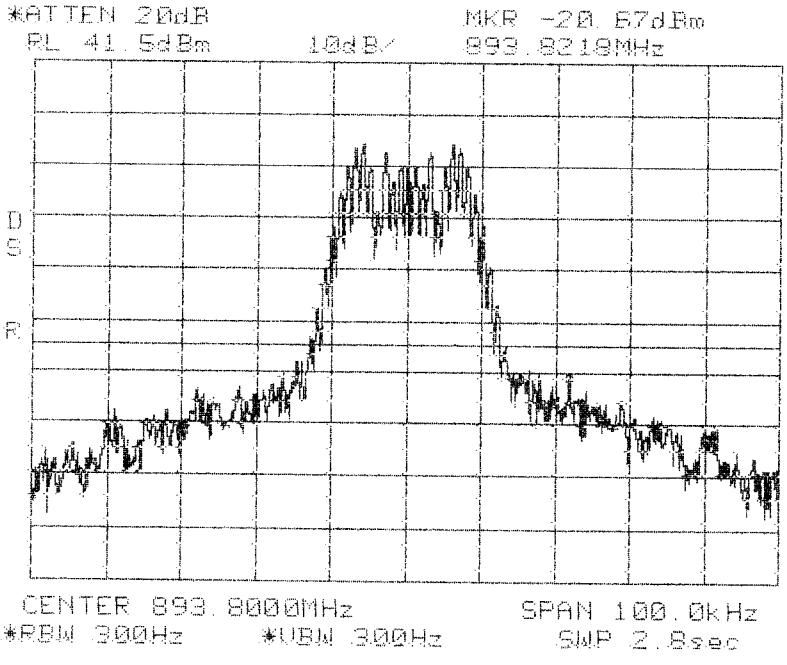
Conducted Emissions
Band Edge
CDMA
Cellular 800 MHz
A Band

Center: 890.25 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 880.2 MHz
Span: 100 kHz
RBW/VBW: 300 Hz / 300 Hz



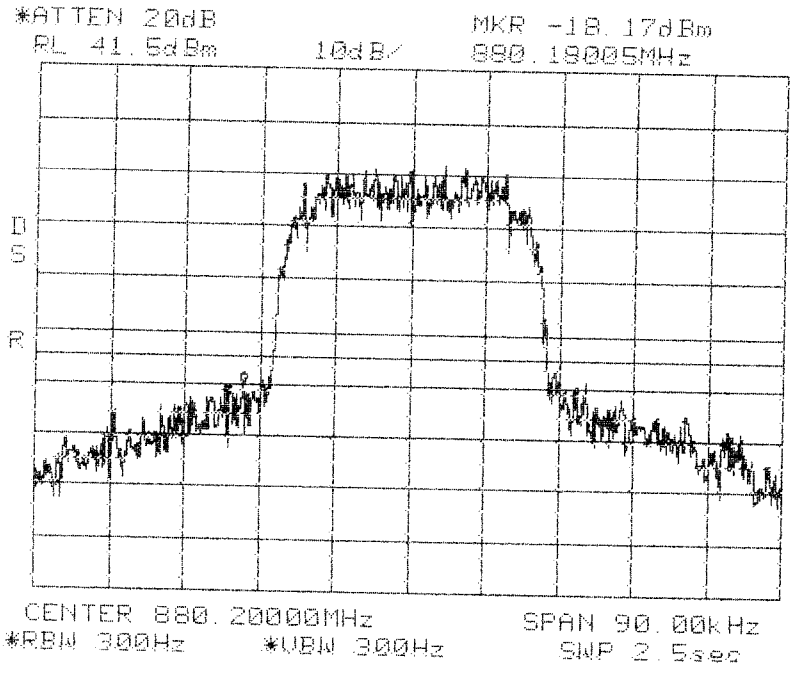
Conducted Emissions
Band Edge
FM
Cellular 800 MHz
B Band



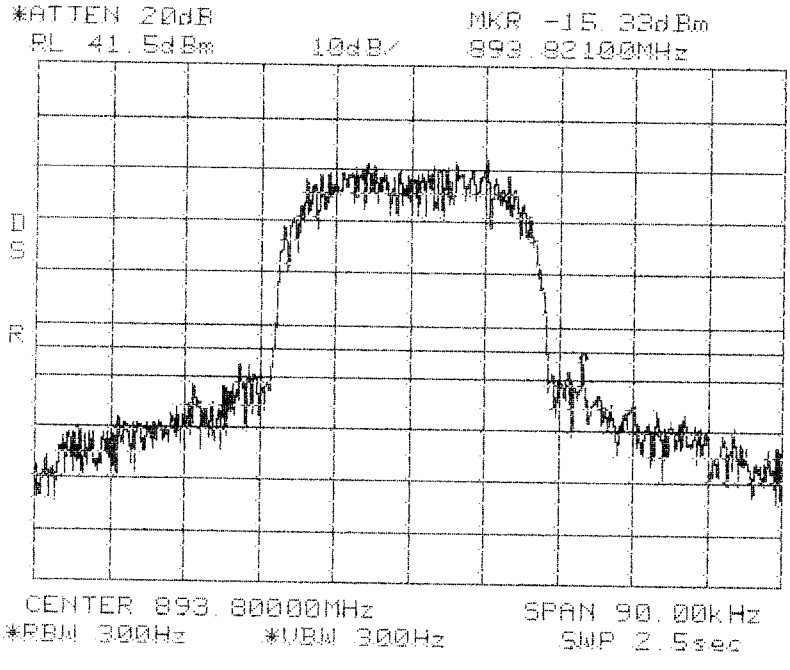
Conducted Emissions
Band Edge
FM
Cellular 800 MHz
B Band

Center: 893.8 MHz
Span: 100 kHz
RBW/VBW: 300 Hz / 300 Hz

Center: 880.2 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 300 Hz



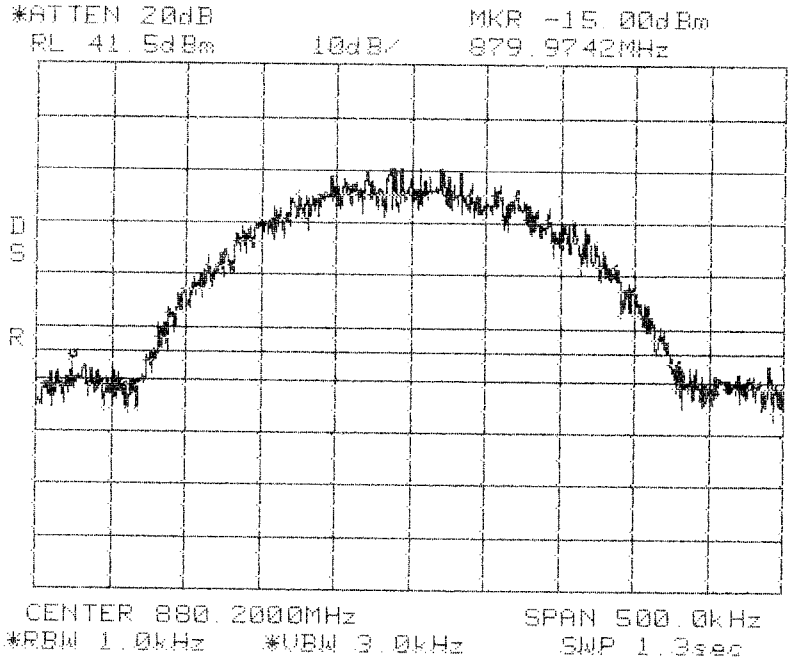
Conducted Emissions
Band Edge
TDMA
Cellular 800 MHz
B Band



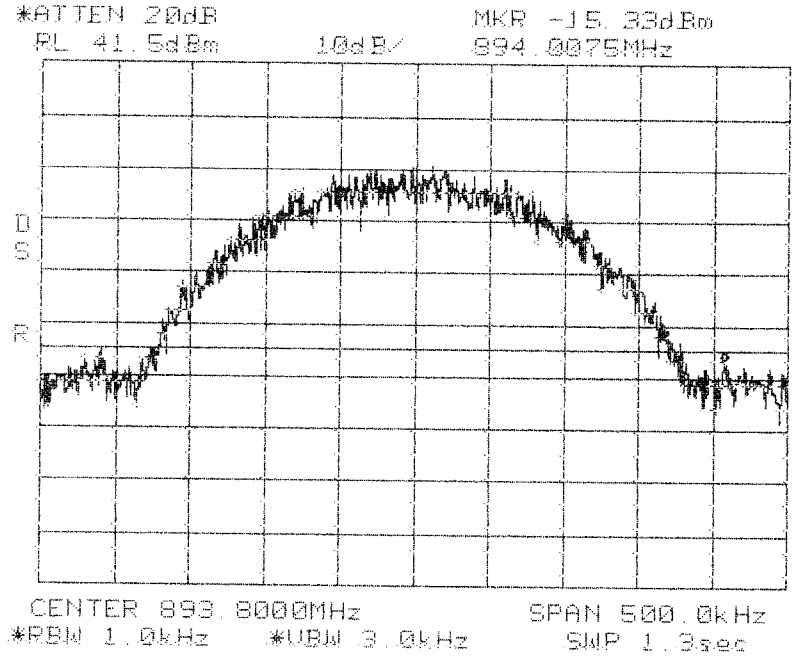
Conducted Emissions
Band Edge
TDMA
Cellular 800 MHz
B Band

Center: 893.8 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 300 Hz

Center: 880.2 MHz
Span: 500 kHz
RBW/VBW: 1 kHz / 300 Hz



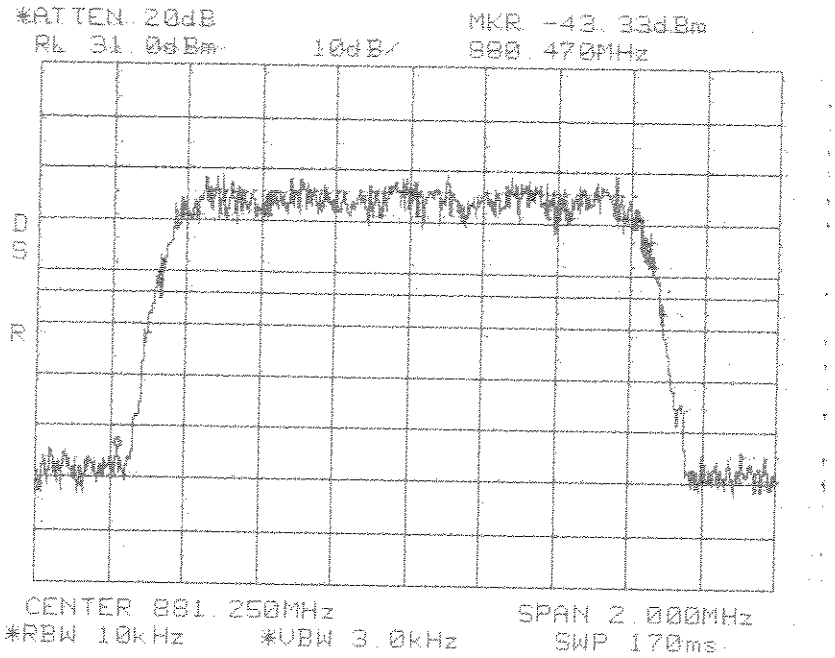
Conducted Emissions
Band Edge
GSM
Cellular 800 MHz
B Band



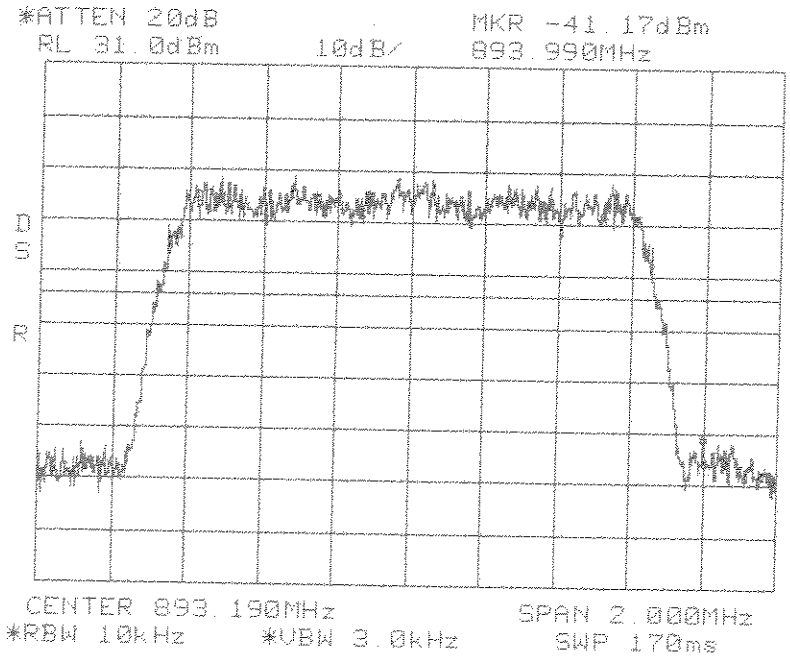
Conducted Emissions
Band Edge
GSM
Cellular 800 MHz
B Band

Center: 893.8 MHz
Span: 500 kHz
RBW/VBW: 1 kHz / 300 Hz

Center: 881.25 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz



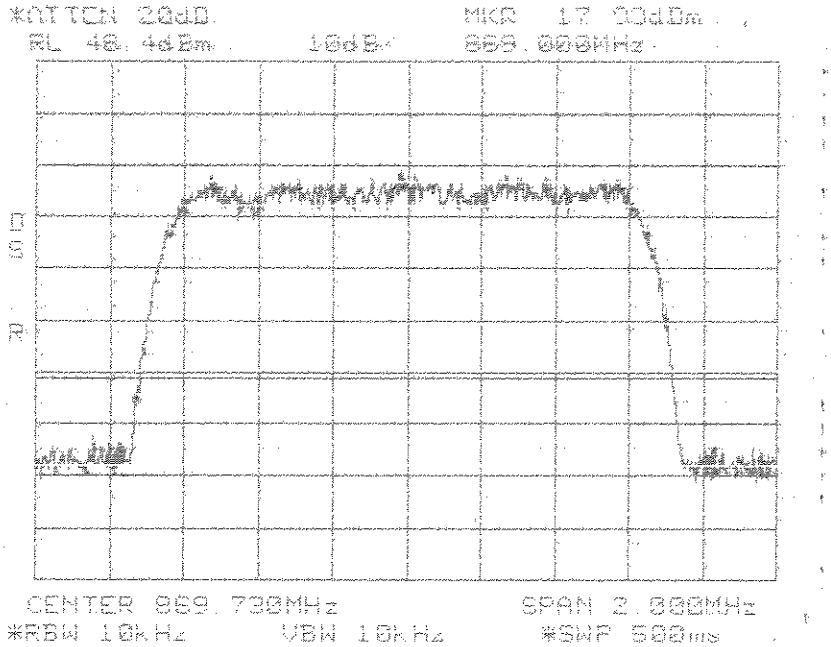
Conducted Emissions
Band Edge
CDMA
Cellular 800 MHz
B Band



