

Exhibit 24Occupied Bandwidth and Spurious Emission Measured Data --
for CDMA mode when operating in P_REV 6 or above

KWC-3225 supports additional reverse channels, as per IS-98D, additional measurements have taken to show compliance. Below is the applicable section from IS-98D

4.5 Limitations on Emissions**4.5.1 Conducted Spurious Emissions****4.5.1.1 Definition**

Conducted spurious emissions are emissions at frequencies that are outside the assigned CDMA Channel, measured at the mobile station antenna connector. This test measures the spurious emissions during continuous transmission.

4.5.1.2 Method of Measurement

1. Connect the base station to the mobile station antenna connector as shown in Figure 6.5.1-4. The AWGN generator and the interference generator are not applicable in this test. Connect a spectrum analyzer (or other suitable test equipment) to the mobile station antenna connector.
2. For each band class and radio configuration that the mobile station supports, configure the base station and mobile station to operate in that band class and perform steps 3 through 17.
 - Thus Band Class 0 and Band Class 1 for the KWC-3225
3. Set the following parameters of the *Access Parameters Message* as specified below:

Parameter	Value (Decimal)
NOM_PWR	7 (7 dB)
INIT_PWR	15 (15 dB)
PWR_STEP	7 (7 dB/step)
NUM_STEP	15 (16 probes/sequence)
MAX_RSP_SEQ	15 (15 sequences)

If the Enhanced Access Channel is used, set the following parameters of the *Enhanced Access Parameters Message* as specified below (N/A so Table not included below)

4. If the mobile station supports Reverse Traffic Channel Radio Configuration 1 and Forward Traffic Channel Radio Configuration 1, set up a call using Fundamental Channel Test Mode 1 (see 1.3) with 9600 bps data rate only and perform steps 15 through 17.
 - Test Mode 1 implies an S02 call(Rate Set 1) on RC1/RC2....this is equivalent to what was performed already h-1 through h-4 of Exhibit 8 and a, b, c, and d of Exhibit 9
5. If the mobile station supports the Radio Configuration 3 Reverse Fundamental Channel and demodulation of Radio Configuration 3, 4, or 5, set up a call using Fundamental Channel Test Mode 3 (see 1.3) with 9600 bps data rate only and perform steps 15 through 17.
 - Test Mode 3 implies using a Rate Set 1 loopback service option.
6. If the mobile station supports the Radio Configuration 3 Reverse Dedicated Control Channel and demodulation of Radio Configuration 3, 4, or 5, set up a call using Dedicated Control Channel Test Mode 3 (see 1.3) with 9600 bps data rate only and 100% frame activity and perform steps 15 through 17.
 - N/A, the KWC-3225 will not support F/R-DCCH

7. If the mobile station supports the Radio Configuration 3 Reverse Fundamental Channel, Radio Configuration 3 Reverse Dedicated Control Channel and demodulation of Radio Configuration 3, 4, or 5, set up a call using Fundamental Channel Test Mode 3 (see 1.3) with 1500 bps Fundamental Channel data rate only and 9600 bps Dedicated Control Channel with 100 % frame activity, and perform steps 15 through 17.
 - N/A, the KWC-3225 will not support F/R-DCCH
8. If the mobile station supports the Radio Configuration 3 Reverse Fundamental Channel, Radio Configuration 3 Reverse Supplemental Channel 0 and demodulation of Radio Configuration 3, 4, or 5, set up a call using Supplemental Channel Test Mode 3 (see 1.3) with 9600 bps Fundamental Channel and 9600 bps Supplemental Channel 0 data rate, and perform steps 15 through 17.
 - Test Mode 3 implies using a Rate Set 1 loopback service option.
9. If the mobile station supports the Radio Configuration 3 Reverse Dedicated Control Channel, Radio Configuration 3 Reverse Supplemental Channel 0 and demodulation of Radio Configuration 3, 4, or 5, set up a call using Supplemental Channel Test Mode 3 (see 1.3) with 9600 bps Dedicated Control Channel with 100% frame activity and 9600 bps Supplemental Channel 0 data rate, and perform steps 15 through 17.
 - N/A, the KWC-3225 will not support F/R-DCCH
10. If the mobile station supports the Radio Configuration 5 Reverse Fundamental Channel and demodulation of Radio Configuration 6, 7, 8, or 9, set up a call using Fundamental Channel Test Mode 7 (see 1.3) with 9600 bps data rate only and perform steps 15 through 17.
 - N/A, the KWC-3225 will not support RC5 on the reverse link, nor RC6, 7, 8, or 9 on the forward link.
11. If the mobile station supports the Radio Configuration 5 Reverse Dedicated Control Channel and demodulation of Radio Configuration 6, 7, 8, or 9, set up a call using Dedicated Control Channel Test Mode 7 (see 1.3) with 9600 bps data rate only and 100% frame activity and perform steps 15 through 17.
 - N/A, the KWC-3225 will not support RC5 on the reverse link, nor RC6, 7, 8, or 9 on the forward link.
12. If the mobile station supports the Radio Configuration 5 Reverse Fundamental Channel, Radio Configuration 5 Reverse Dedicated Control Channel and demodulation of Radio Configuration 6, 7, 8, or 9, set up a call using Fundamental Channel Test Mode 7 (see 1.3) with 1500 bps Fundamental Channel data rate only and 9600 bps Dedicated Control Channel with 100 % frame activity, and perform steps 15 through 17.
 - N/A, the KWC-3225 will not support RC5 on the reverse link, nor RC6, 7, 8, or 9 on the forward link.
13. If the mobile station supports the Radio Configuration 5 Reverse Fundamental Channel, Radio Configuration 5 Reverse Supplemental Channel 0 and demodulation of Radio Configuration 6, 7, 8, or 9, set up a call using Supplemental Channel Test Mode 7 (see 1.3) with 9600 bps Fundamental Channel and 9600 bps Supplemental Channel 0 data rate, and perform steps 15 through 17.
 - N/A, the KWC-3225 will not support RC5 on the reverse link, nor RC6, 7, 8, or 9 on the forward link.
14. If the mobile station supports the Radio Configuration 5 Reverse Dedicated Control Channel, Radio Configuration 5 Reverse Supplemental Channel 0 and demodulation of Radio Configuration 6, 7, 8, or 9, set up a call using Supplemental Channel Test Mode 7 (see 1.3) with 9600 bps Dedicated Control Channel with 100% frame activity and 9600 bps Supplemental Channel 0 data rate, and perform steps 10 through 17.
 - N/A, the KWC-3225 will not support RC5 on the reverse link, nor RC6, 7, 8, or 9 on the forward link.
15. Set the test parameters as specified in Table 4.5.1.2-1.
16. Send continuously , '0' power control bits to the mobile station.
17. Measure the spurious emission levels.

Table 4.5.1.2-1. Test Parameters for Testing Spurious Emissions at Maximum RF Output Power

Parameter	Units	Value
Ior [^]	dBm/1.23 MHz	-104
Pilot Ec / Ior	dB	-7.0
Traffic Ec / Ior	dB	-7.4

4.5.1.3 Minimum Standard

Depending on local radio regulations, the mobile station shall meet ITU Category A or B emissions rules as appropriate. For Band Class 5, 6, 8, and 9, a mobile station shall meet ITU Category B emission rules.

4.5.1.3.1 Spreading Rate 1

When transmitting in Band Class 0, 2, 3, 5, 7 or 9 with Spreading Rate 1, the spurious emissions shall be less than all limits specified in Table 4.5.1.3.1-1.

Table 4.5.1.3.1-1. Band Class 0, 2, 3, 5, 7 and 9 Transmitter Spurious Emission Limits for Spreading Rate 1

For $ \Delta f $ Within the Range	Emission Limit
885 kHz to 1.98 MHz	Less stringent of -42 dBc/30 kHz or -54 dBm/1.23 MHz
1.98 MHz to 4.00 MHz	Less stringent of -54 dBc/30 kHz or -54 dBm/1.23 MHz
> 1.98 MHz (Band Class 3 only)	-54 dBc/30 kHz
2.25 MHz to 4.00 MHz (Band Class 7 only)	-35 dBm/6.25 kHz
> 4.00 MHz (ITU Category A only)	-13 dBm / 1 kHz; 9 kHz < f < 150 kHz -13 dBm / 10 kHz; 150 kHz < f < 30 MHz -13 dBm/100 kHz; 30 MHz < f < 1 GHz -13 dBm / 1 MHz; 1 GHz < f < 5 GHz
> 4.00 MHz (ITU Category B only) (required for Band Class 5 and 9)	-36 dBm / 1 kHz; 9 kHz < f < 150 kHz -36 dBm / 10 kHz; 150 kHz < f < 30 MHz -36 dBm/100 kHz; 30 MHz < f < 1 GHz -36 dBm / 1 MHz; 1 GHz < f < 12.75 GHz

Note: All frequencies in the measurement bandwidth shall satisfy the restrictions on $|\Delta f|$ where Δf = center frequency - closer measurement edge frequency (f). Compliance with the -35 dBm / 6.25 kHz limit is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral power in a 6.25 kHz segment. For Band Class 3, the lower and upper limits of the frequency measurement are currently 10 MHz and 3 GHz in Japan radio measurement documents.

When transmitting in Band Class 1, 4, 6 or 8 with Spreading Rate 1, the spurious emissions shall be less than all limits specified in Table 4.5.1.3.1-2.

Table 4.5.1.3.1-2. Band Class 1, 4, 6 and 8 Transmitter Spurious Emission Limit for Spreading Rate 1

For $ \Delta f $ Within the Range	Emission Limit
1.25 MHz to 1.98 MHz	less stringent of -42 dBc/30 kHz or -54 dBm/1.23 MHz
1.98 MHz to 4.00 MHz	less stringent of -50 dBc/30 kHz or -54 dBm/1.23 MHz
2.25 MHz to 4.00 MHz (Band Class 6 only)	$-[13 + 1 \times (\Delta f - 2.25 \text{ MHz})] \text{ dBm} / 1 \text{ MHz}$
> 2.25 MHz (Band Class 6 in Japan only)	-13 dBm / 1 MHz
> 4.00 MHz (ITU Category A)	-13 dBm / 1 kHz; 9 kHz < f < 150 kHz -13 dBm / 10 kHz; 150 kHz < f < 30 MHz -13 dBm/100 kHz; 30 MHz < f < 1 GHz -13 dBm / 1 MHz; 1 GHz < f < 10 GHz
> 4.00 MHz (ITU Category B) (required for Band Class 6 and 8)	-36 dBm / 1 kHz; 9 kHz < f < 150 kHz -36 dBm / 10 kHz; 150 kHz < f < 30 MHz -36 dBm/100 kHz; 30 MHz < f < 1 GHz -36 dBm / 1 MHz; 1 GHz < f < 12.75 GHz

Note: All frequencies in the measurement bandwidth shall satisfy the restrictions on $|\Delta f|$ where Δf = center frequency - closer measurement edge frequency (f). The lower and upper limits of the frequency measurement for Band Class 6 greater than 2.25 MHz offset are currently unspecified in Japan radio measurement documents.

