

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

KWC-2235 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-2235
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.
 - This is a new addition and will require the usage of QXDM and placing the handset into FTM
 - Test Mode 3 implies using a Rate Set 1 loopback service option.(S055 is not supported by the KWC-2235 handset)
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-2235 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-2235 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.
 - This is a new addition and will require the usage of QXDM and placing the handset into FTM
 - Test Mode 3 implies using a Rate Set 1 loopback service option.(S055 is not supported by the KWC-2235 handset)
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-2235 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-2235 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-2235 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-2235 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-2235 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-2235 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-2235 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. PCS CDMA F/R-FCH at RC3 using a rate set 1 loopback service option
3. Cellular CDMA F-FCH and R-FCH + R-SCH at RC3 using a rate set 1 loopback service option @ 9600bps for both Reverse channels
4. PCS CDMA F-FCH and R-FCH + R-SCH at RC3 using a rate set 1 loopback service option @ 9600bps for both Reverse channels

The test results show KWC-2235 is in compliance with IS-98D and FCC requirements. Test data as follows.

Occupied Bandwidth & Spurious Emission

Cellular Band

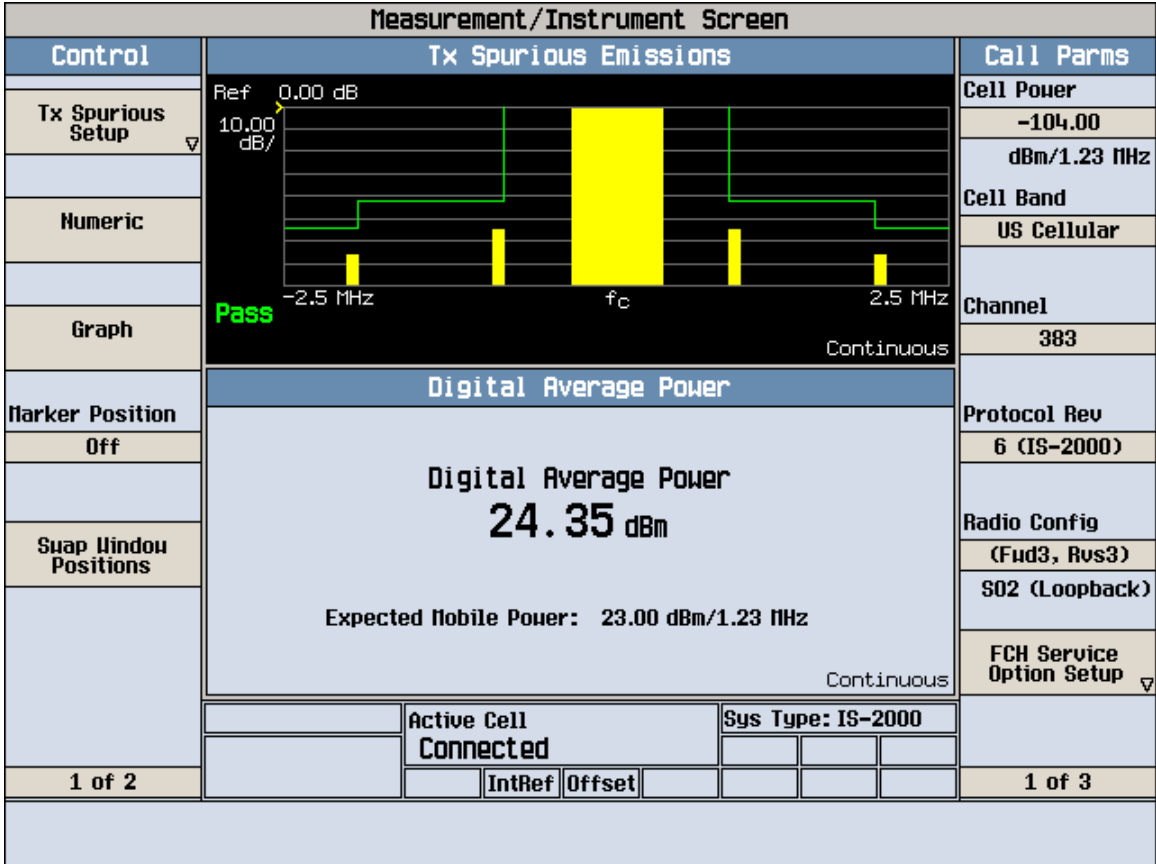
(a) RC3 R_FCH

Ch383

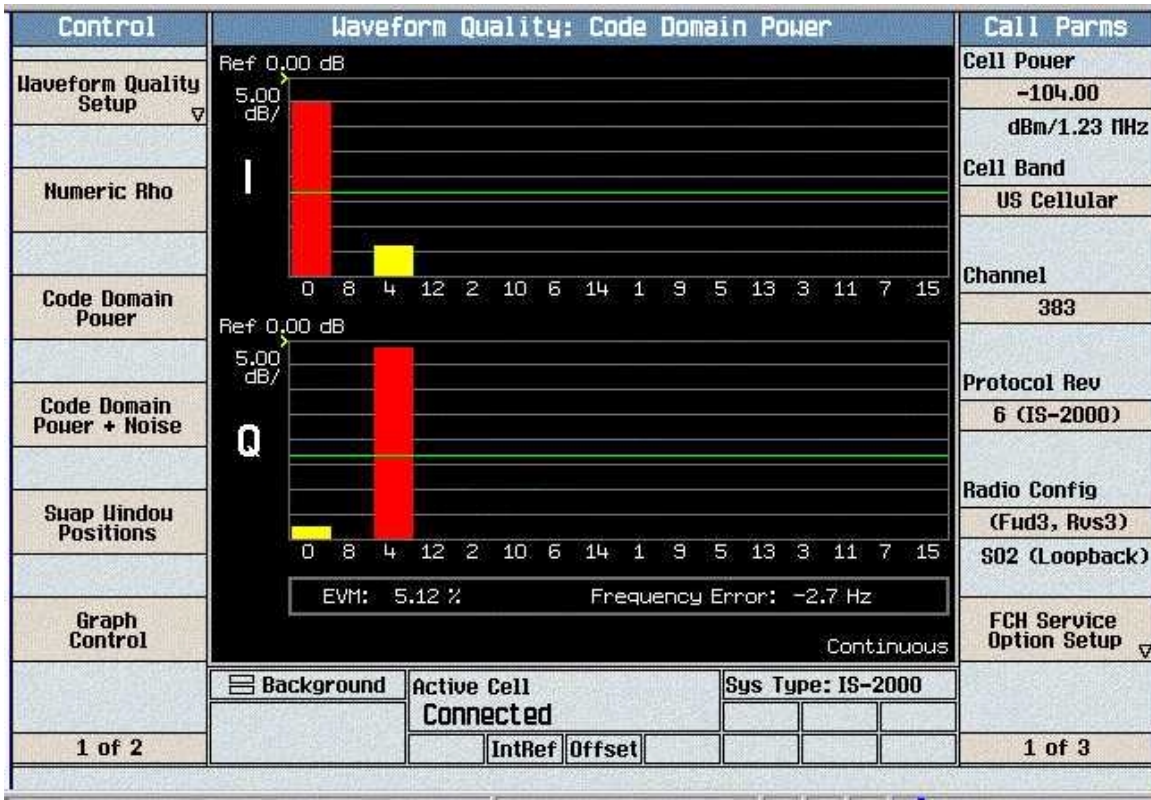
RC3 R-FCH ACPR Data + PTXmax

Measurement/Instrument Screen						
Control	Tx Spurious Emissions				Call Parms	
Tx Spurious Setup ▾	Pass				Cell Power	-104.00
	-0.885 MHz Offset		0.885 MHz Offset		dBm/1.23 MHz	
	-54.17 dBc		-54.75 dBc		Cell Band	US Cellular
Numeric	-1.980 MHz Offset		1.980 MHz Offset		Channel	383
	-65.42 dBc		-65.93 dBc		Protocol Rev	6 (IS-2000)
Graph	Continuous				Radio Config	(Fud3, Rvs3)
	Digital Average Power				S02 (Loopback)	
	Digital Average Power				FCH Service Option Setup ▾	
	24.22 dBm					
Swap Window Positions	Expected Mobile Power: 23.00 dBm/1.23 MHz					
	Continuous					
		Active Cell	Sys Type: IS-2000			
		Connected				
1 of 2		IntRef	Offset			1 of 3