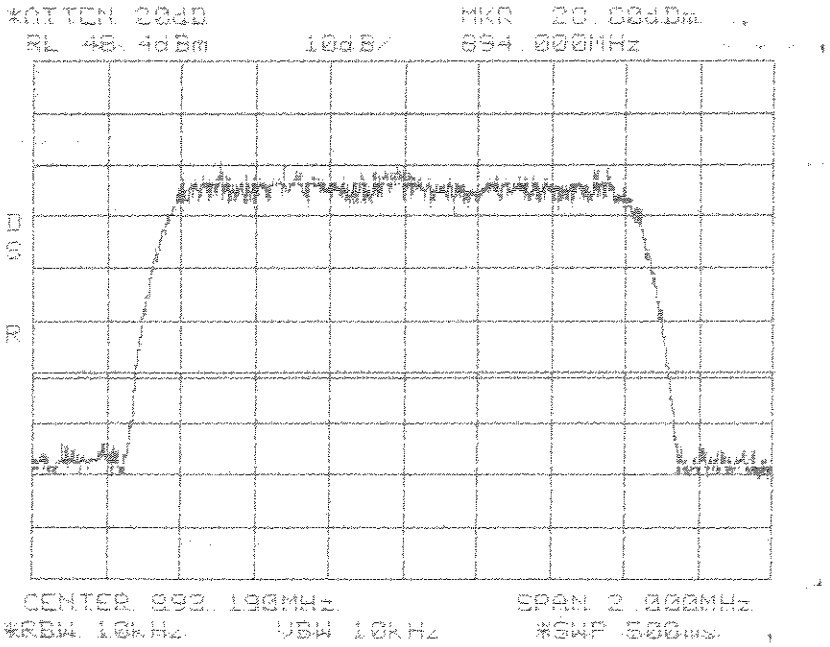
Conducted Emissions
Band Edge
CDMA
Cellular 800 MHz
B Band

Center: 893.19 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 869.73
Span: 2 MHz
RBW: 10 kHz
VBW: 10 kHz



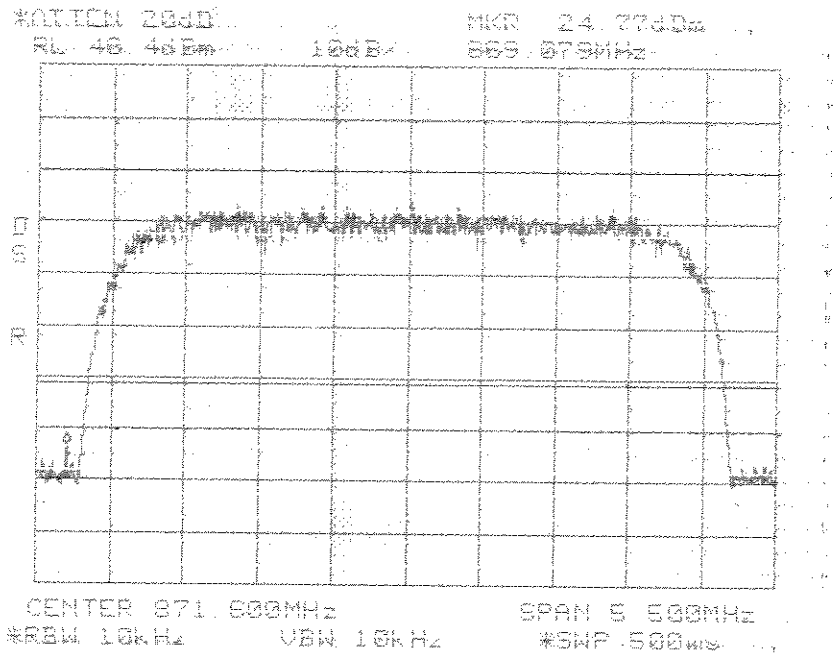
Band Edge
EVDO



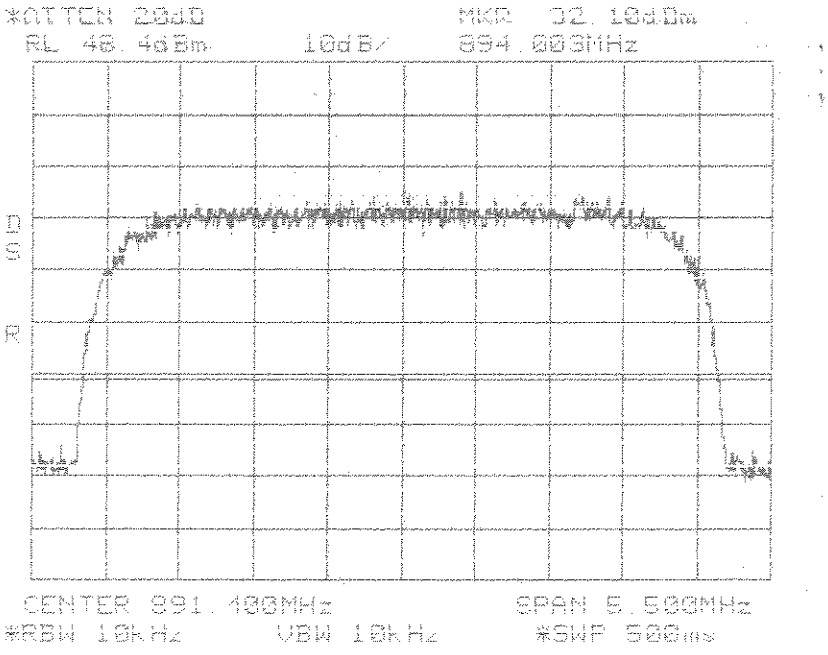
Band Edge
EVDO

Center: 893.19 MHz
Span: 2 MHz
RBW: 10 kHz
VBW: 10 kHz

Center: 871.60 MHz
Span: 5.5 MHz
RBW: 10 kHz
VBW: 10 kHz



Band Edge
W-CDMA



Band Edge
W-CDMA

Center: 891.40 MHz
Span: 5.5 MHz
RBW: 10 kHz
VBW: 10 kHz

Conducted Emission Limits Test for ADC Inc.
Digivance® Street Coverage Solution
Model Number DGVC-1X1X4X1X200SYS

The out of band emissions were measured directly from the EUT antenna output with a spectrum analyzer from 30 MHz to the 10th harmonic of the highest carrier frequency. Test signals used are TDMA, GSM, and CDMA. The different signals were input one at a time to the EUT. In all cases, the out of band emissions were less than –13dBm from the equation

$$(19\text{dBm} - [43 + 10\log(0.08\text{W})])$$

Band edge compliance is also demonstrated using a TDMA, GSM, and CDMA signal at the upper and lower limits of the band.

The Host unit connects directly to the BTS via coax. The Host unit does not connect to an antenna or amplifier, thus it is a Part 15 device and has been tested and is compliant as such. No FCC ID is necessary.

Industry practice has generally set the input signal power level. Test signal used was ≈ -40 dBm input to the Host unit.
Industry practice has generally set the output signal power level.

Host Unit:
Range: 24 - 48 VDC
Tested @: 48 VDC
Tested @: 1.25 A

Remote Unit:
Range: 115-230 VAC
Tested @: 120 VAC
Tested @: 4.2 A

Application details for 2.1033(c)(10), and 2.1033(c)(13):

The input to the host unit has a digital attenuation chip (ALC) to provide protection from overdrive with 5-10 millisecond attack time / 100 millisecond decay time and 31 dB of head room, such that single channel operation, or multi-channel operation will not exceed nominal gain of the system.

The frequency stability is derived by the BTS, base transceiver station. This product uses internal frequency stability to keep the signal inside our filter bandwidths. This means that the frequency can change, but the frequency that transmits is still at the original frequency. The remote system uses the data over the fiber optic path to phase/frequency lock to the host. The purpose is to frequency lock the up- and down-conversion local oscillators, and thereby eliminate any end-to-end frequency shift.

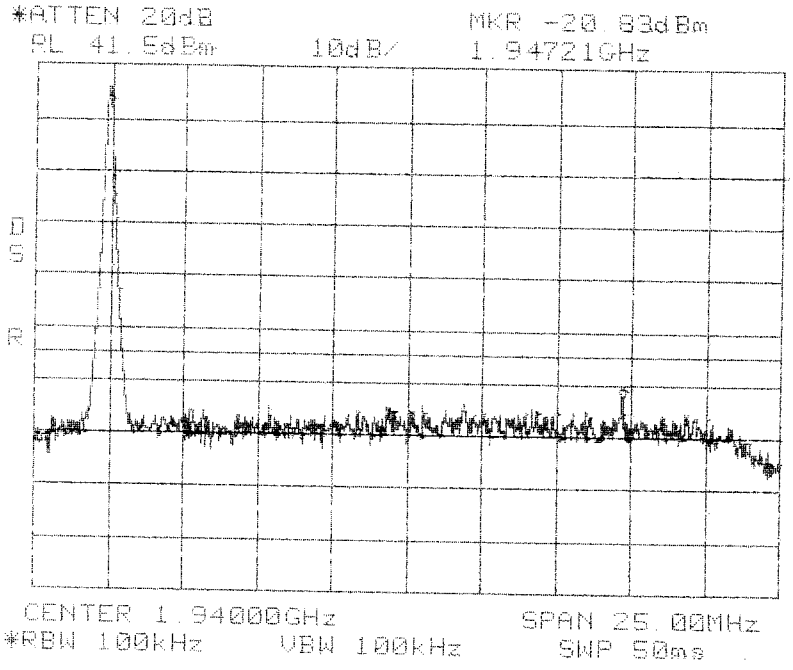
The spurious limitation is completed with the duplexer. The ALC also suppresses in-band spurious by preventing PA overdrive, while the duplexer suppresses out-of-band spurious.

This equipment does not modulate the RF, so there is no modulation limiter. This equipment does not change the modulation of the RF or the occupied bandwidth of any channel. It transports the signal, as is, over an optical link. The RF input is not changed in the RF output.

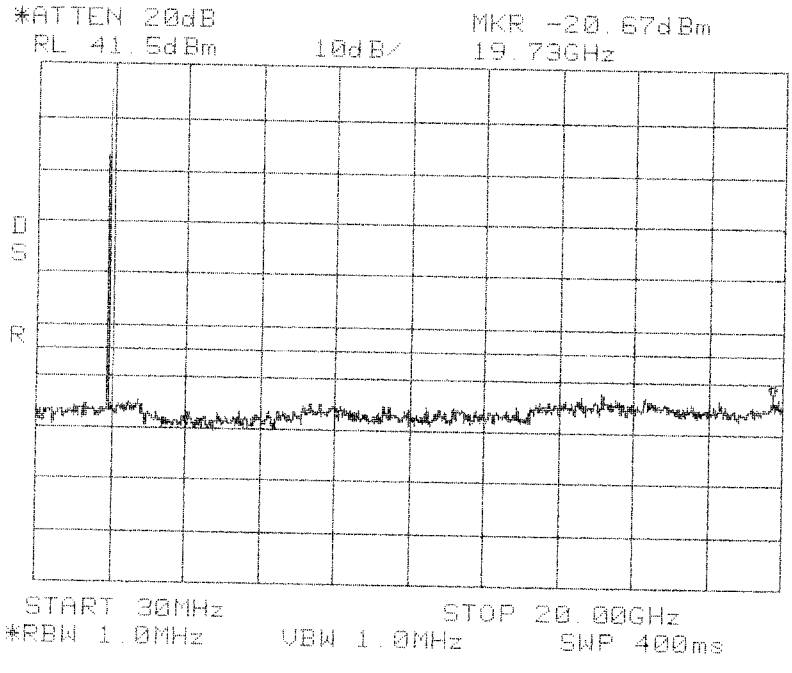
This is a constant gain device, so the setup controls the output. There is an overdrive and overpower limit control that prevents excess power.

Results:
Pass (See plots)

Center: 1940.0 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



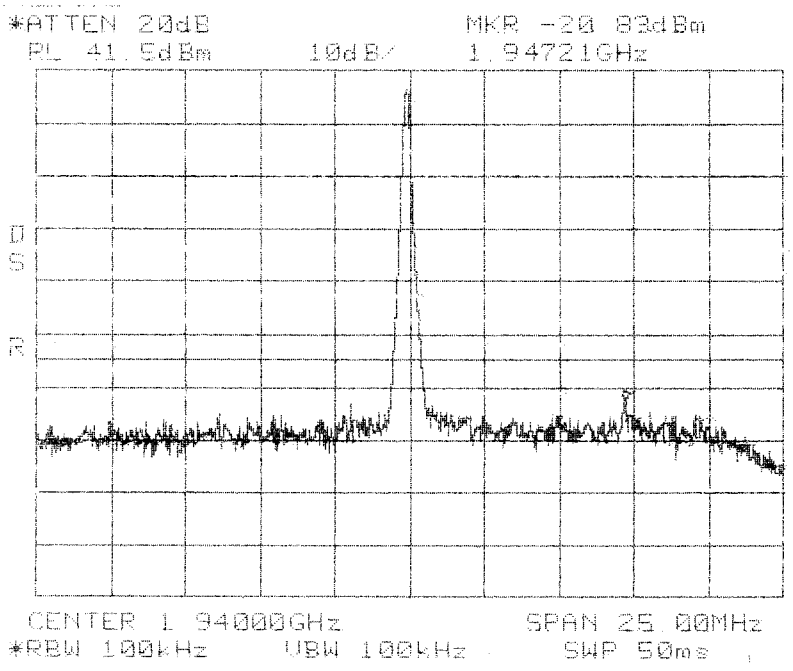
Conducted Emissions
Low
PCS 1900 MHz
AD Band