All other sub-sections of the Emissions section have been omitted since the MS does not support.

After all this, the bottom line for KWC-3225 is to perform Tests as per #5 and #8. Four additional fundamental set-ups are,

1. Cellular CDMA F/R-FCH at RC3 using a rate set 1 loopback service option
2. Cellular CDMA F-FCH and R-FCH + F/R-SCH at RC3 using a rate set 1 loopback service option @ 9600bps for both Reverse channels
3. PCS CDMA F/R-FCH at RC3 using a rate set 1 loopback service option
4. PCS CDMA F-FCH and R-FCH + F/R-SCH at RC3 using a rate set 1 loopback service option @ 9600bps for both Reverse channels

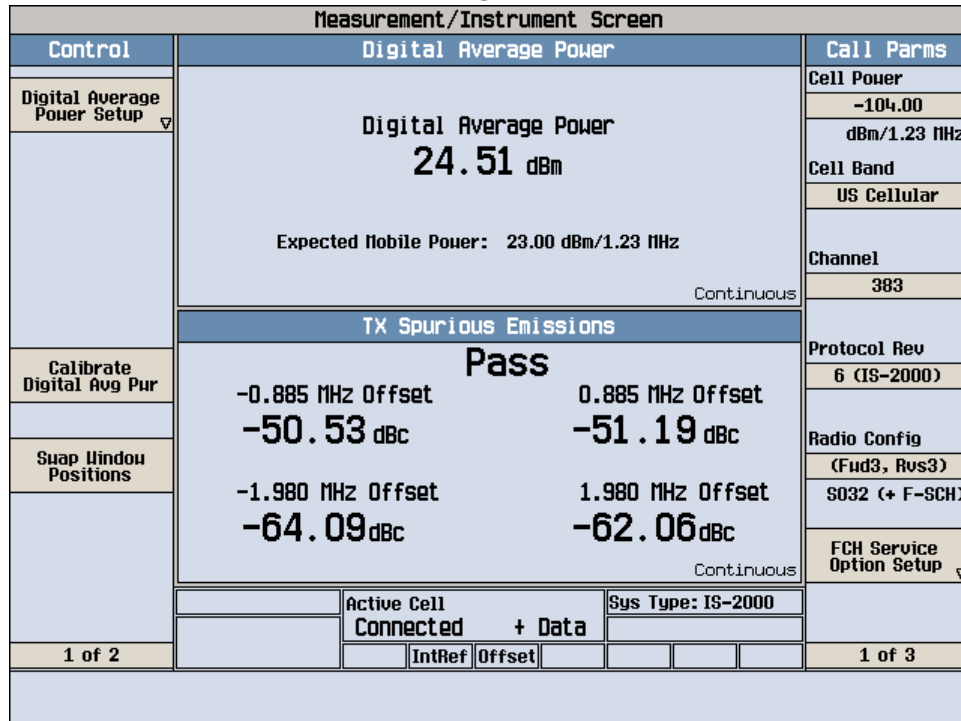
The test results show KWC-3225 is in compliance with IS-98D and FCC requirements. Test data as follows.

Occupied Bandwidth & Spurious Emission

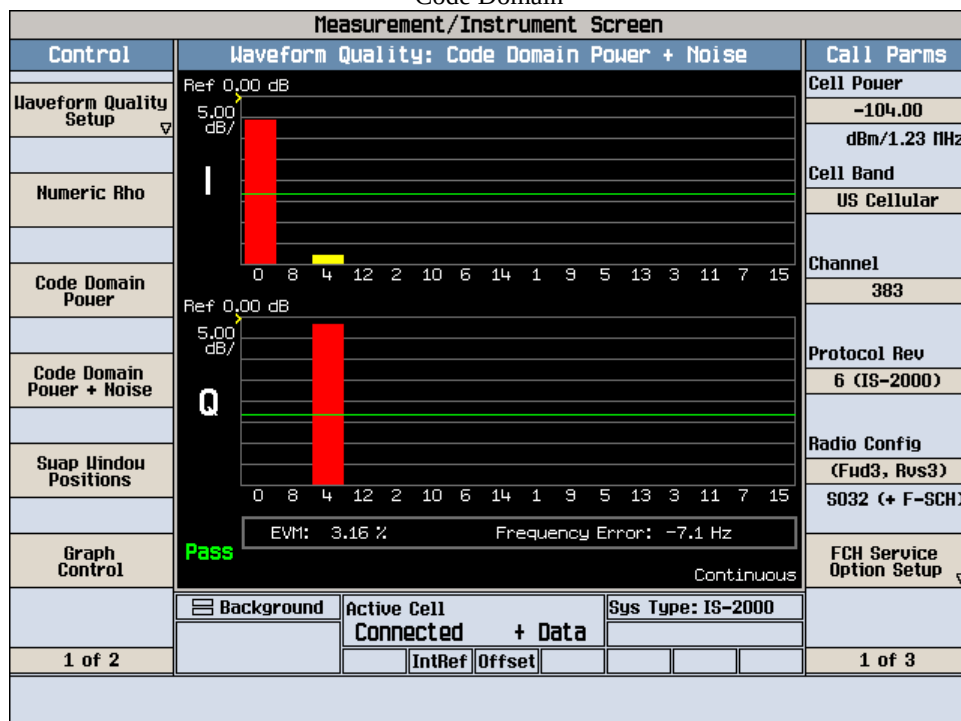
Cellular Band Ch383

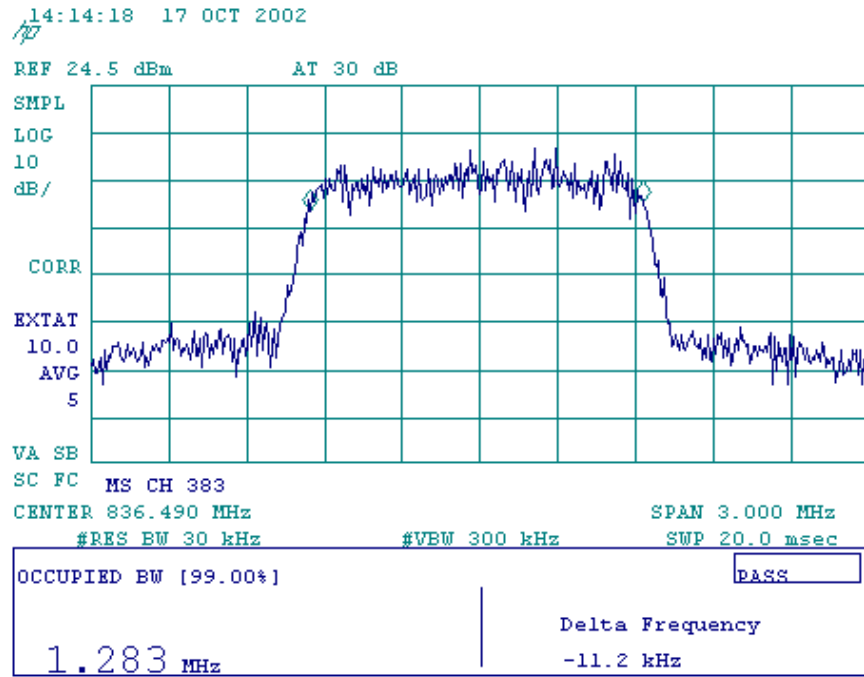
1. CDMA F/R-FCH at RC3

ACPR

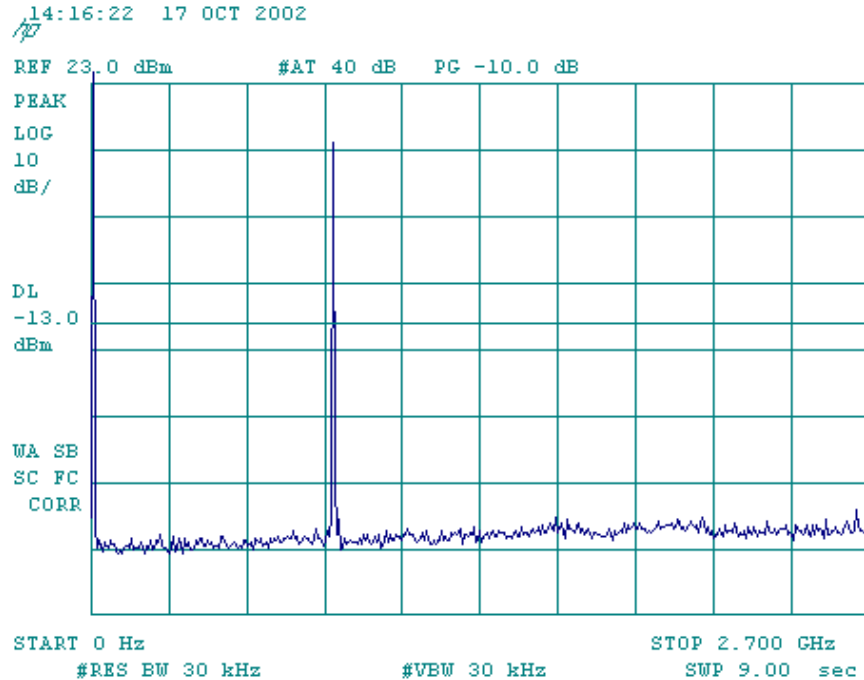


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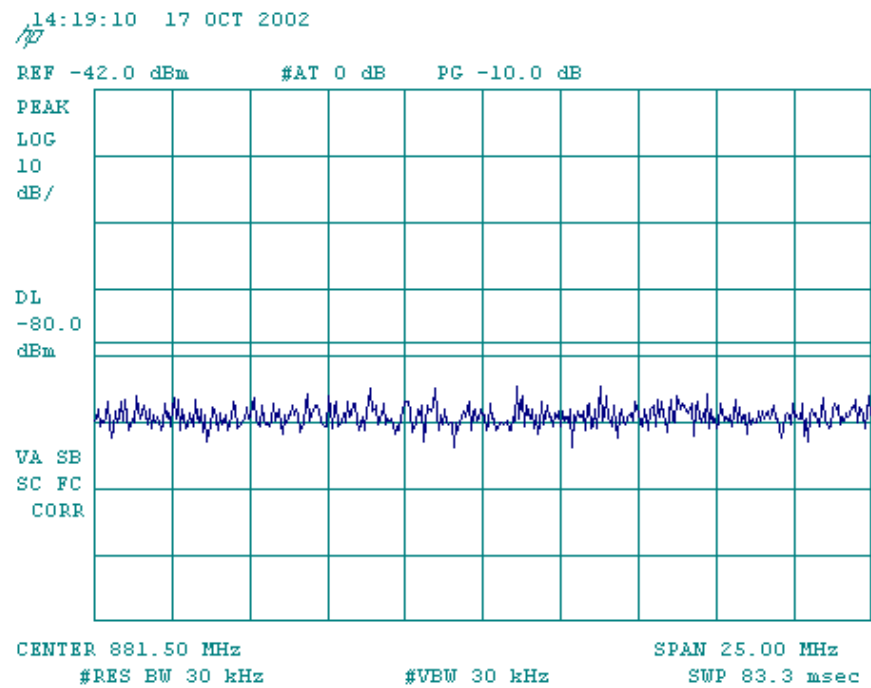


Occupied Bandwidth
(a)

(b)

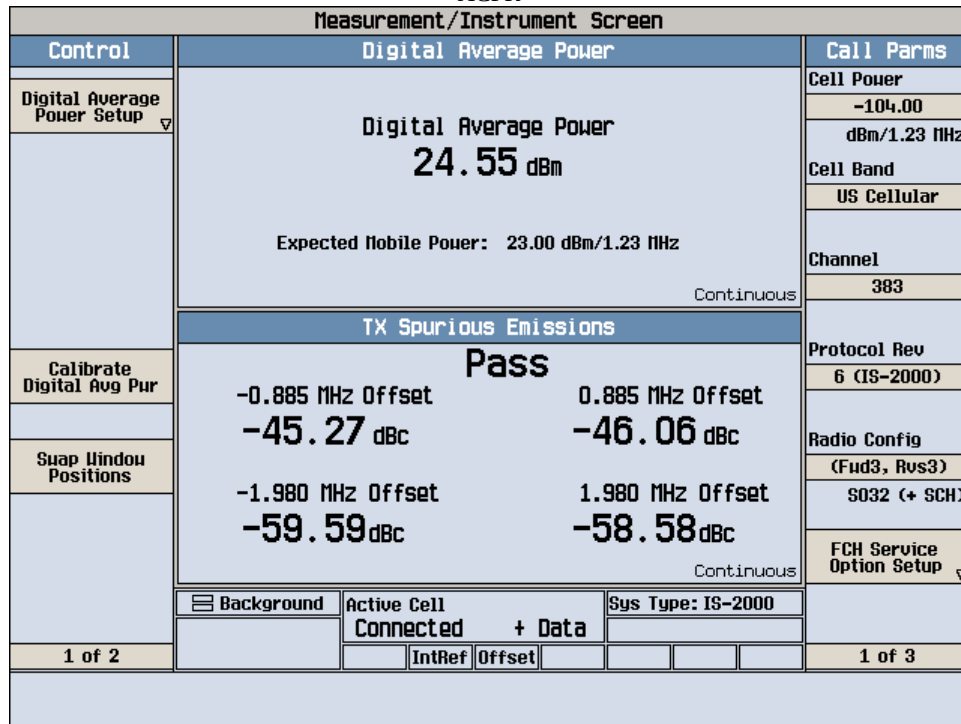


(c)

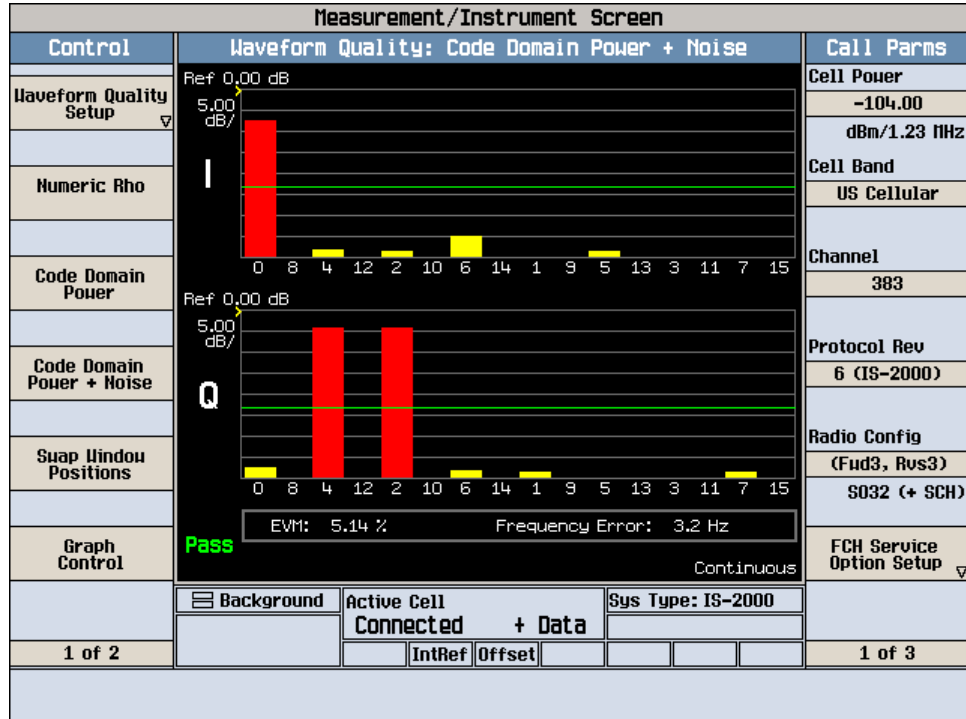


2. CDMA F/R-FCH + F/R-SCH at RC3

ACPR

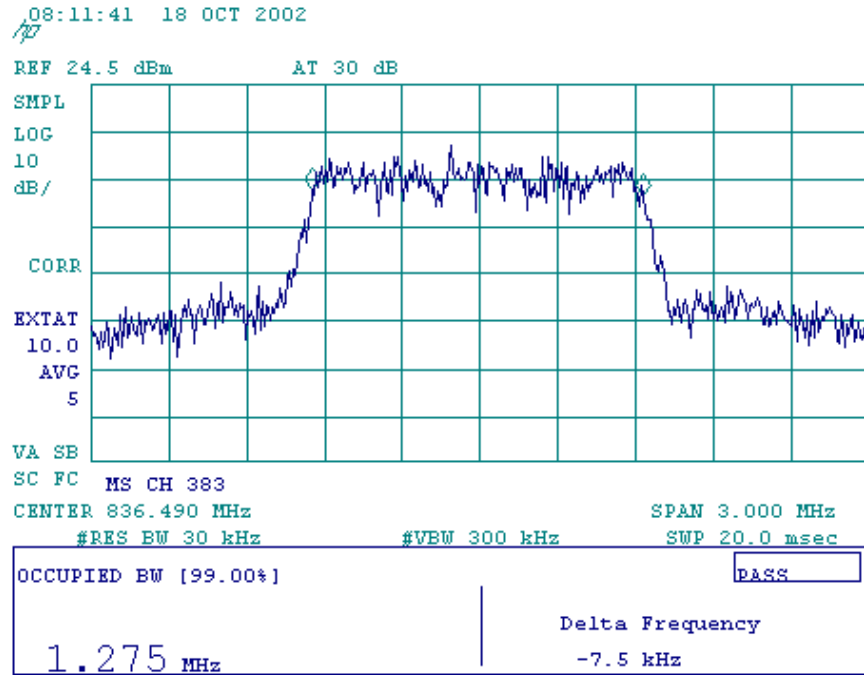


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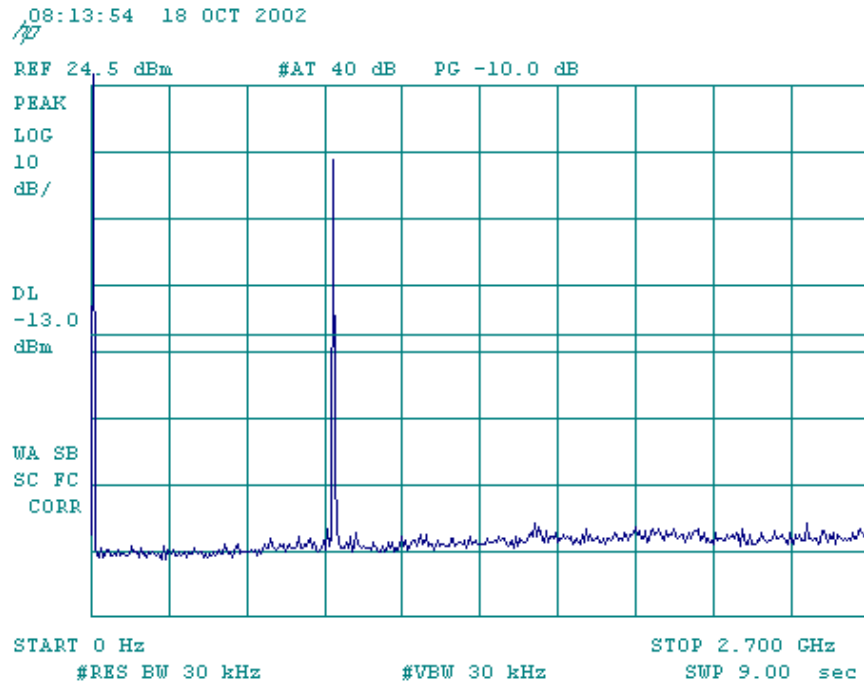


Occupied Bandwidth

(a)



(b)



(c)