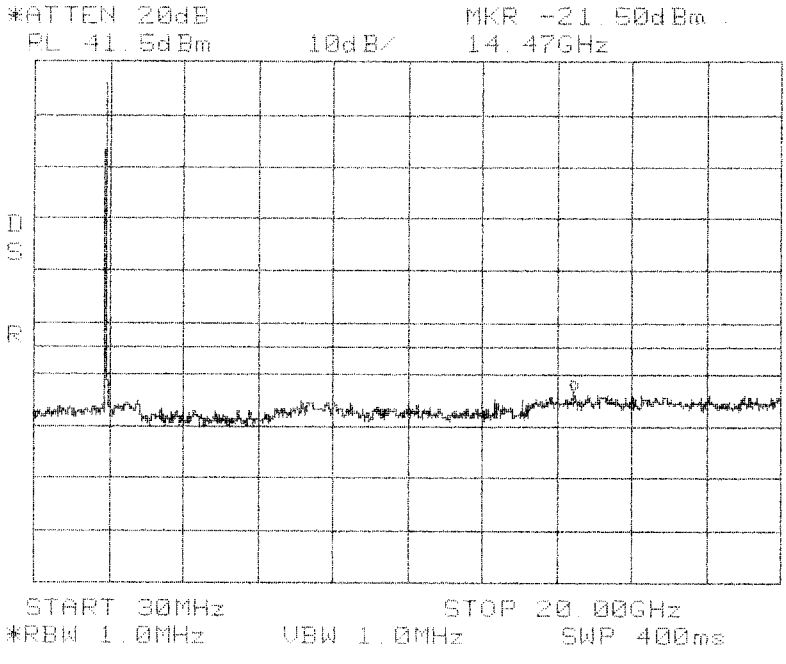
Conducted Emissions
Low
PCS 1900 MHz
AD Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1940.0 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



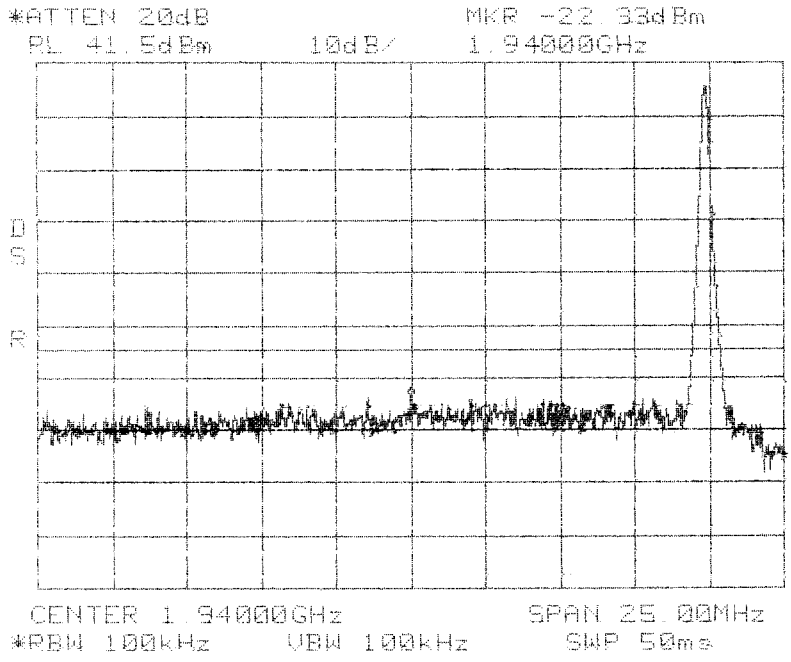
Conducted Emissions
Mid
PCS 1900 MHz
AD Band



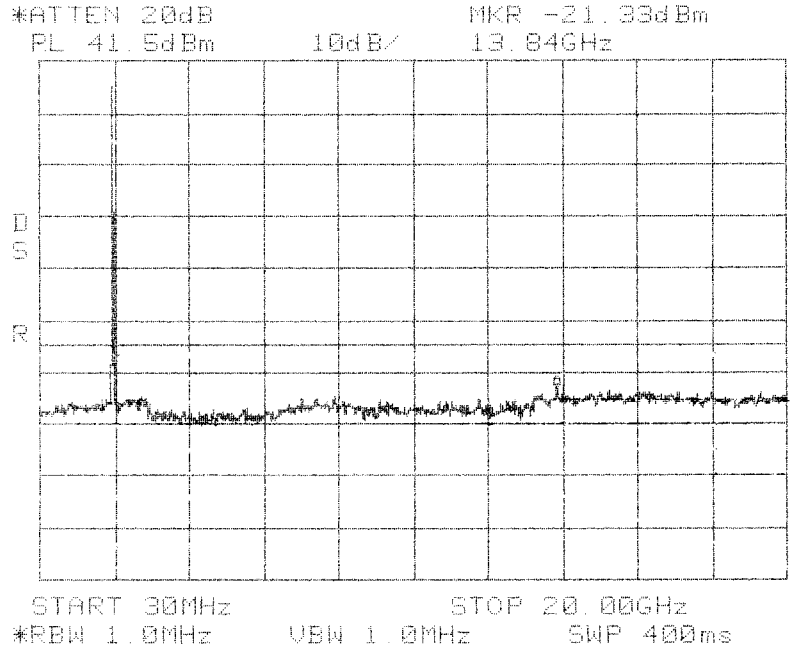
Conducted Emissions
Mid
PCS 1900 MHz
AD Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1940.0 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



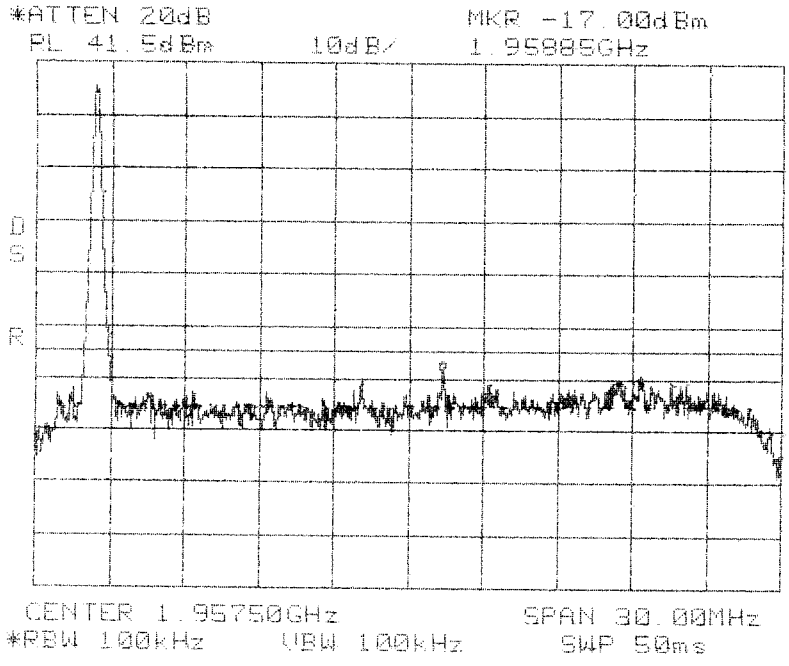
Conducted Emissions
High
PCS 1900 MHz
AD Band



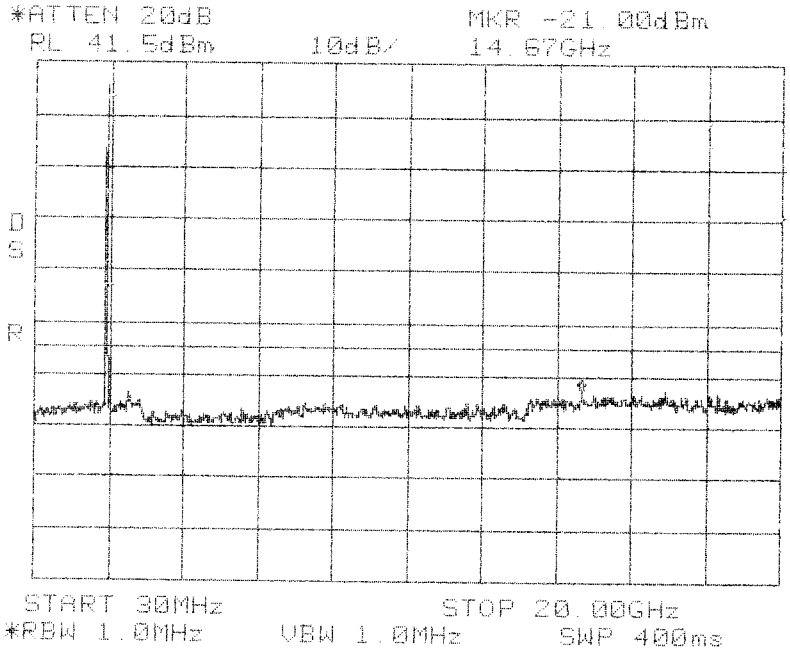
Conducted Emissions
High
PCS 1900 MHz
AD Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1957.5 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



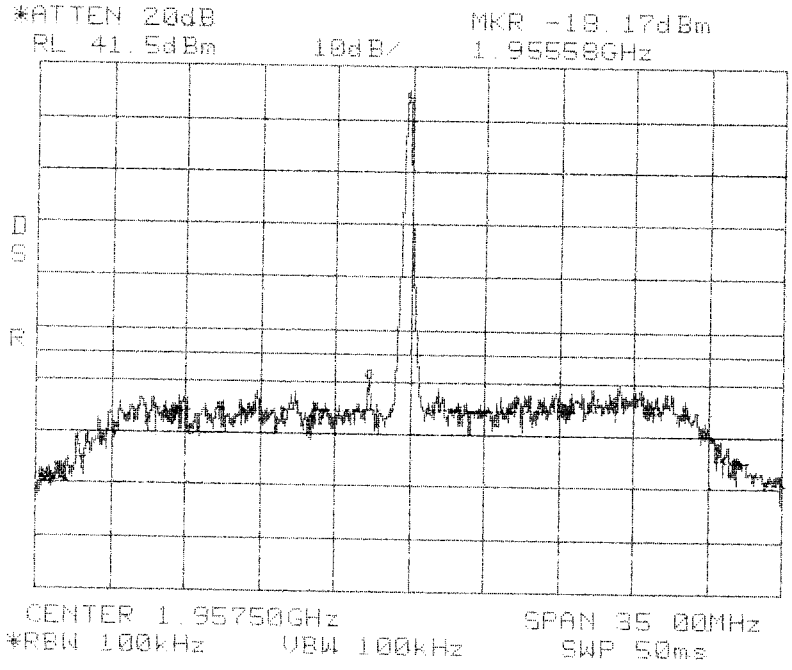
Conducted Emissions
Low
PCS 1900 MHz
DBE Band



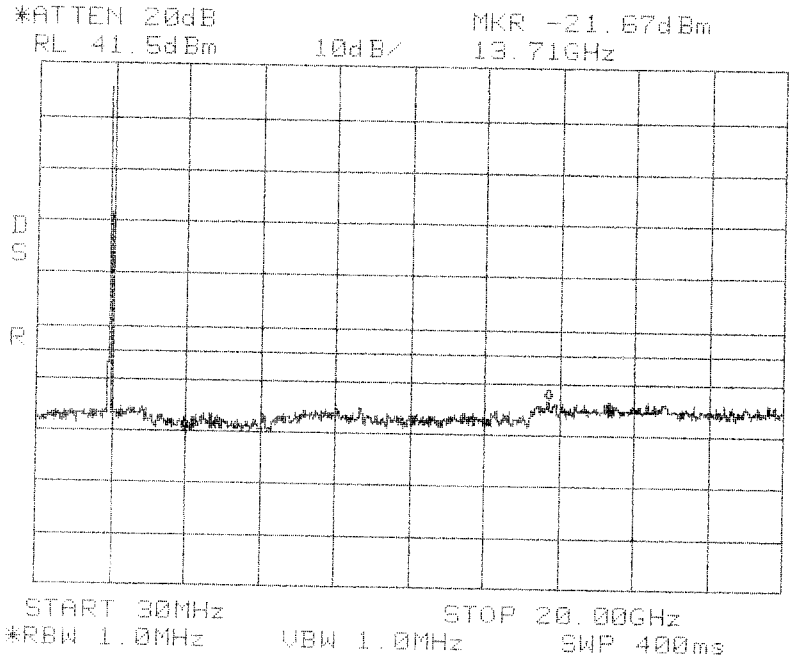
Conducted Emissions
Low
PCS 1900 MHz
DBE Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1957.5 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



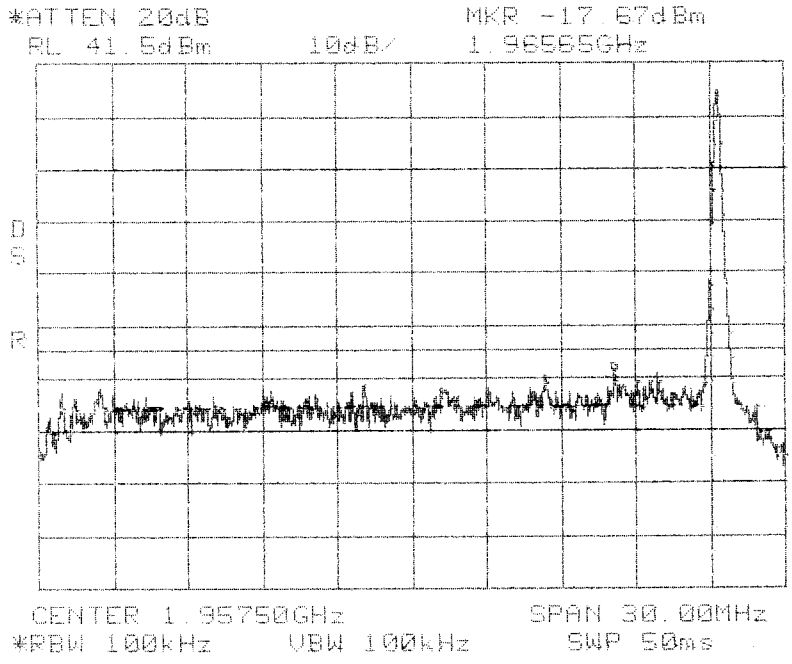
Conducted Emissions
Mid
PCS 1900 MHz
DBE Band



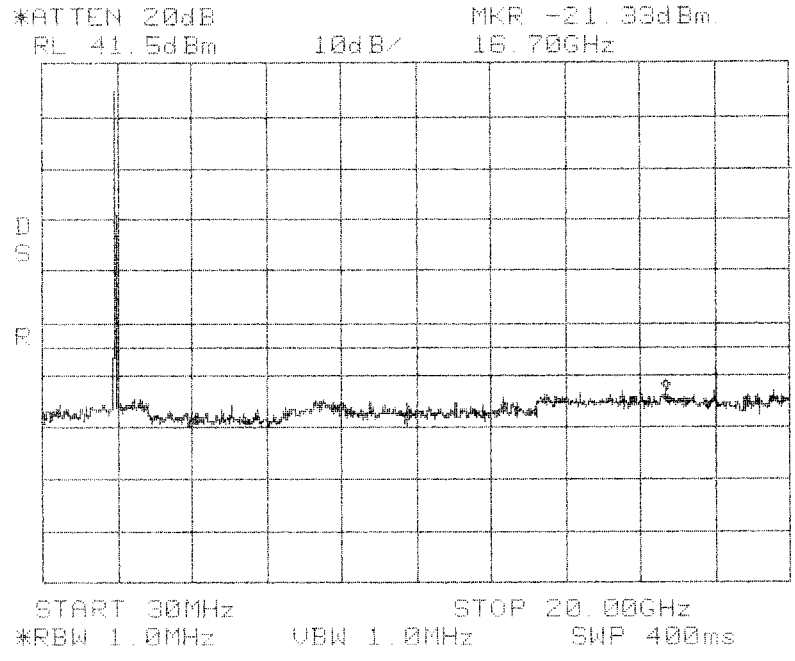
Conducted Emissions
Mid
PCS 1900 MHz
DBE Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1957.5 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