_08:16:10 18 OCT 2002

~~/P~~

REF -42.0 dBm #AT 0 dB PG -10.0 dB

PEAK

LOG

10

dB/

DL

-80.0

dBm

VA SE

SC FC

CORR

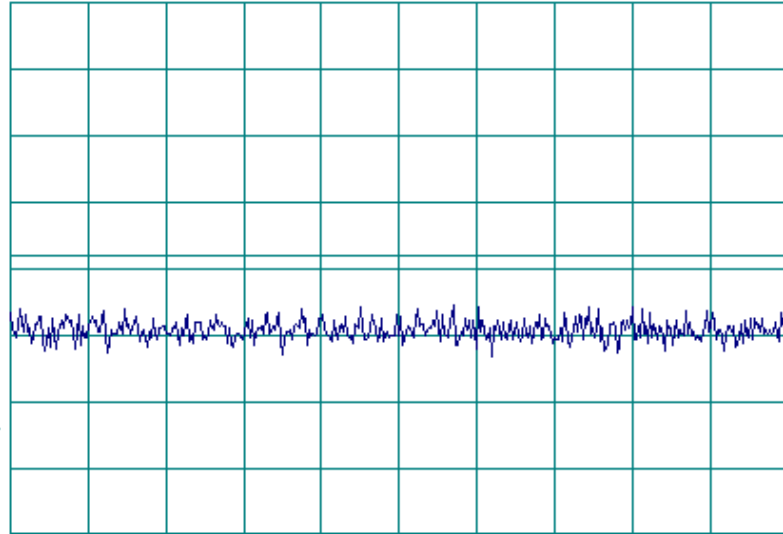
CENTER 881.50 MHz

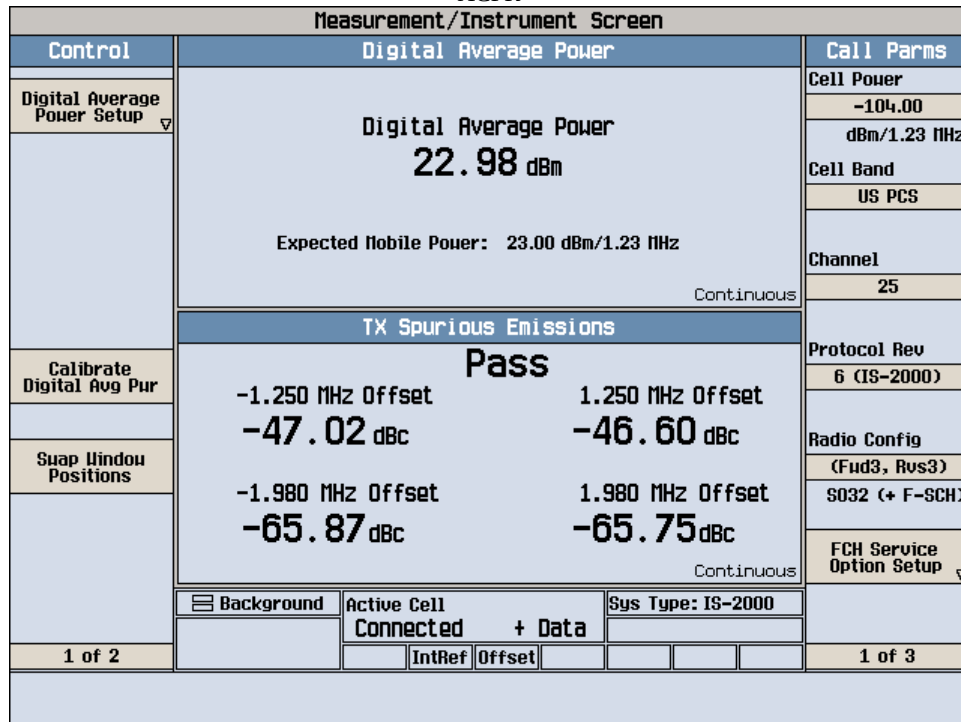
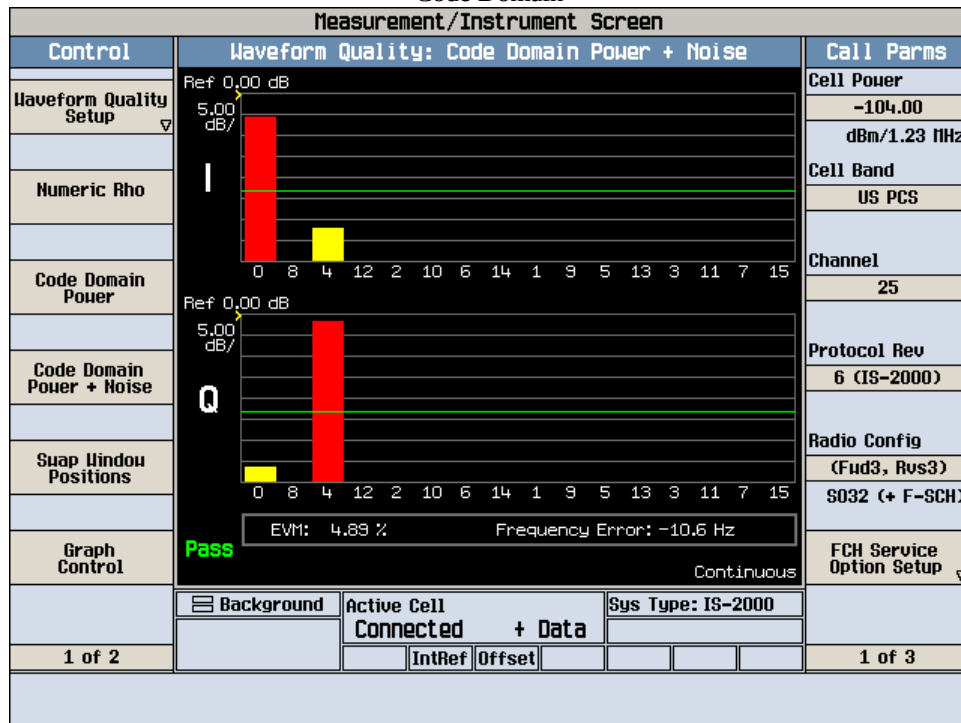
#RES BW 30 kHz

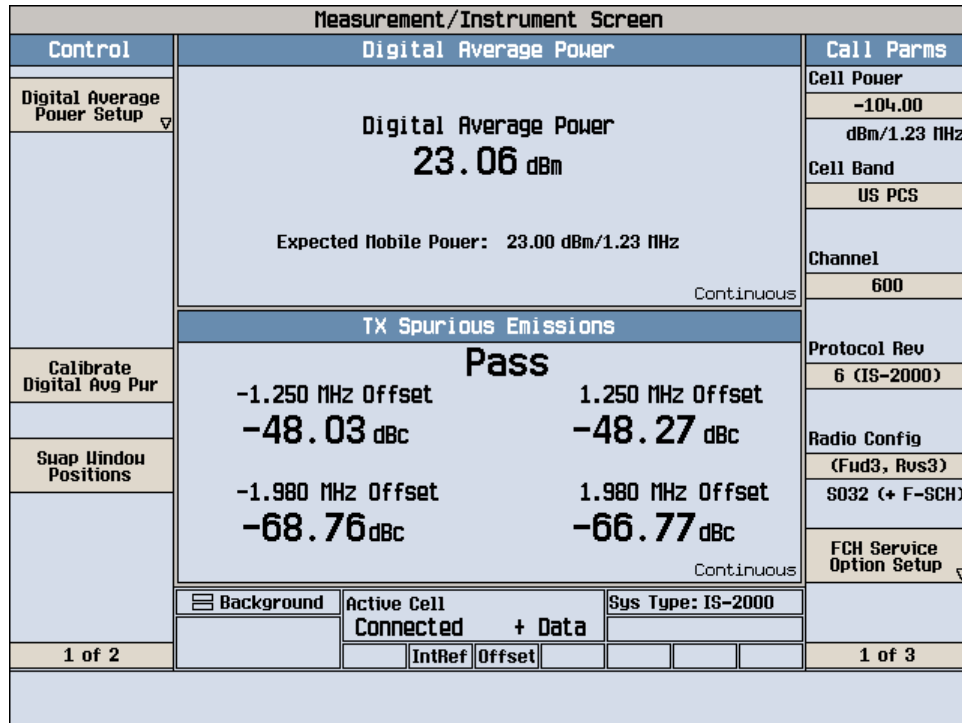
SPAN 25.00 MHz

#VBW 30 kHz

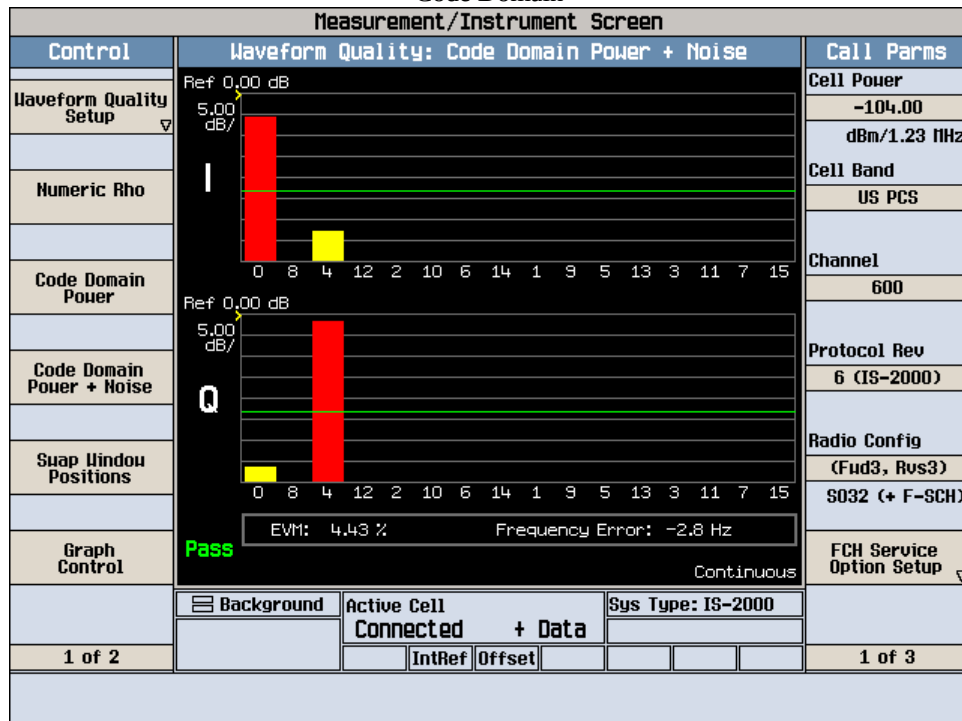
SWP 83.3 msec



PCS Band3. PCS CDMA F/R-FCH at RC3Ch25
ACPR**Code Domain**

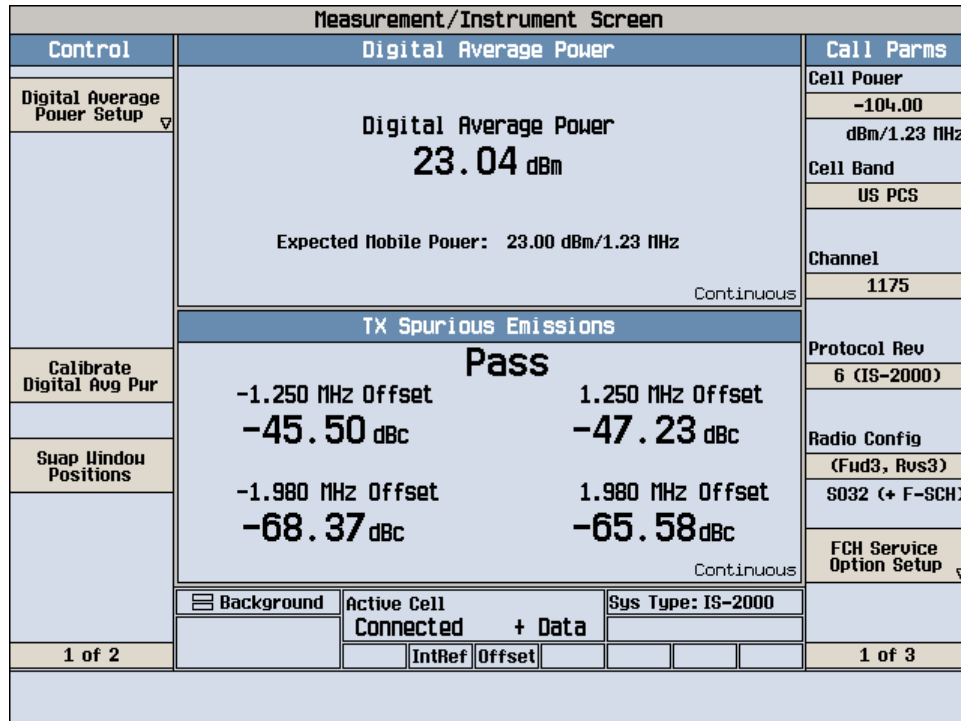
Ch600
ACPR

Code Domain

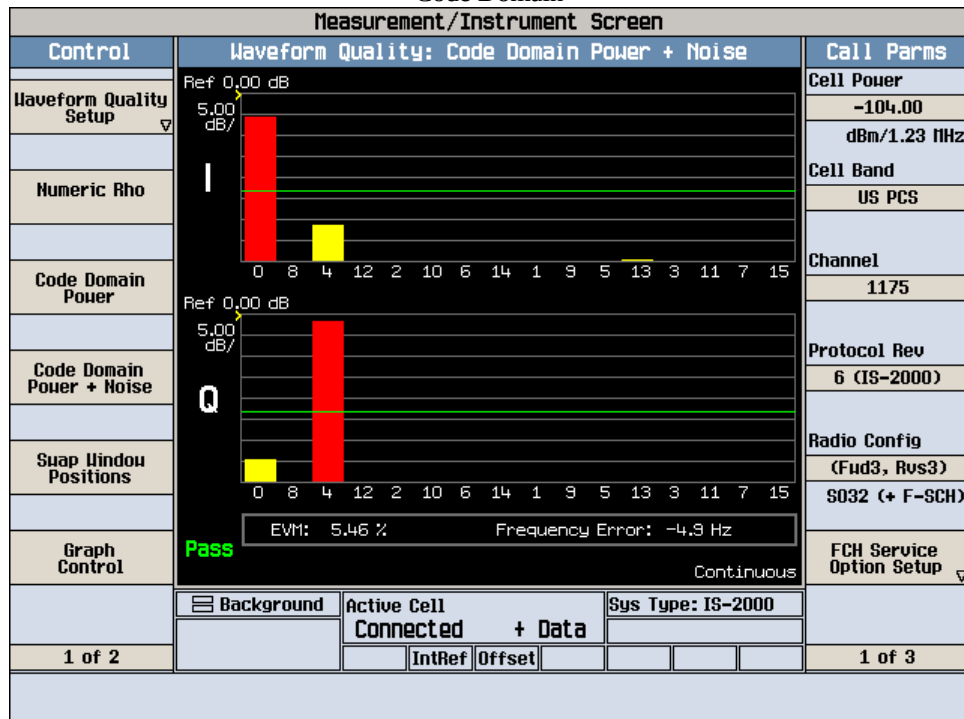


Ch1175

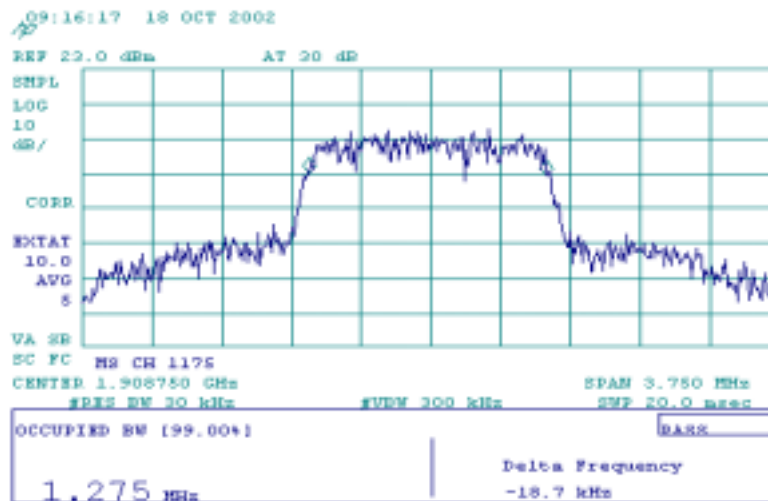
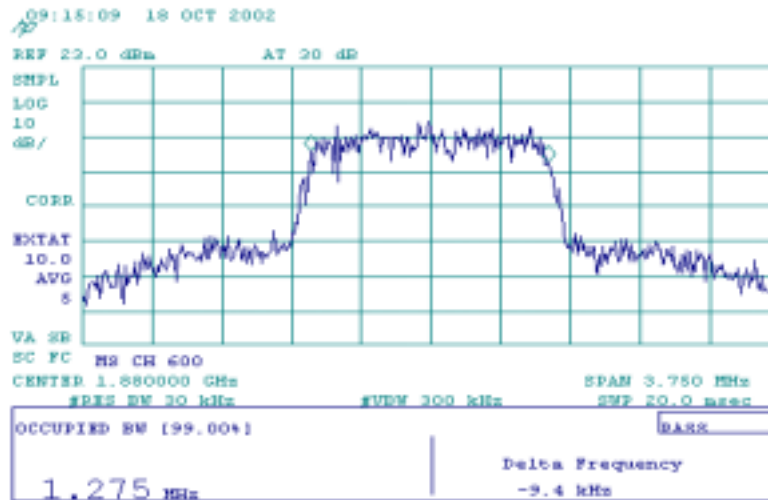
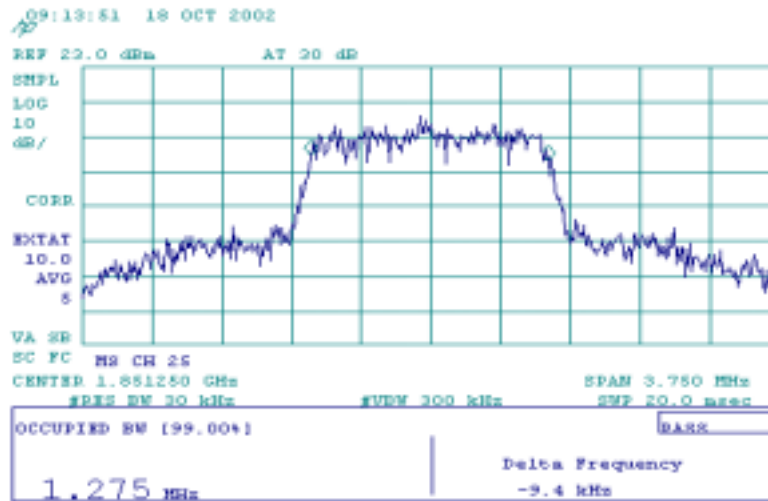
ACPR



Code Domain

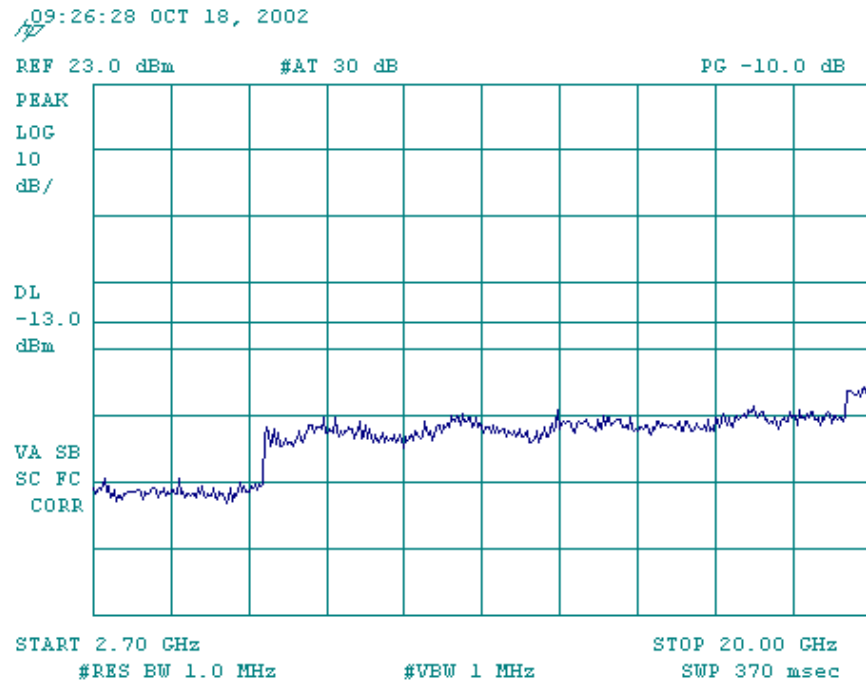
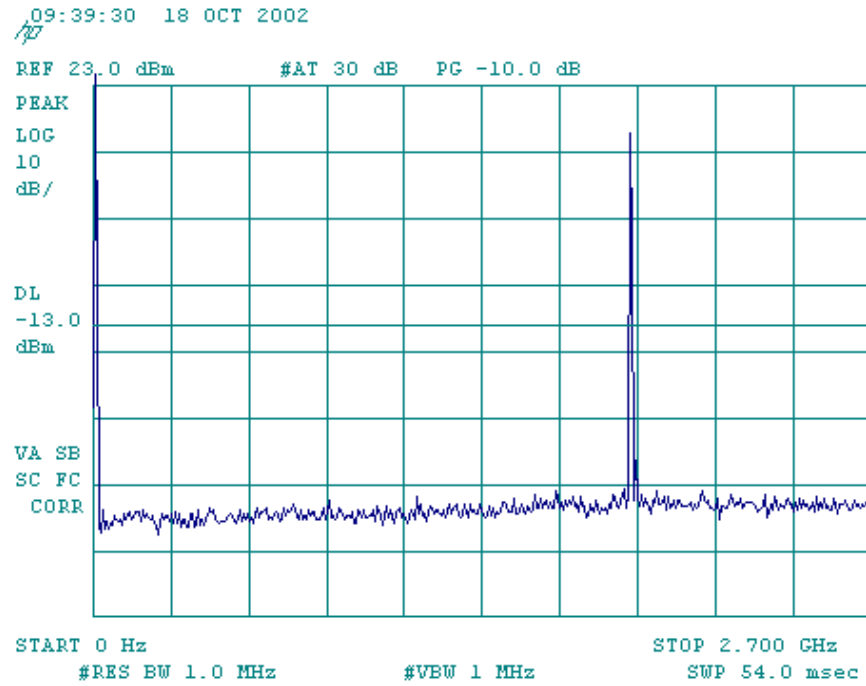