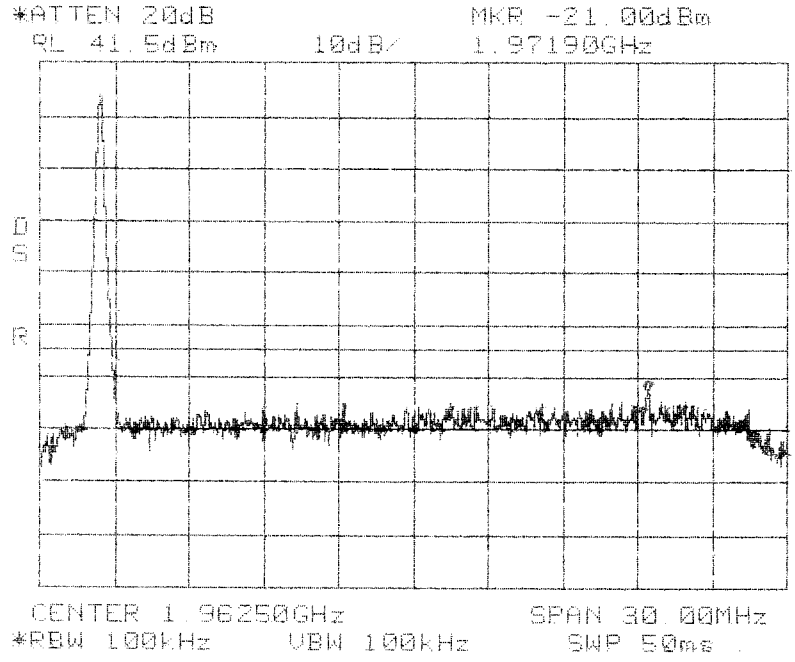
Conducted Emissions
High
PCS 1900 MHz
DBE Band



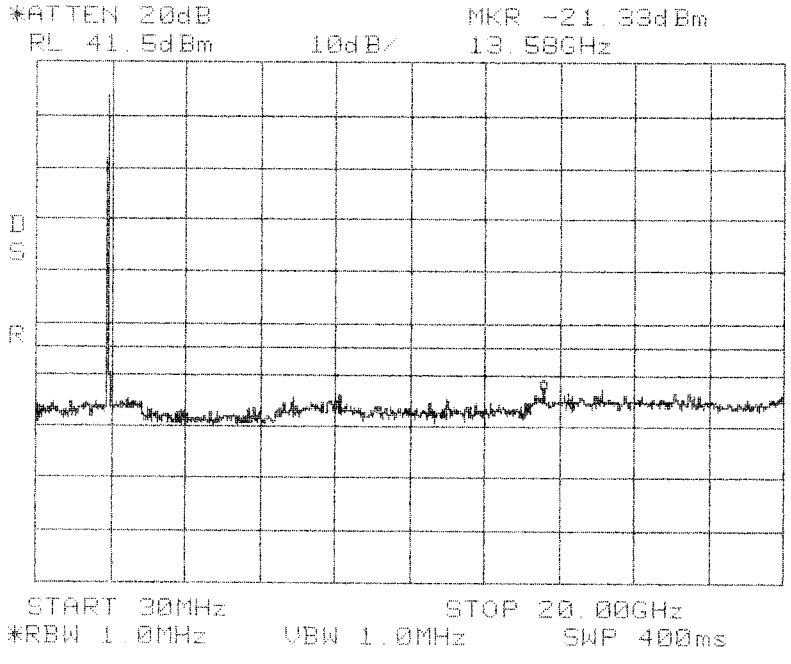
Conducted Emissions
High
PCS 1900 MHz
DBE Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1962.5 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



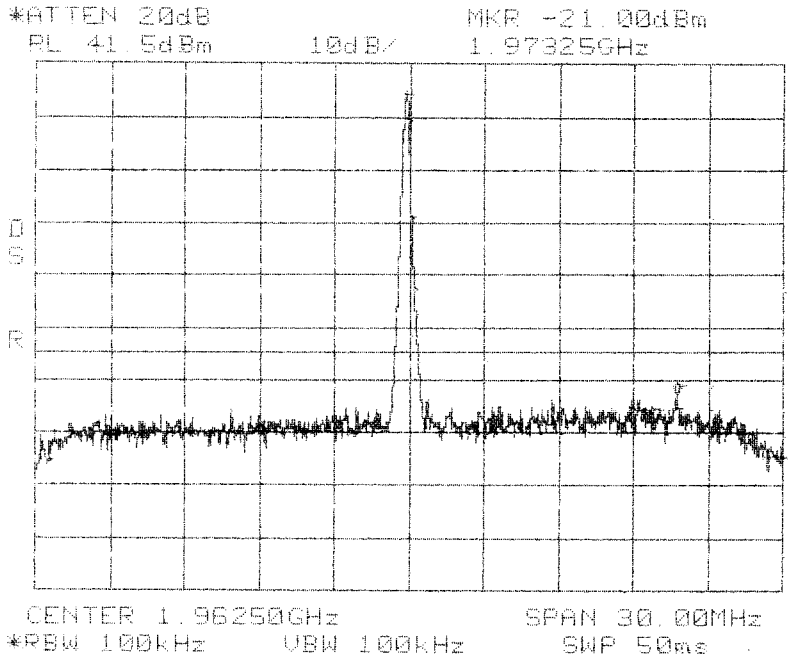
Conducted Emissions
Low
PCS 1900 MHz
BEF Band



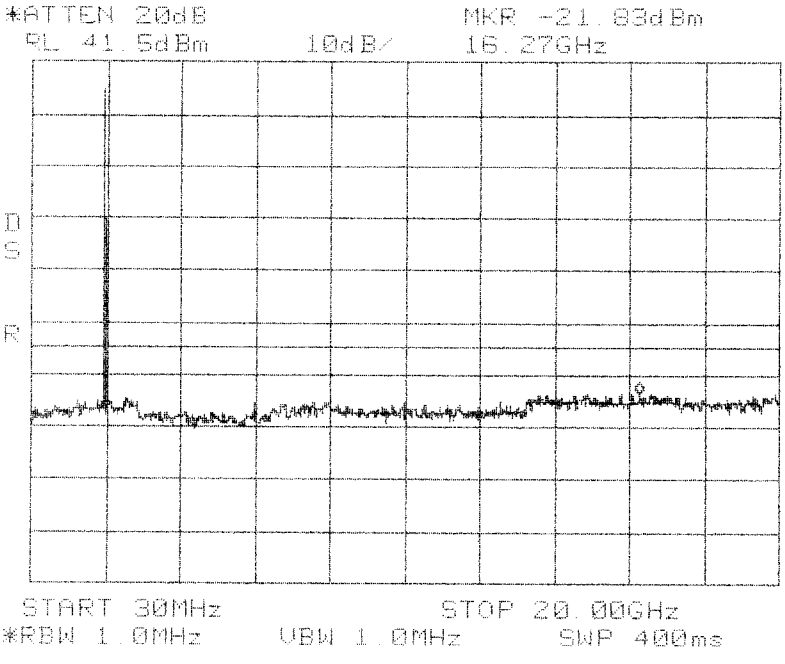
Conducted Emissions
Low
PCS 1900 MHz
BEF Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1962.5 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



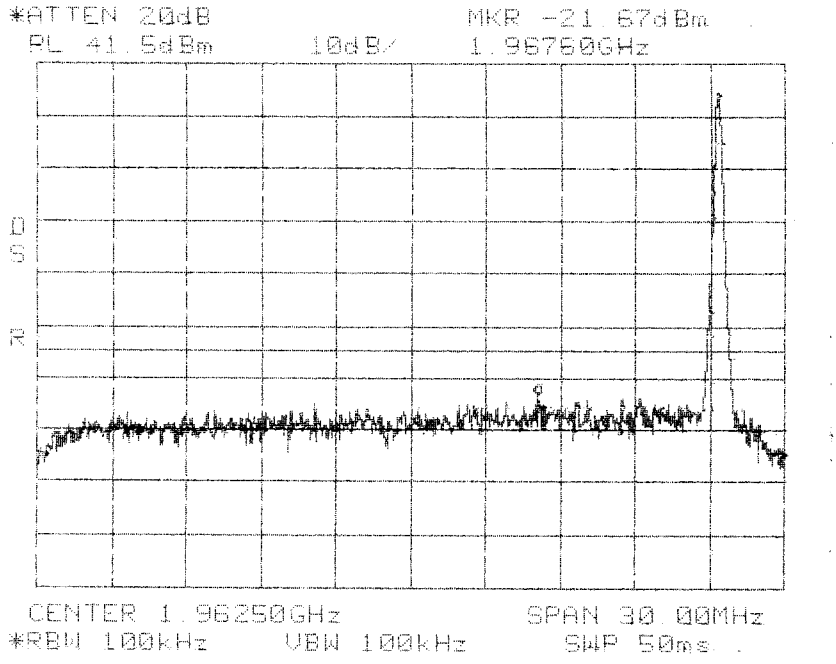
Conducted Emissions
Mid
PCS 1900 MHz
BEF Band



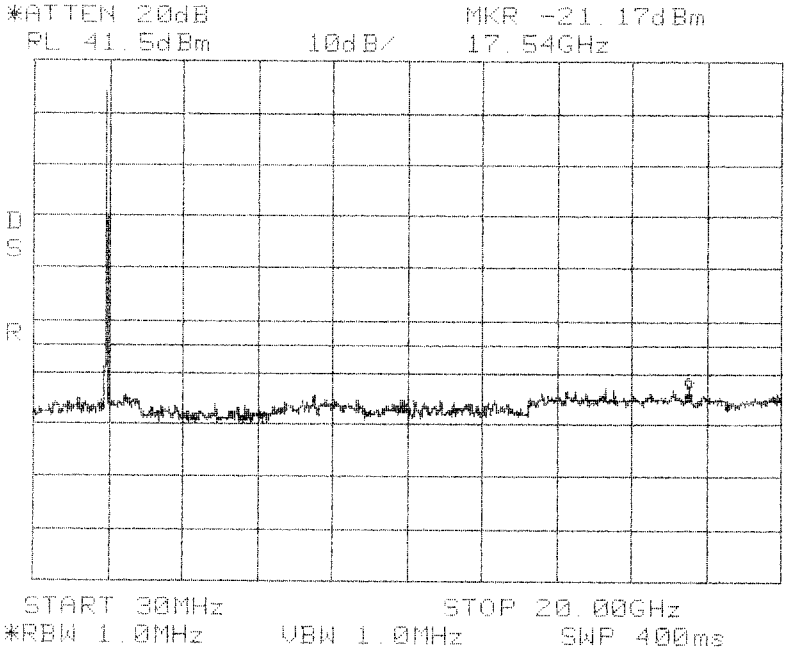
Conducted Emissions
Mid
PCS 1900 MHz
BEF Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1962.5 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



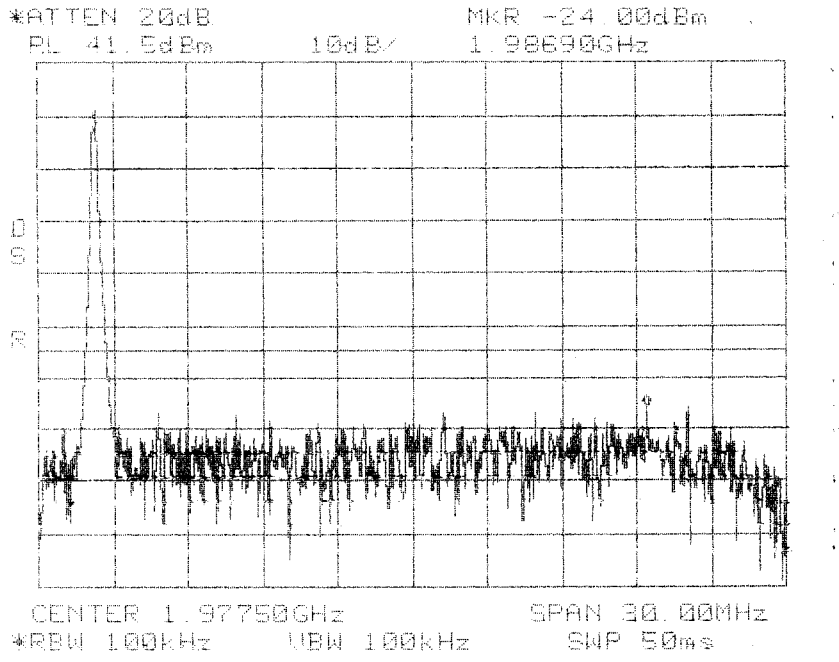
Conducted Emissions
High
PCS 1900 MHz
BEF Band



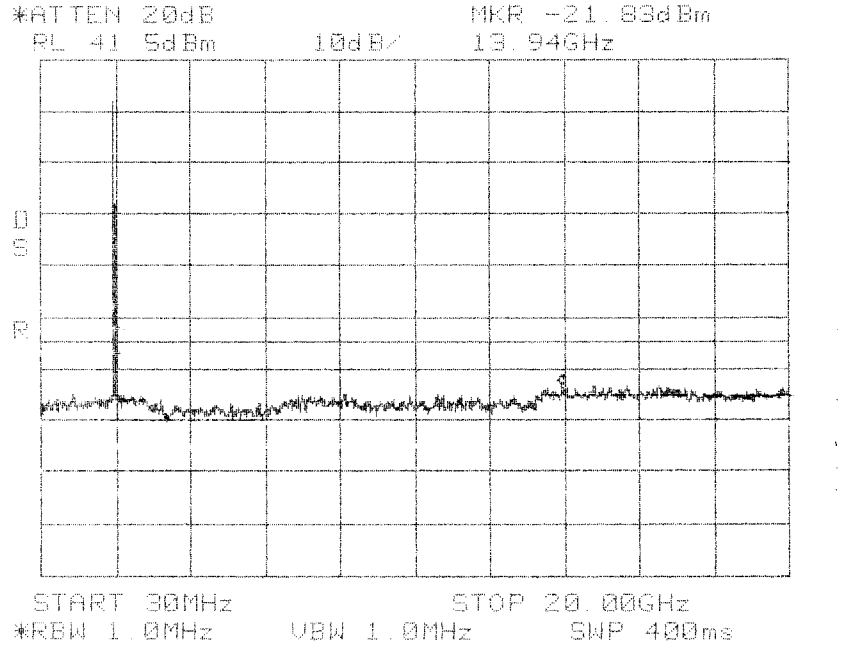
Conducted Emissions
High
PCS 1900 MHz
BEF Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1977.5 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



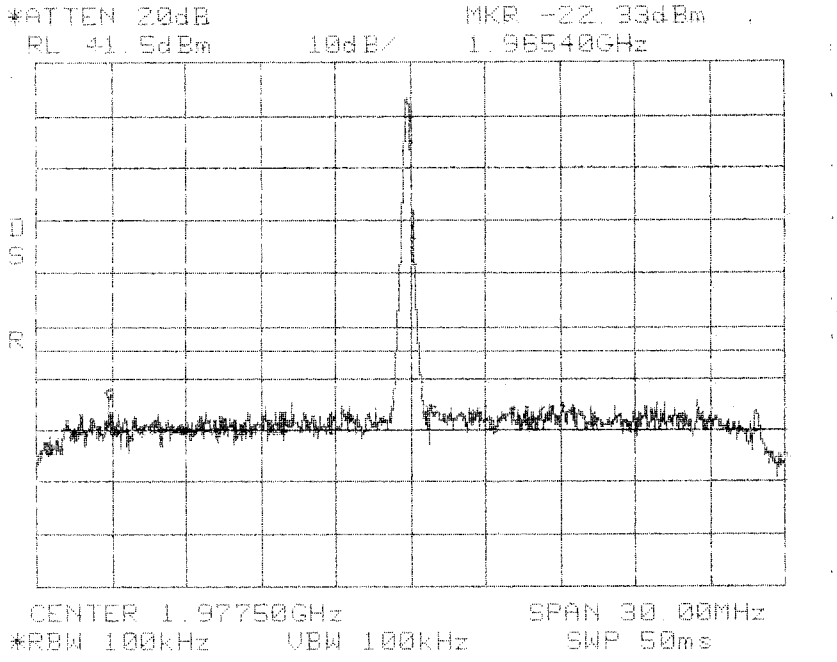
Conducted Emissions
Low
PCS 1900 MHz
EFC Band



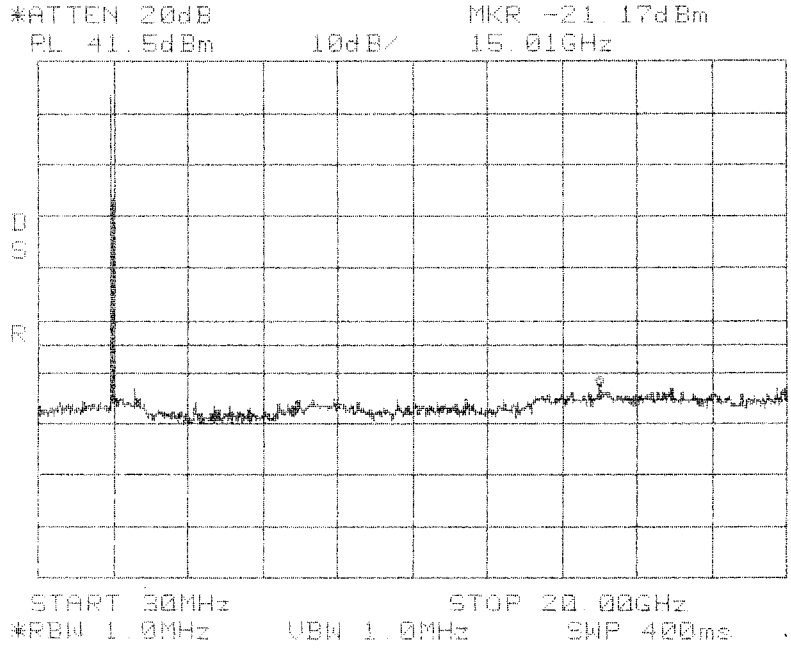
Conducted Emissions
Low
PCS 1900 MHz
EFC Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1977.5 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



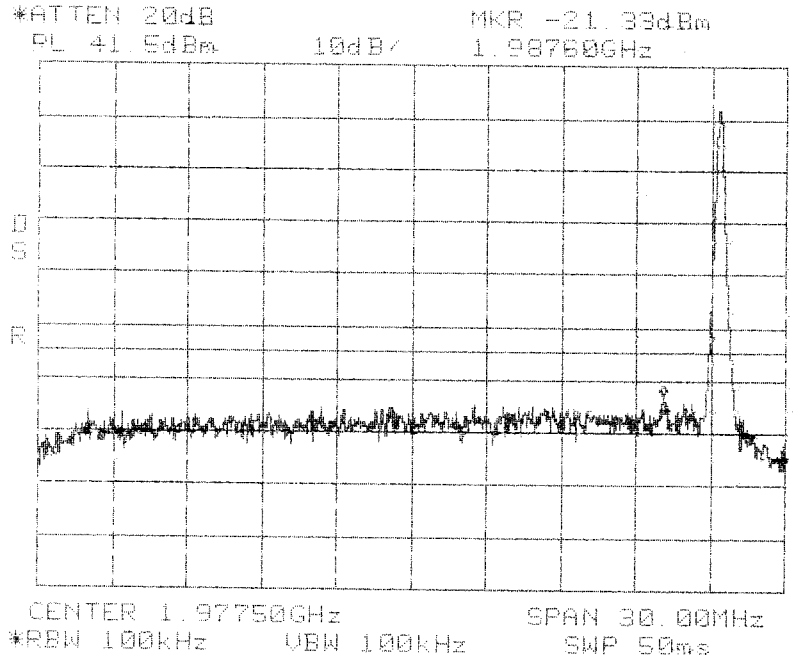
Conducted Emissions
Mid
PCS 1900 MHz
EFC Band



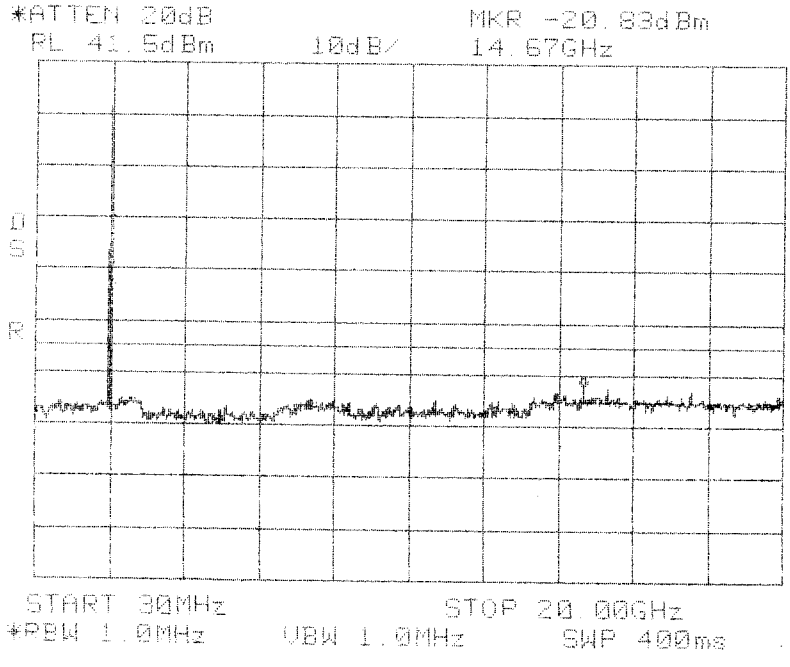
Conducted Emissions
Mid
PCS 1900 MHz
EFC Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1977.5 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



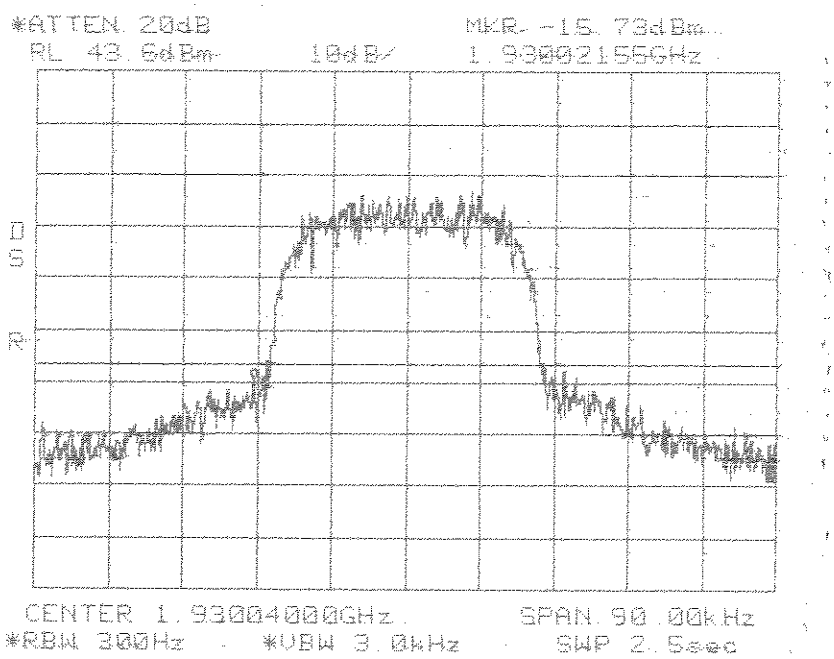
Conducted Emissions
High
PCS 1900 MHz
EFC Band



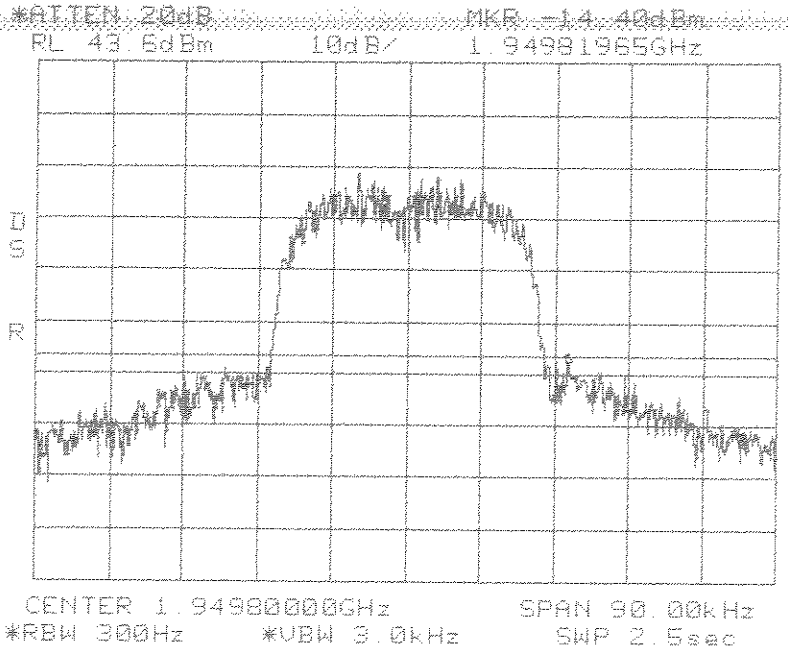
Conducted Emissions
High
PCS 1900 MHz
EFC Band