Occupied Bandwidth



Spurious Emission up to 10th Harmonics

Ch25

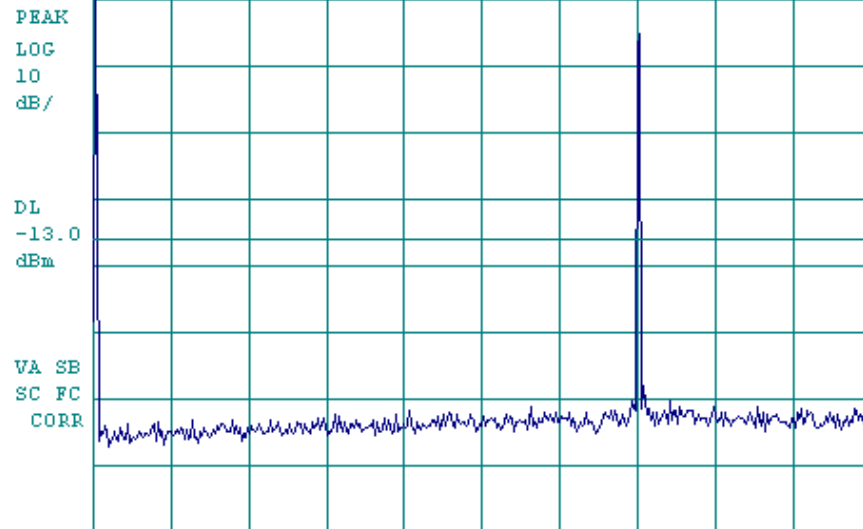


Ch600

09:38:41 18 OCT 2002

/P

REF 23.0 dBm #AT 30 dB PG -10.0 dB

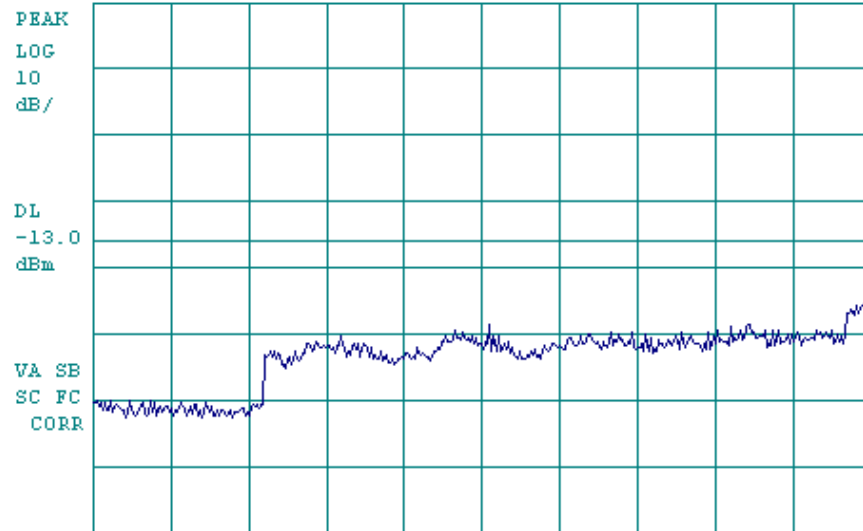


START 0 Hz STOP 2.700 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 54.0 msec

09:27:16 OCT 18, 2002

/P

REF 23.0 dBm #AT 30 dB PG -10.0 dB



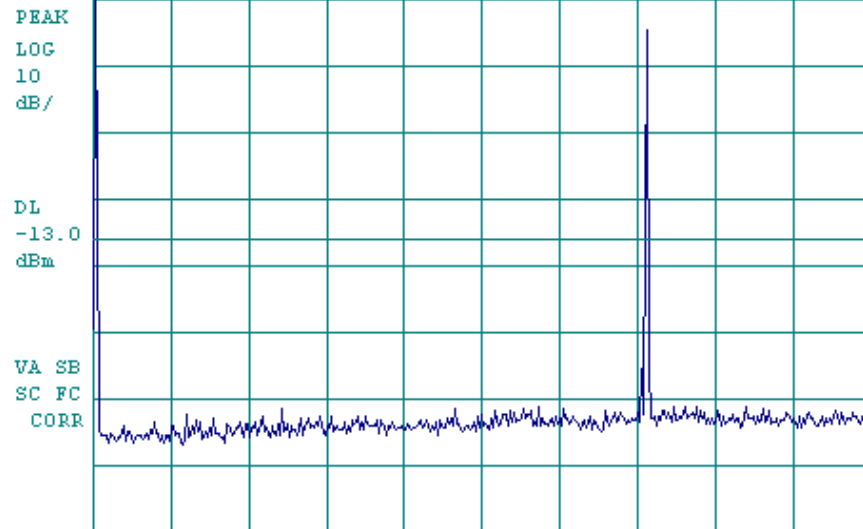
START 2.70 GHz STOP 20.00 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 370 msec

Ch1175

09:37:55 18 OCT 2002

/P

REF 23.0 dBm #AT 30 dB PG -10.0 dB

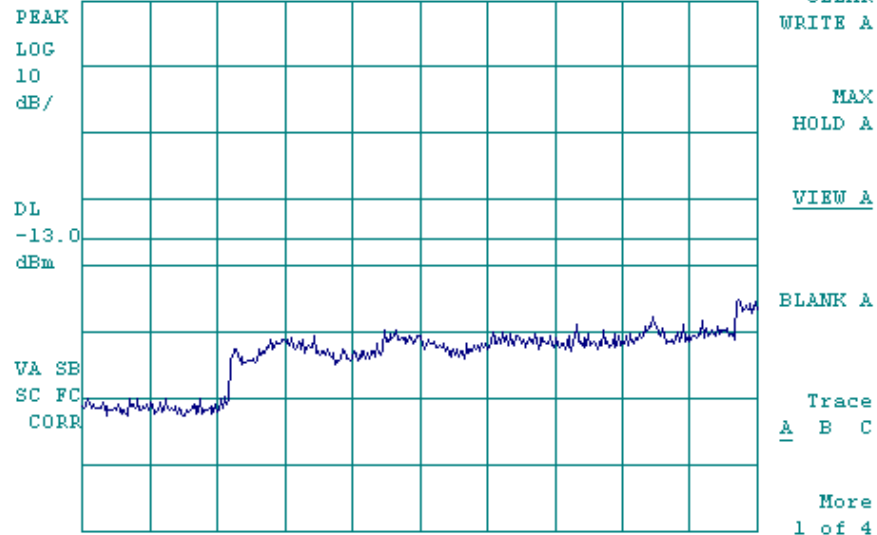


START 0 Hz STOP 2.700 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 54.0 msec

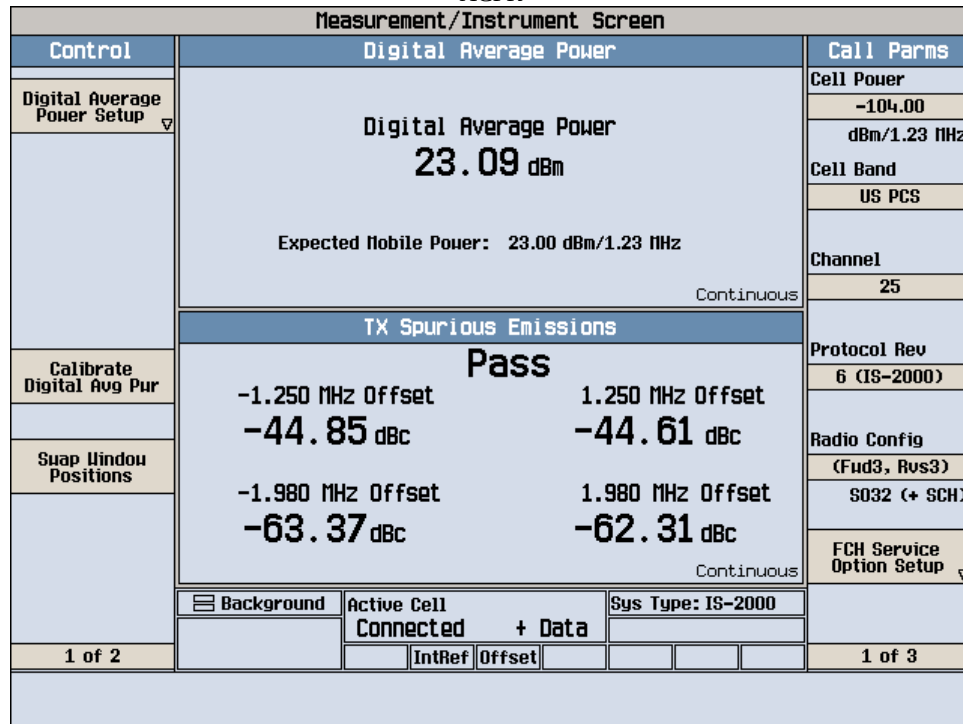
09:28:07 OCT 18, 2002

/P

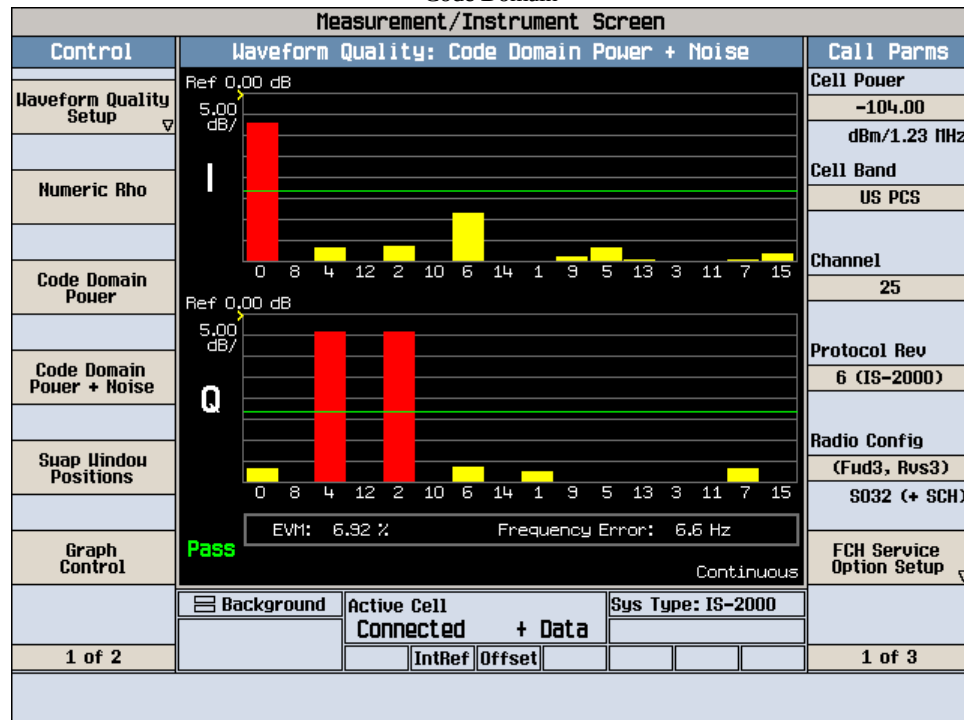
REF 23.0 dBm #AT 30 dB PG -10.0 dB

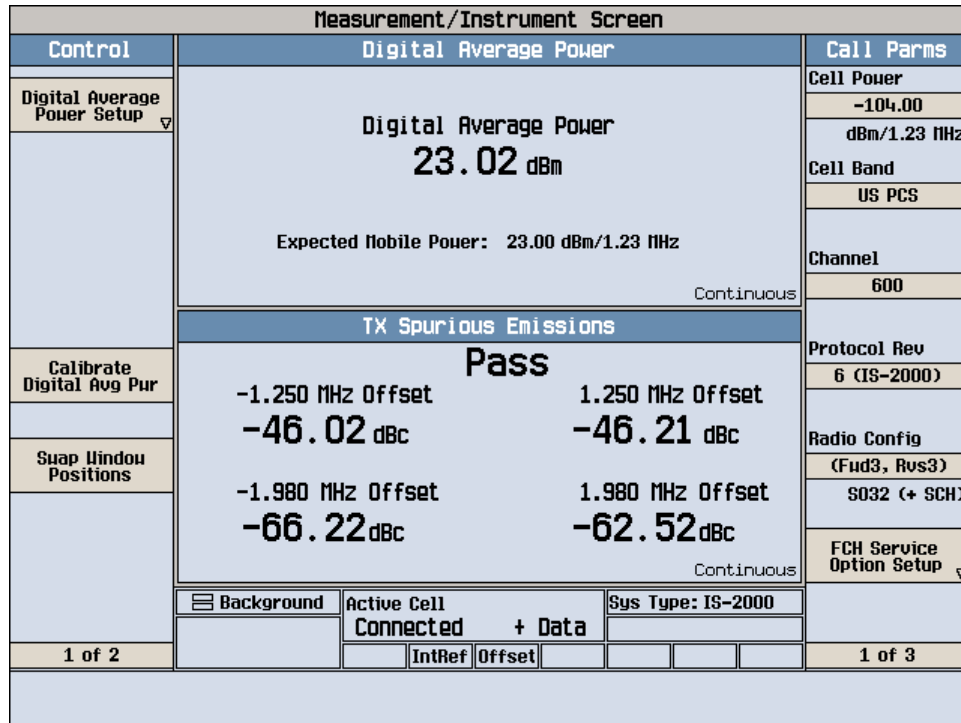


START 2.70 GHz STOP 20.00 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 370 msec

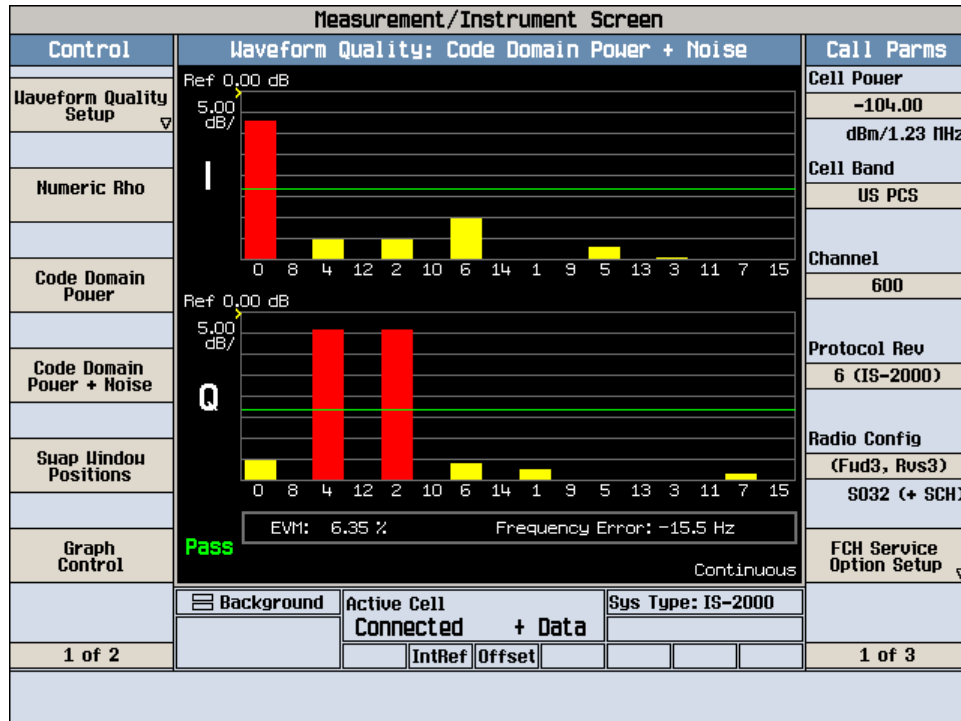
4. PCS CDMA F/R-FCH + F/R-SCH at RC3Ch25
ACPR

Code Domain



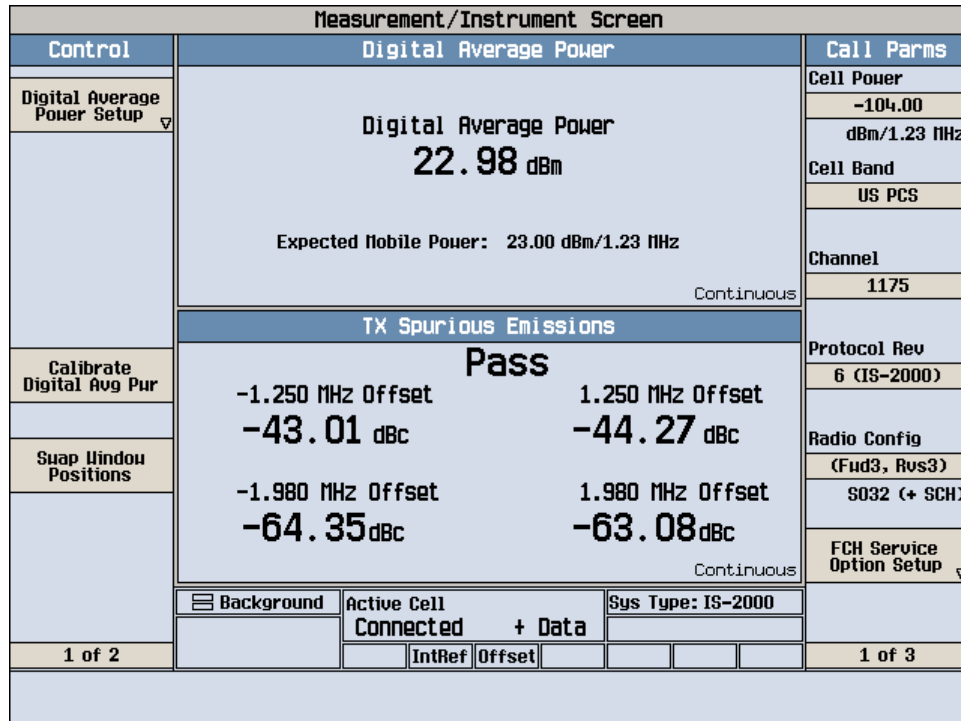
Ch600
ACPR

Code Domain

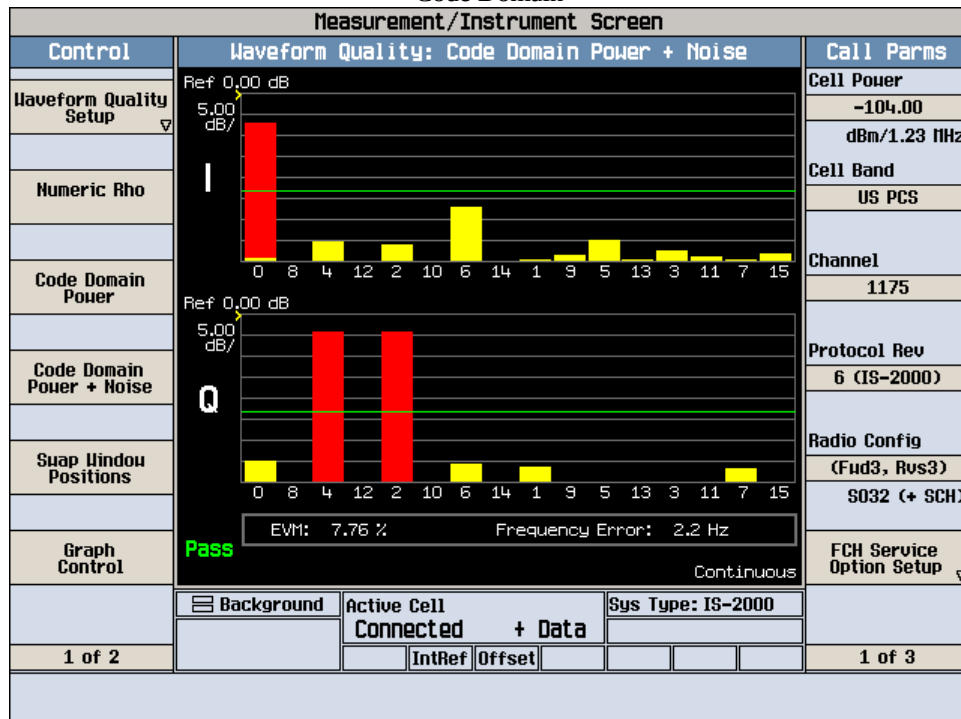


Ch1175

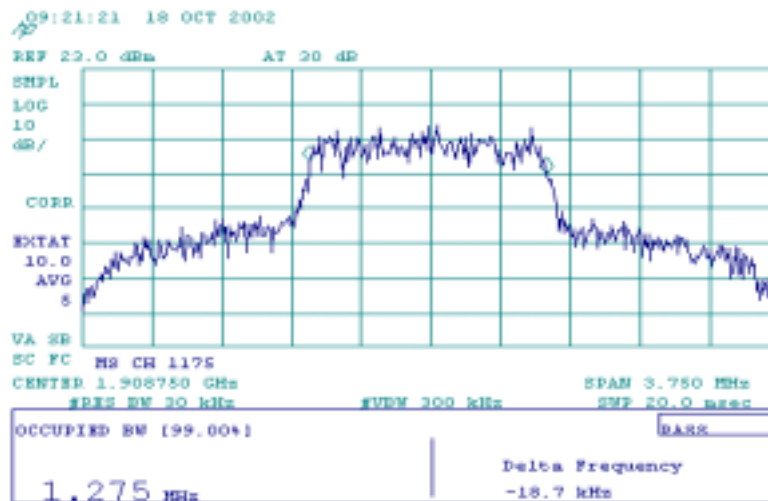
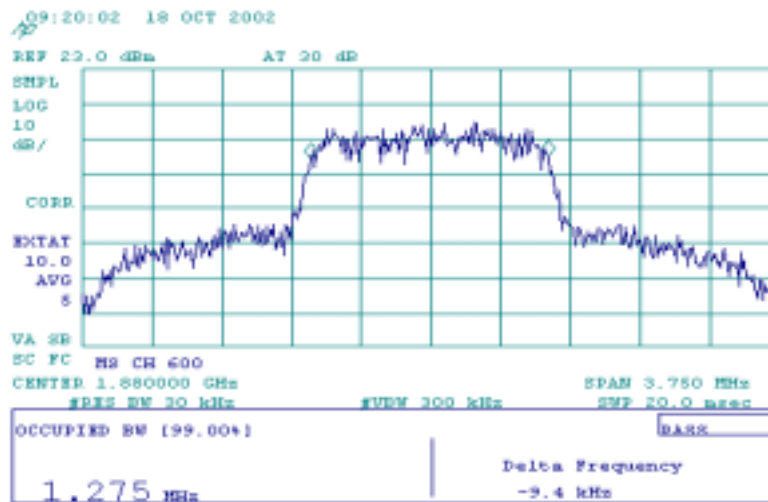
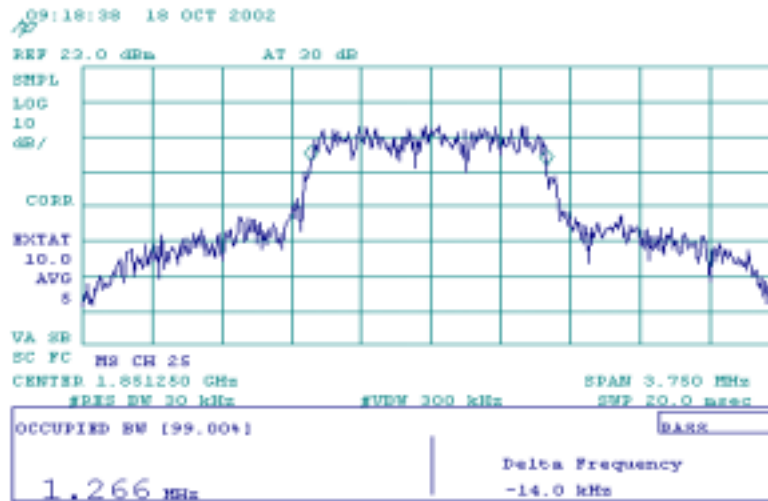
ACPR