Span: 30 MHz to 20 GHz
RBW/VBW: 1 MHz

Center: 1930.04 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

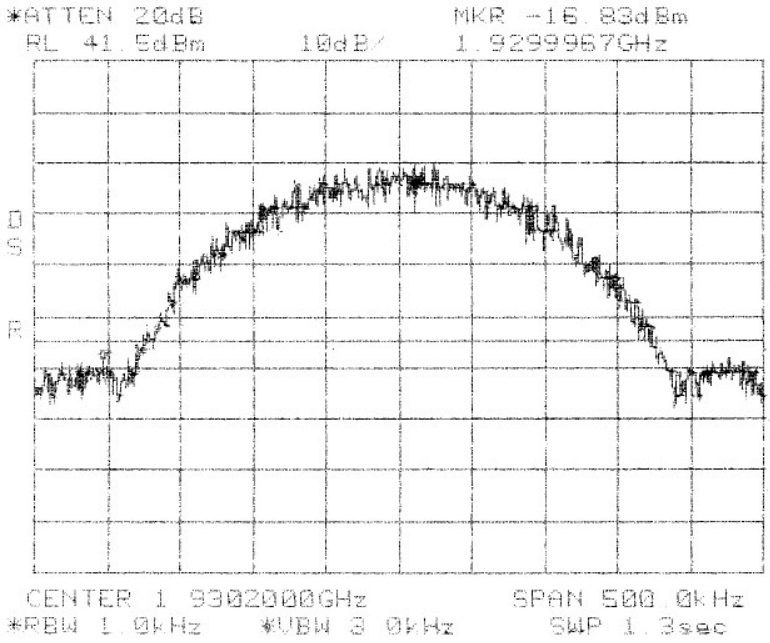


Conducted Emissions
Band Edge
TDMA
PCS 1900 MHz
AD Band

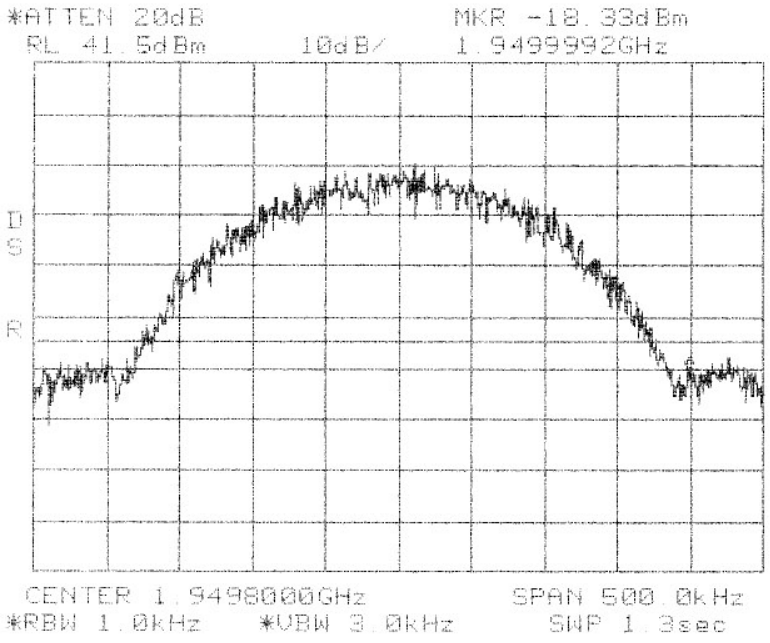


Conducted Emissions
Band Edge
TDMA
PCS 1900 MHz
AD Band

Center: 1949.8 MHz
Span: 90 kjHz
RBW/VBW: 300 Hz / 3 kHz

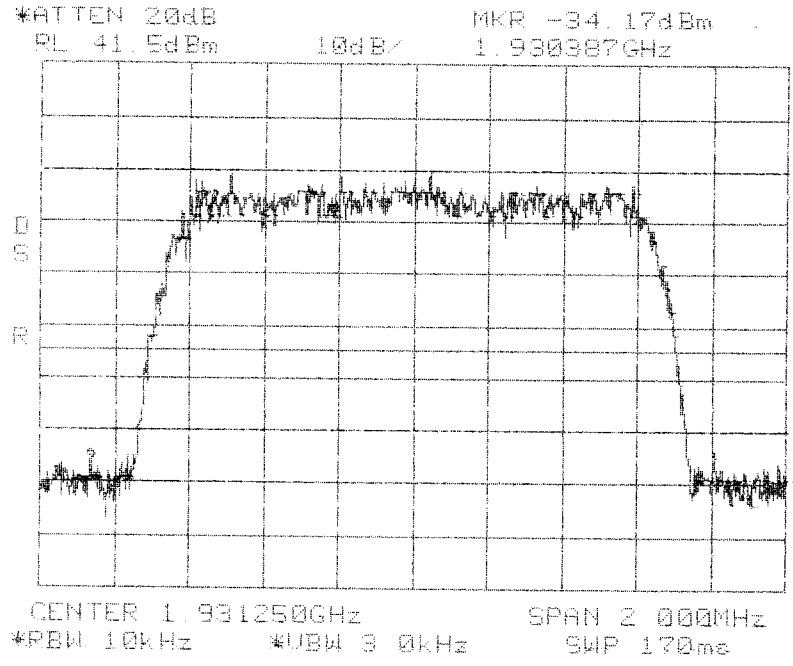


Conducted Emissions
Band Edge
GSM
PCS 1900 MHz
AD Band

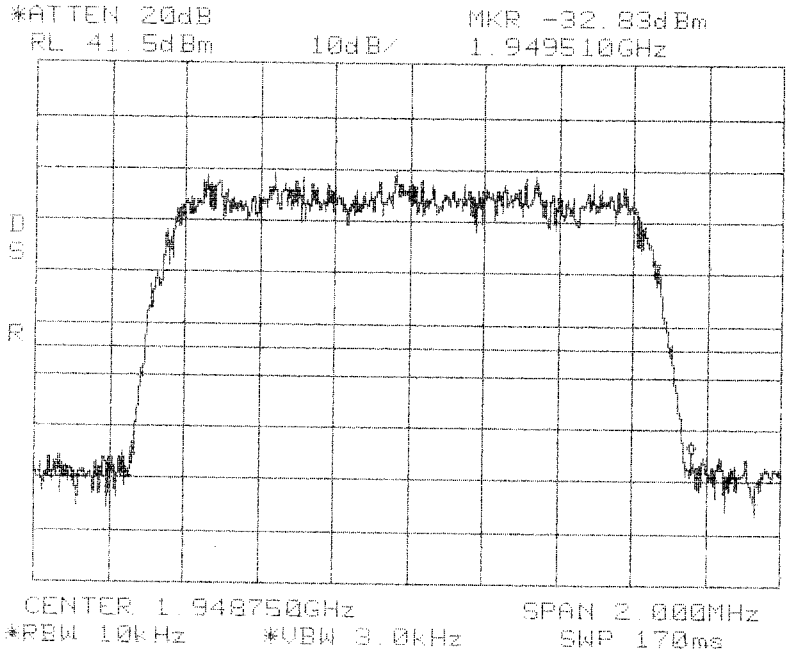


Conducted Emissions
Band Edge
GSM
PCS 1900 MHz
AD Band

Center: 1931.25 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz



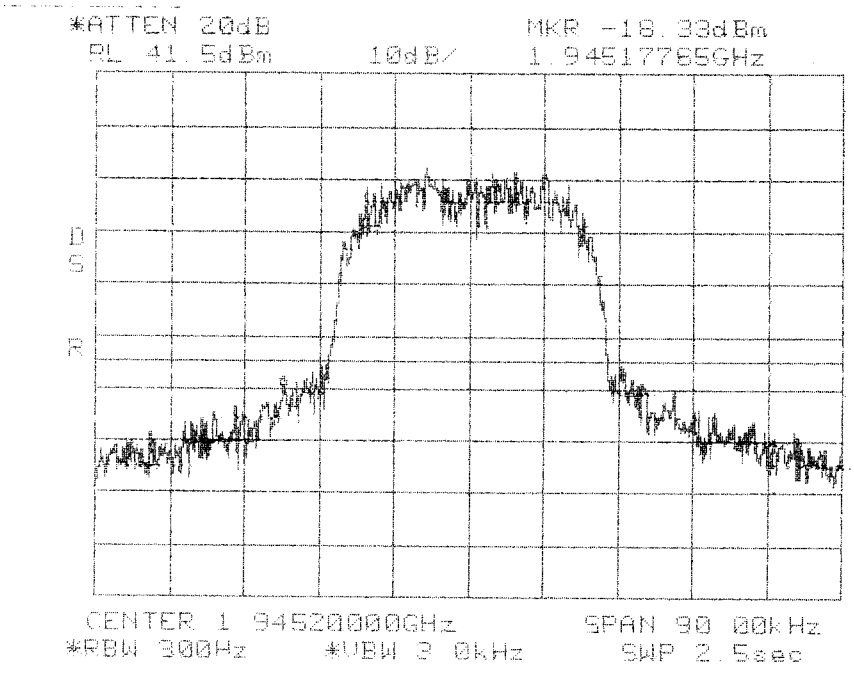
Conducted Emissions
Band Edge
CDMA
PCS 1900 MHz
AD Band



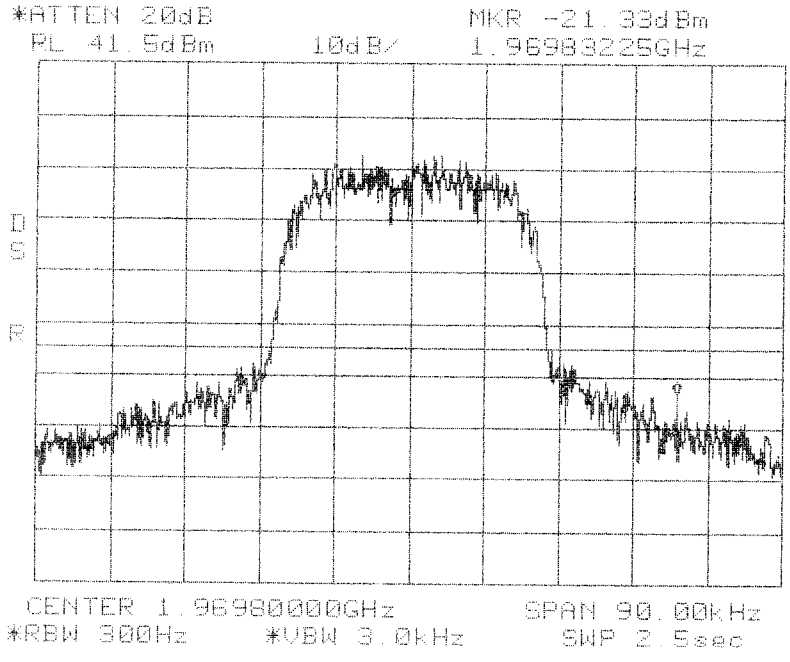
Conducted Emissions
Band Edge
CDMA
PCS 1900 MHz
AD Band

Center: 1948.75 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 1945.2 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

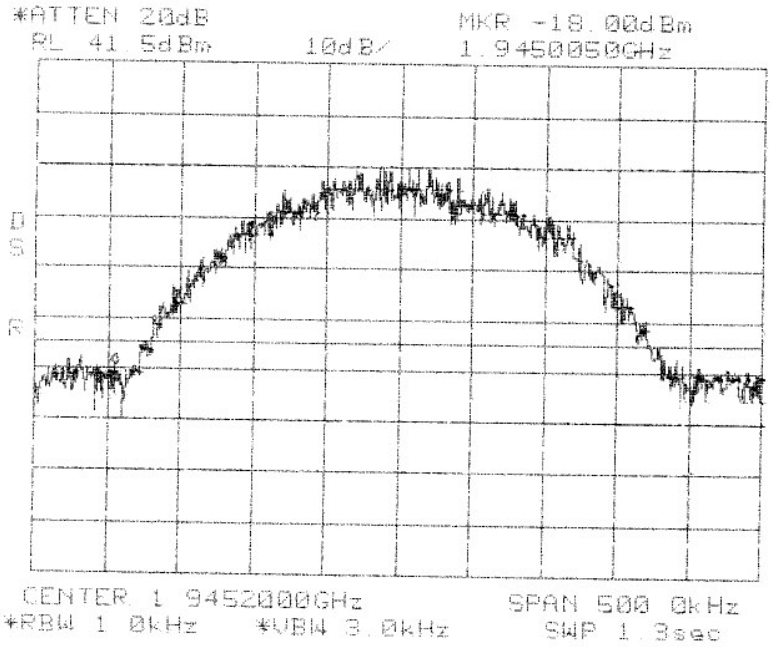


Conducted Emissions
Band Edge
TDMA
PCS 1900 MHz
DBE Band

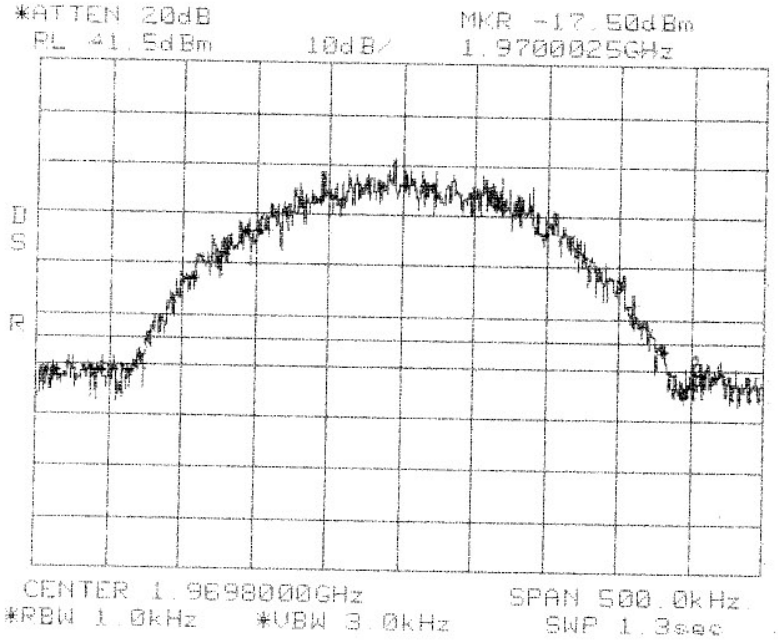


Conducted Emissions
Band Edge
TDMA
PCS 1900 MHz
DBE Band

Center: 1969.8 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

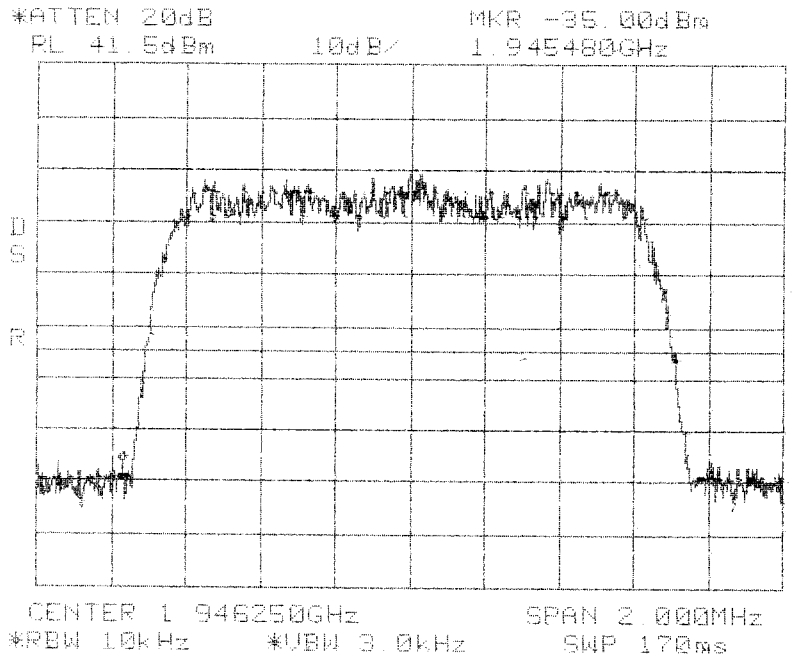


Conducted Emissions
Band Edge
GSM
PCS 1900 MHz
DBE Band

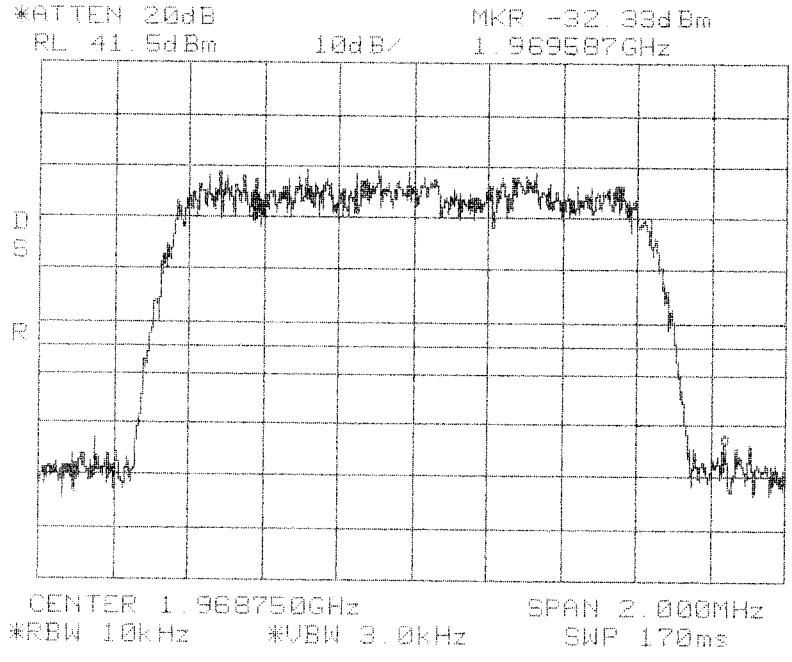


Conducted Emissions
Band Edge
GSM
PCS 1900 MHz
DBE Band

Center: 1946.25 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz



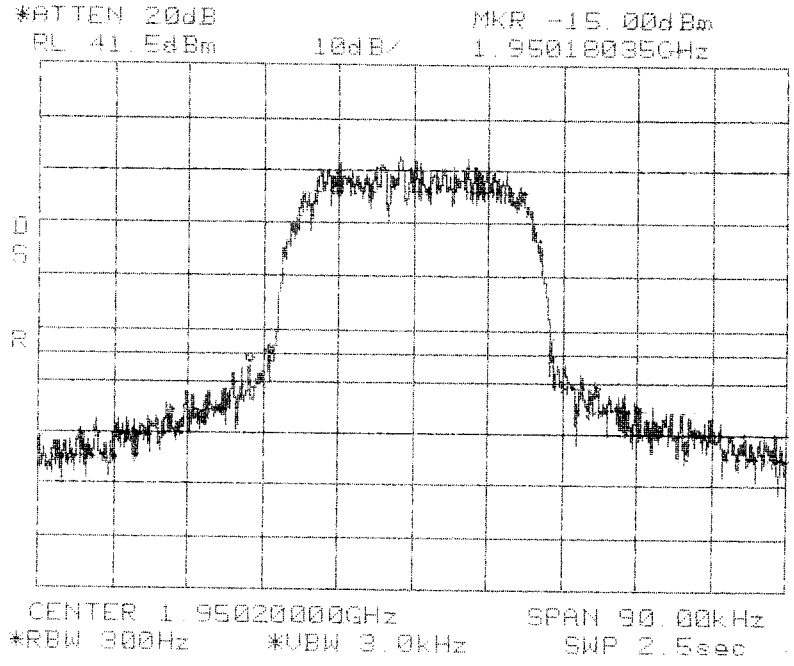
Conducted Emissions
Band Edge
CDMA
PCS 1900 MHz
DBE Band