Code Domain

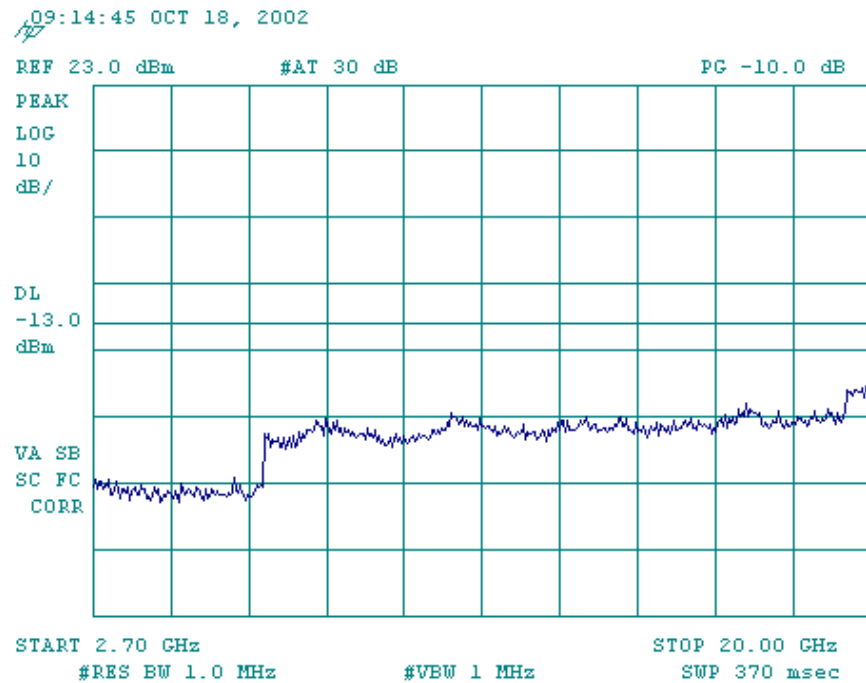
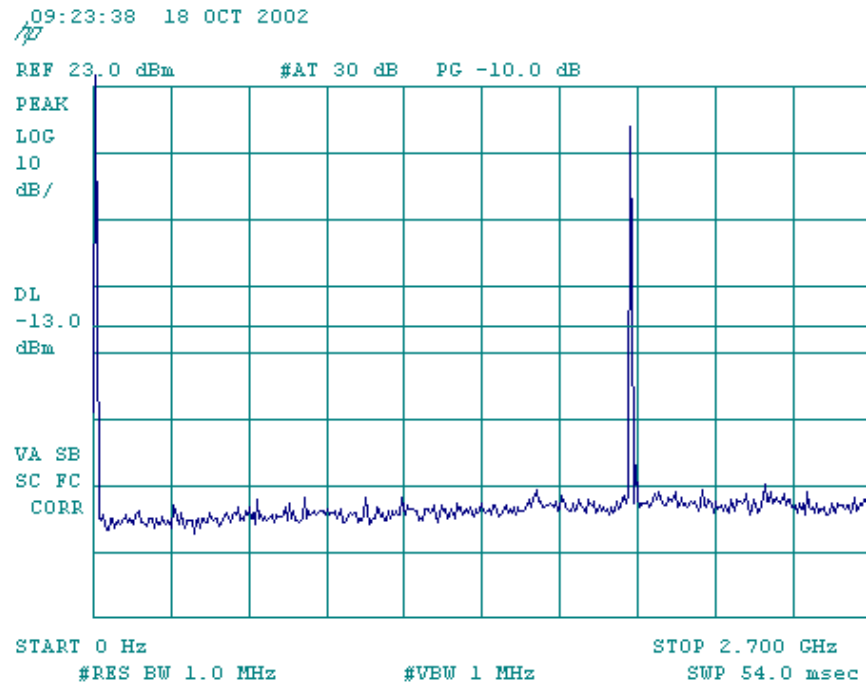


Occupied Bandwidth



Spurious Emission up to 10th Harmonics

Ch25

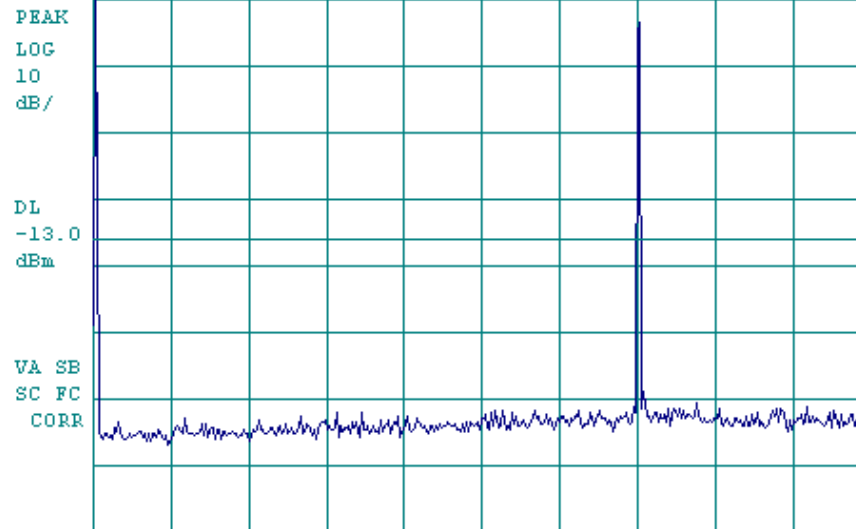


Ch600

09:34:00 18 OCT 2002

/P

REF 23.0 dBm #AT 30 dB PG -10.0 dB

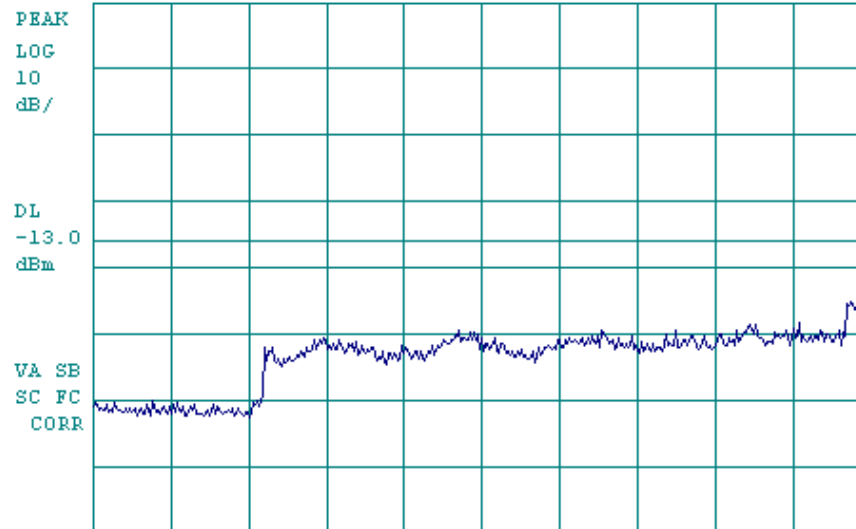


START 0 Hz STOP 2.700 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 54.0 msec

09:15:50 OCT 18, 2002

/P

REF 23.0 dBm #AT 30 dB PG -10.0 dB



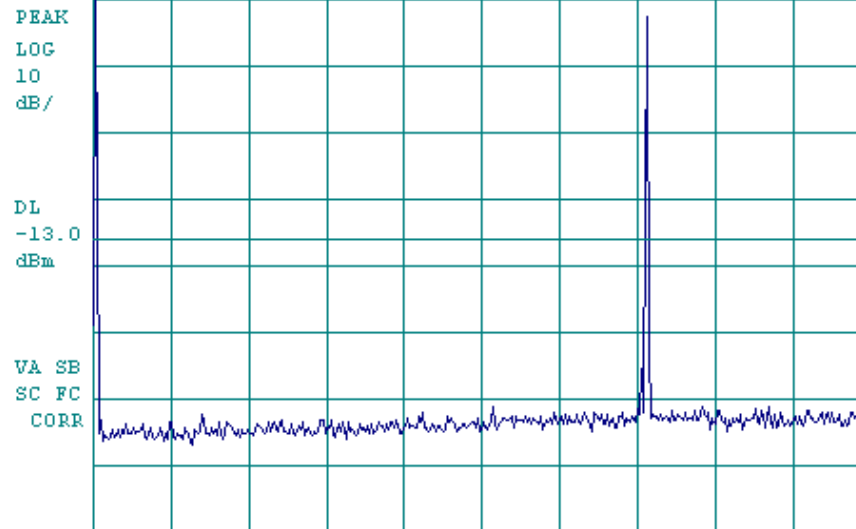
START 2.70 GHz STOP 20.00 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 370 msec

Ch1175

09:34:39 18 OCT 2002

/P

REF 23.0 dBm #AT 30 dB PG -10.0 dB

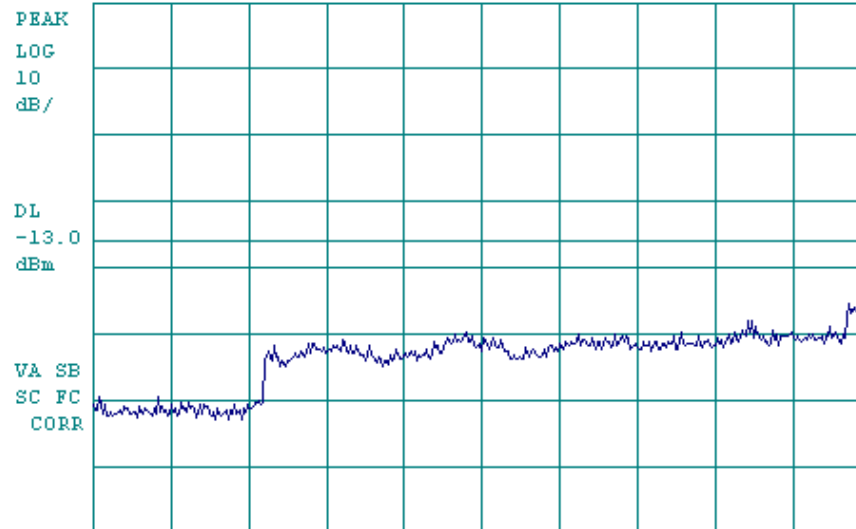


START 0 Hz STOP 2.700 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 54.0 msec

09:17:29 OCT 18, 2002

/P

REF 23.0 dBm #AT 30 dB PG -10.0 dB



START 2.70 GHz STOP 20.00 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 370 msec