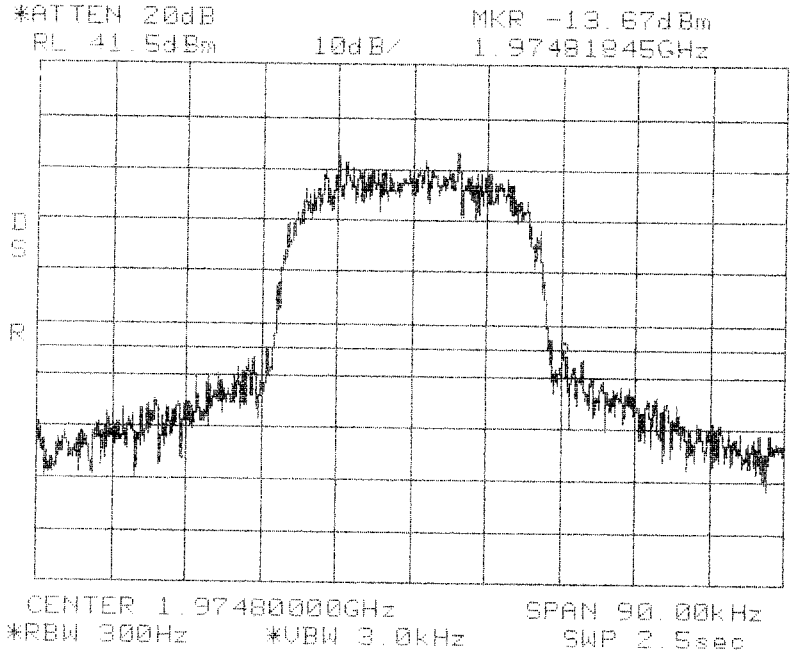
Conducted Emissions
Band Edge
CDMA
PCS 1900 MHz
DBE Band

Center: 1968.75 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 1950.2 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

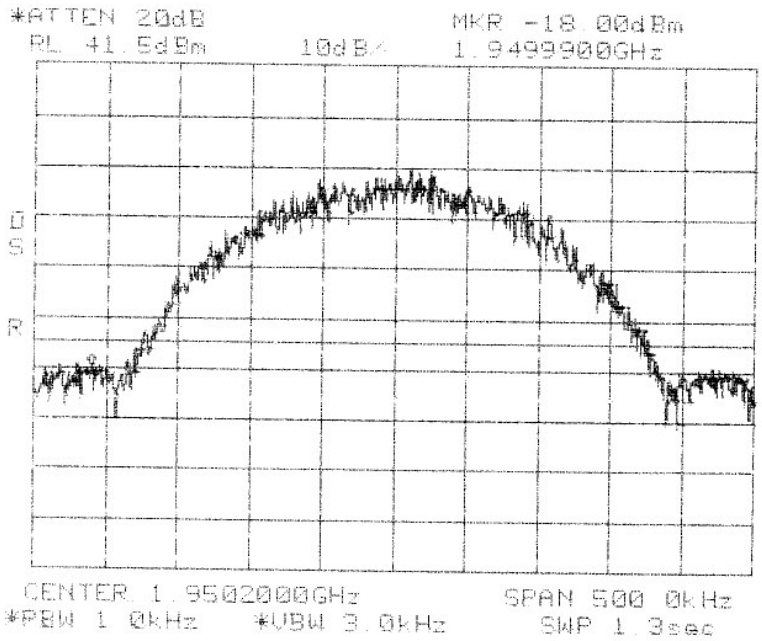


Conducted Emissions
Band Edge
TDMA
PCS 1900 MHz
BEF Band

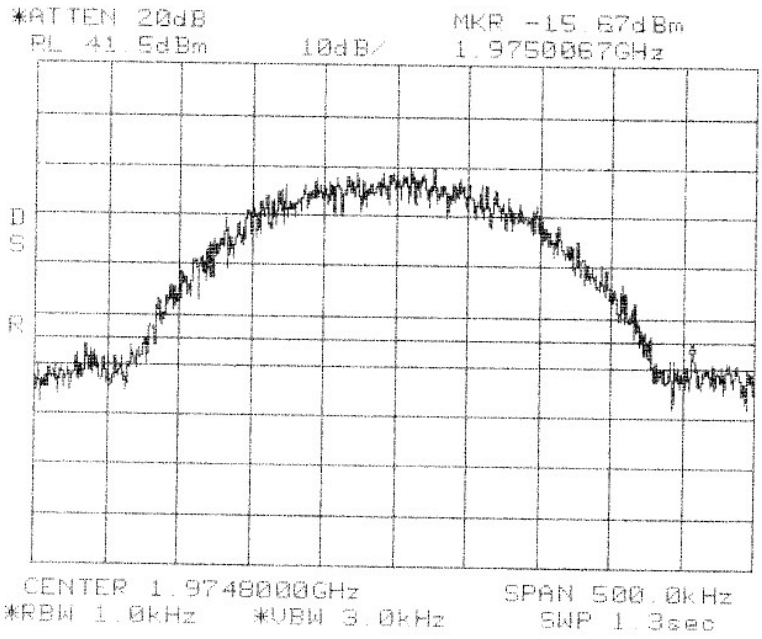


Conducted Emissions
Band Edge
TDMA
PCS 1900 MHz
BEF Band

Center: 1974.8 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

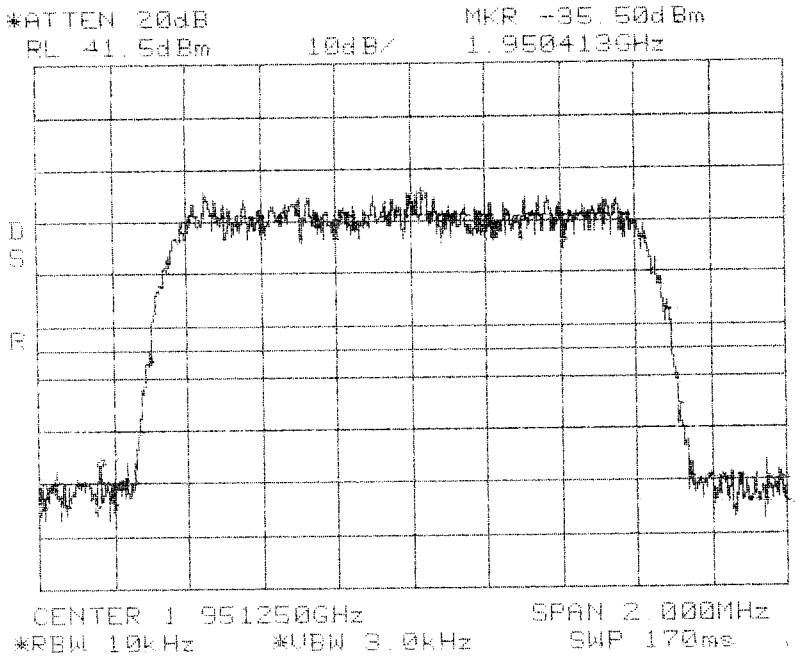


Conducted Emissions
Band Edge
GSM
PCS 1900 MHz
BEF Band

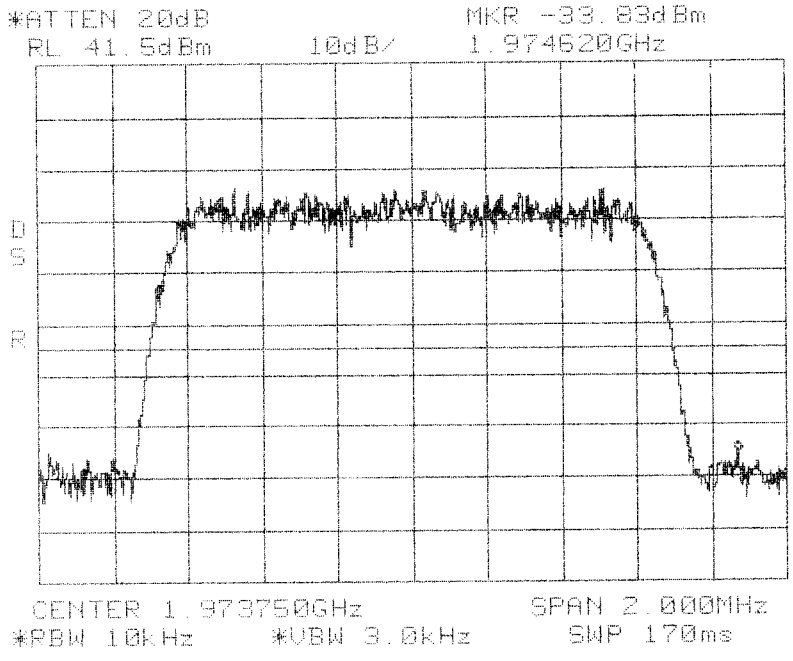


Conducted Emissions
Band Edge
GSM
PCS 1900 MHz
BEF Band

Center: 1951.25 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz



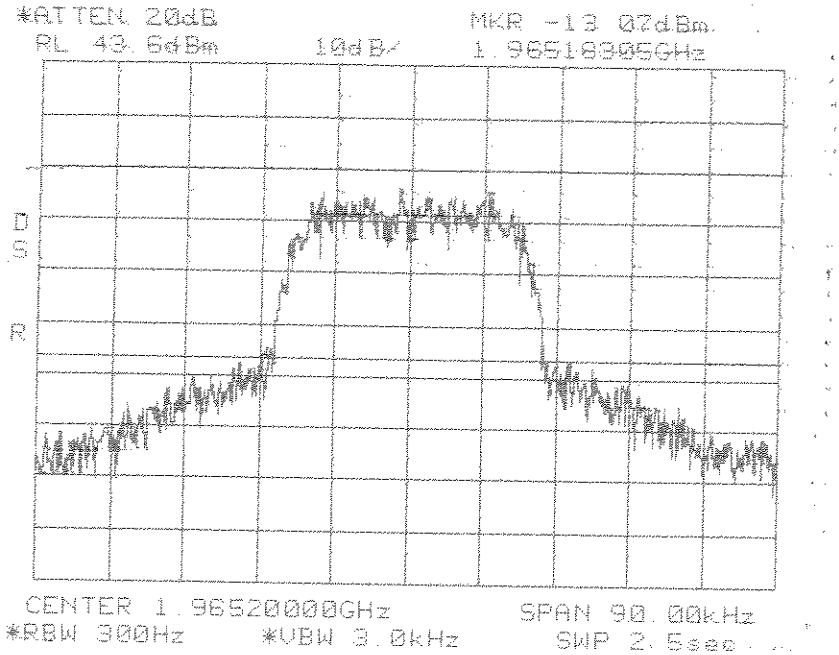
Conducted Emissions
Band Edge
CDMA
PCS 1900 MHz
BEF Band



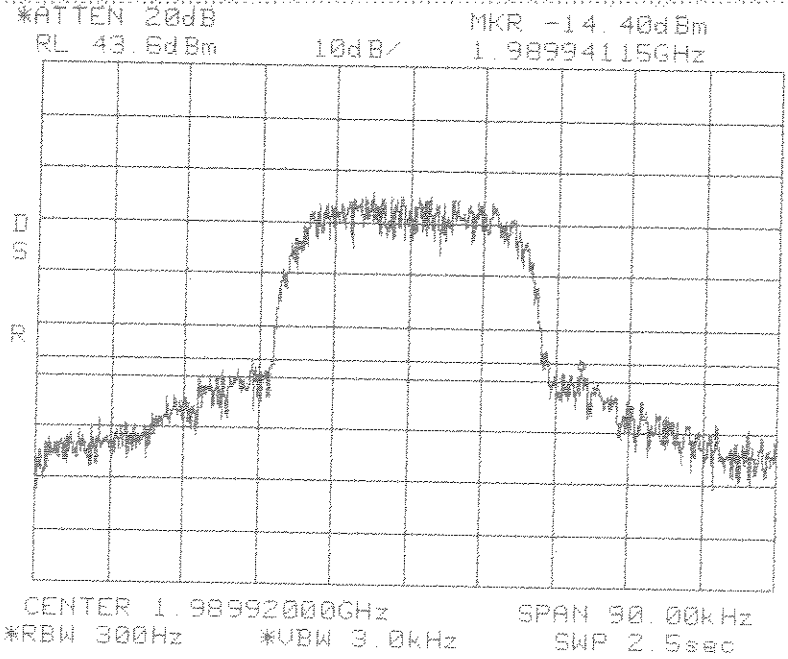
Conducted Emissions
Band Edge
CDMA
PCS 1900 MHz
BEF Band

Center: 1973.75 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 1965.2 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

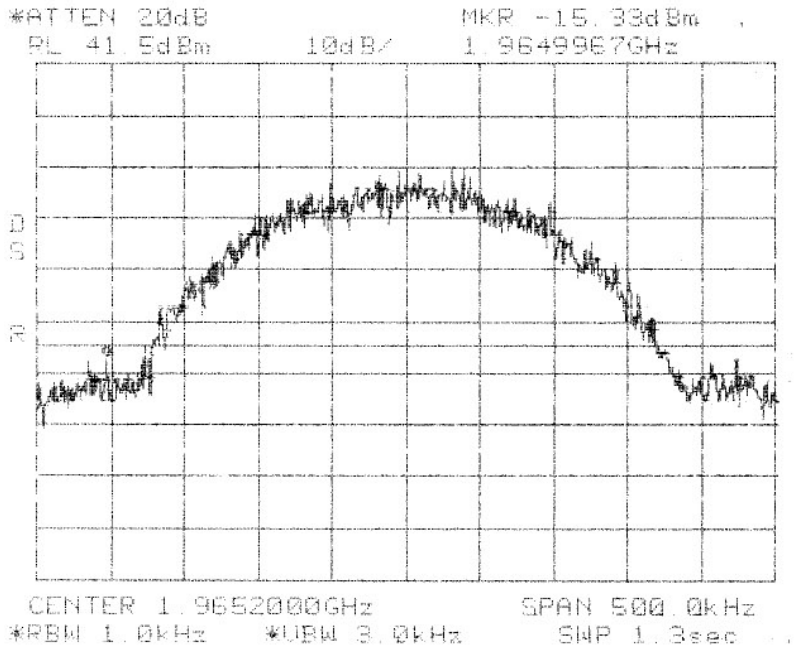


Conducted Emissions
Band Edge
TDMA
PCS 1900 MHz
EFC Band

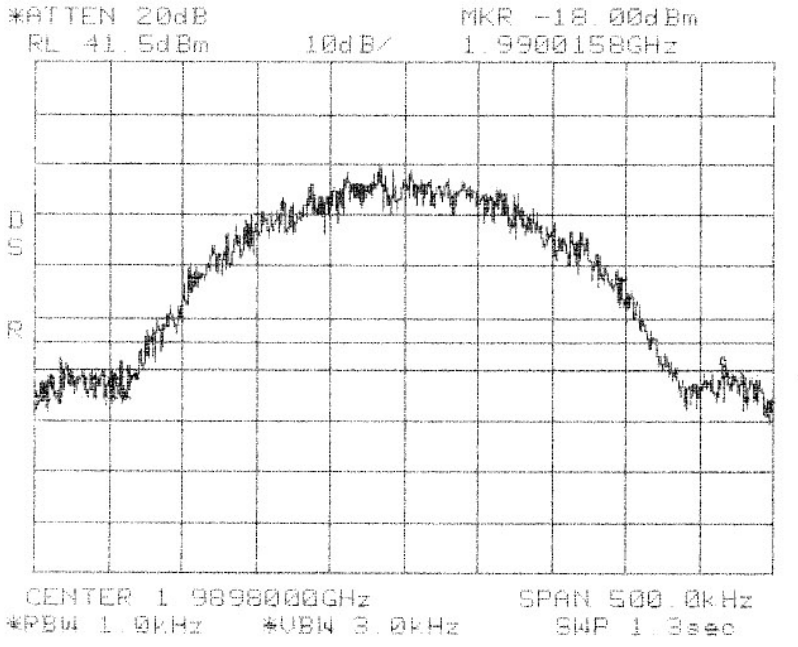


Conducted Emissions
Band Edge
TDMA
PCS 1900 MHz
EFC Band

Center: 1989.92 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

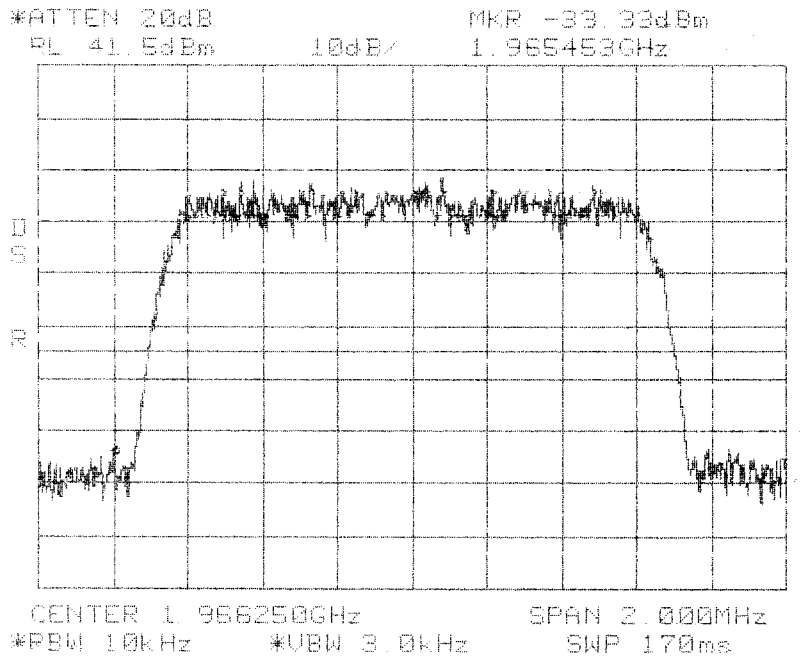


Conducted Emissions
Band Edge
GSM
PCS 1900 MHz
EFC Band

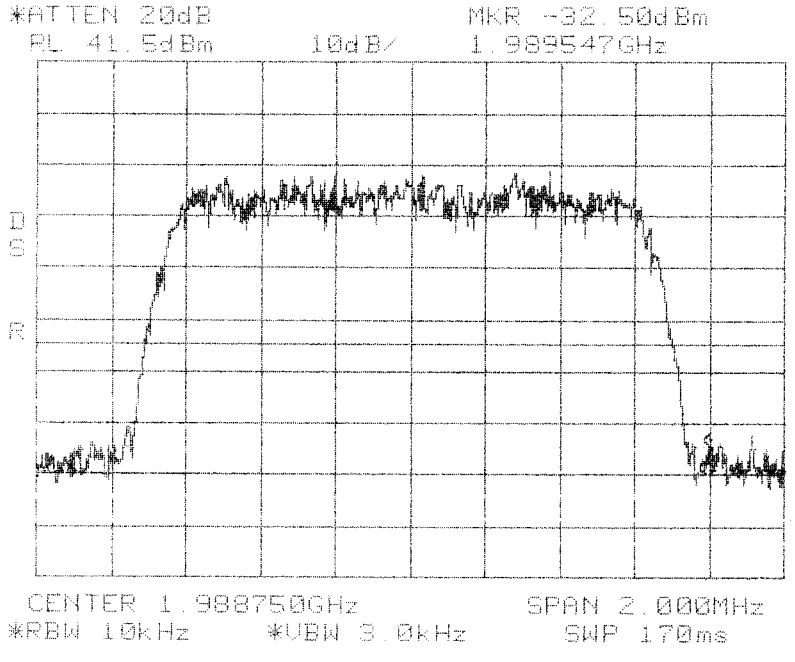


Conducted Emissions
Band Edge
GSM
PCS 1900 MHz
EFC Band

Center: 1966.25 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz



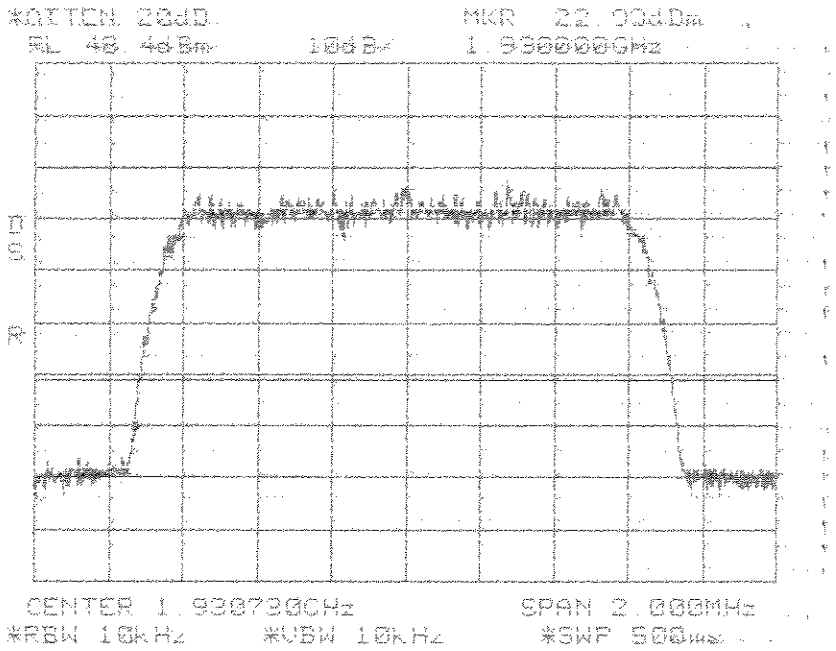
Conducted Emissions
Band Edge
CDMA
PCS 1900 MHz
EFC Band



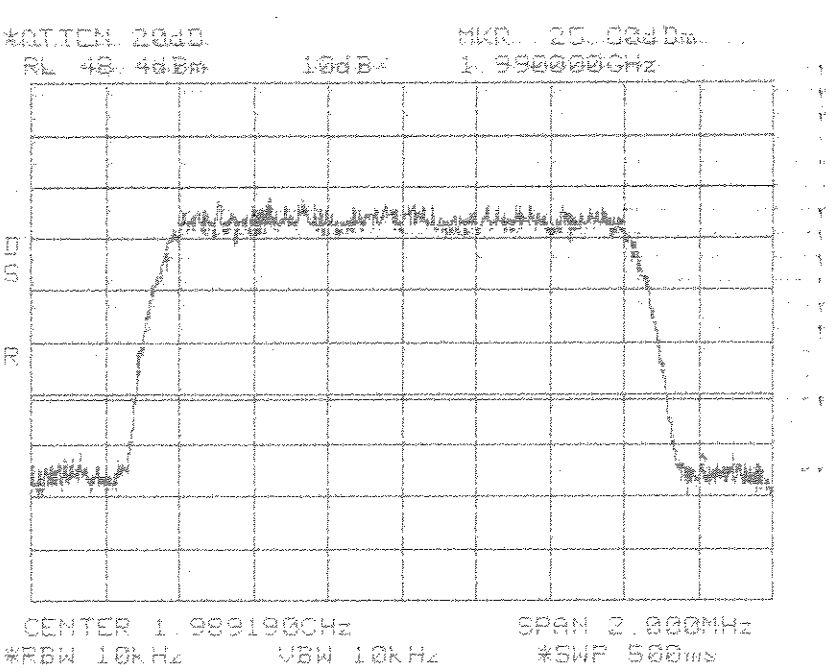
Conducted Emissions
Band Edge
CDMA
PCS 1900 MHz
EFC Band

Center: 1988.75 MHz
Span: 2 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 1930.73
Span: 2 MHz
RBW: 10 kHz
VBW: 10 kHz



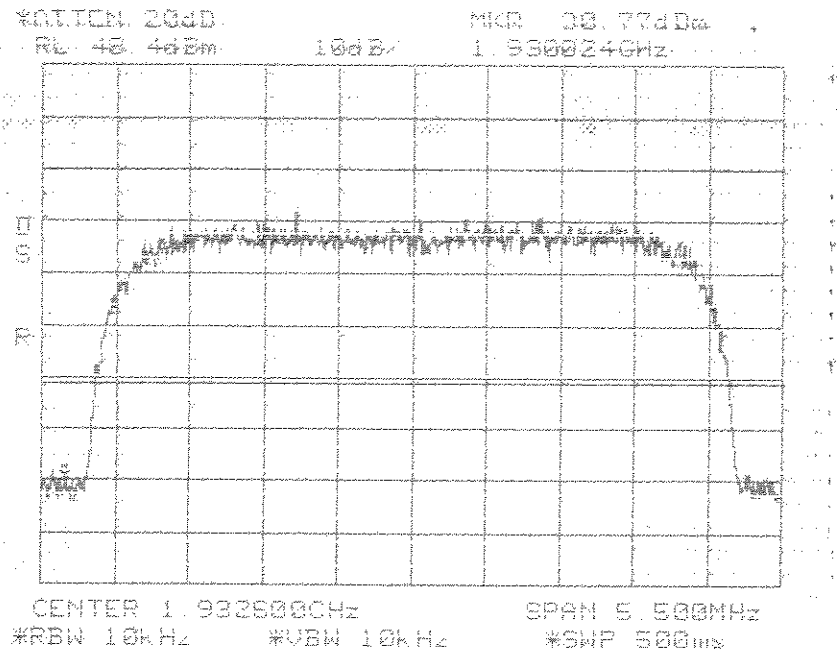
Band Edge
EVDO



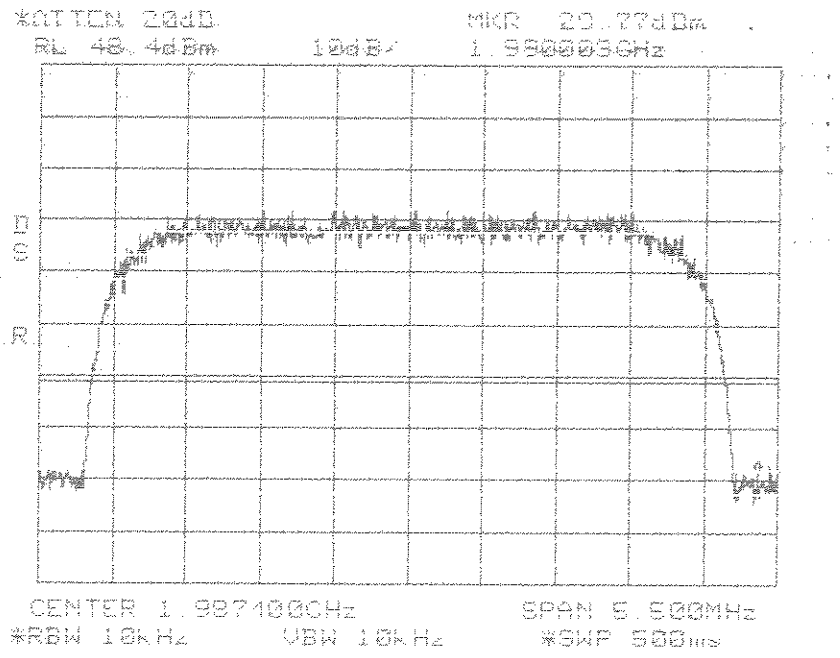
Band Edge
EVDO

Center: 1989.19 MHz
Span: 2 MHz
RBW: 10 kHz
VBW: 10 kHz

Center: 1932.60
Span: 5.5 MHz
RBW: 10 kHz
VBW: 10 kHz



Band Edge
W-CDMA



Band Edge
W-CDMA

Center: 1987.40 MHz
Span: 5.5 MHz
RBW: 10 kHz
VBW: 10 kHz