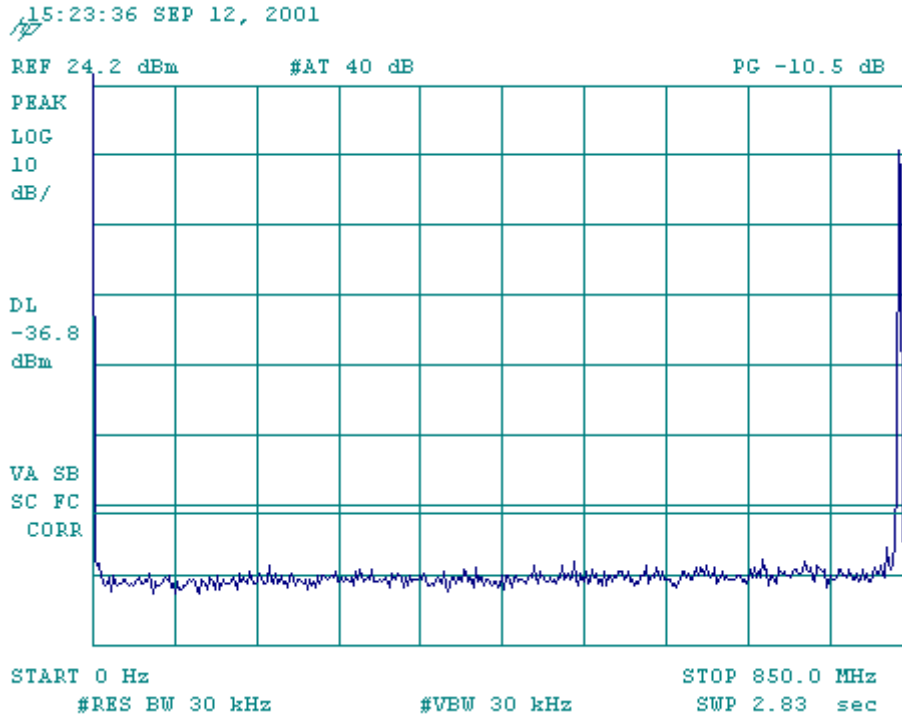
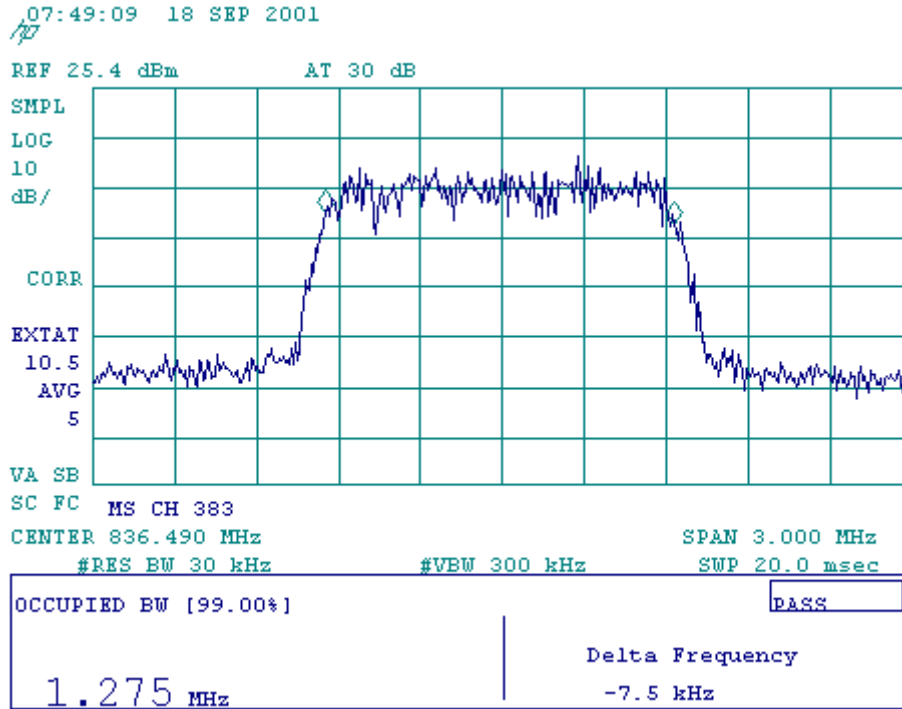
RC3 R-FCH ACPR Spectrum + PTXmax



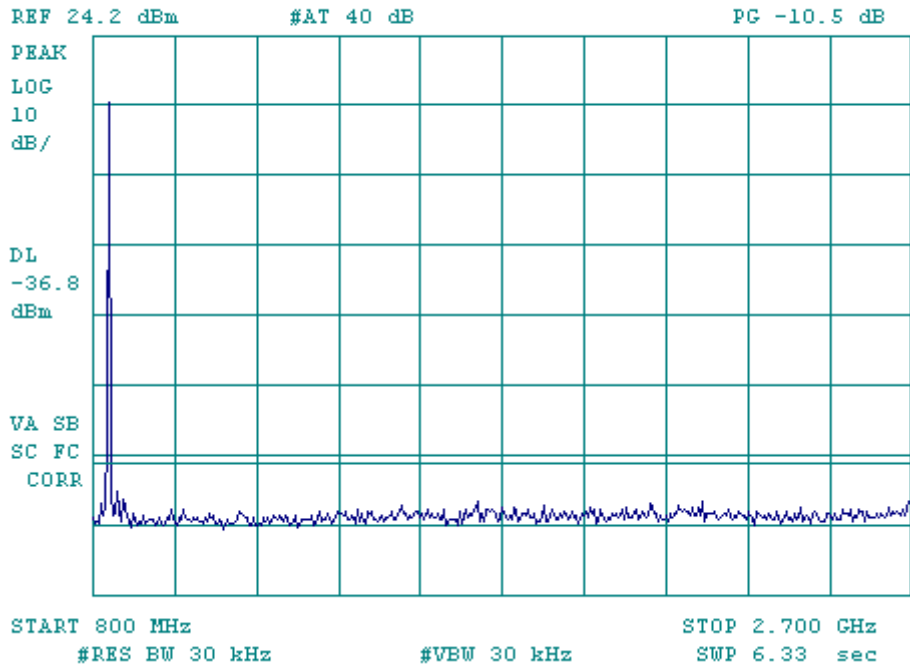
RC3 R-FCH Code Domain



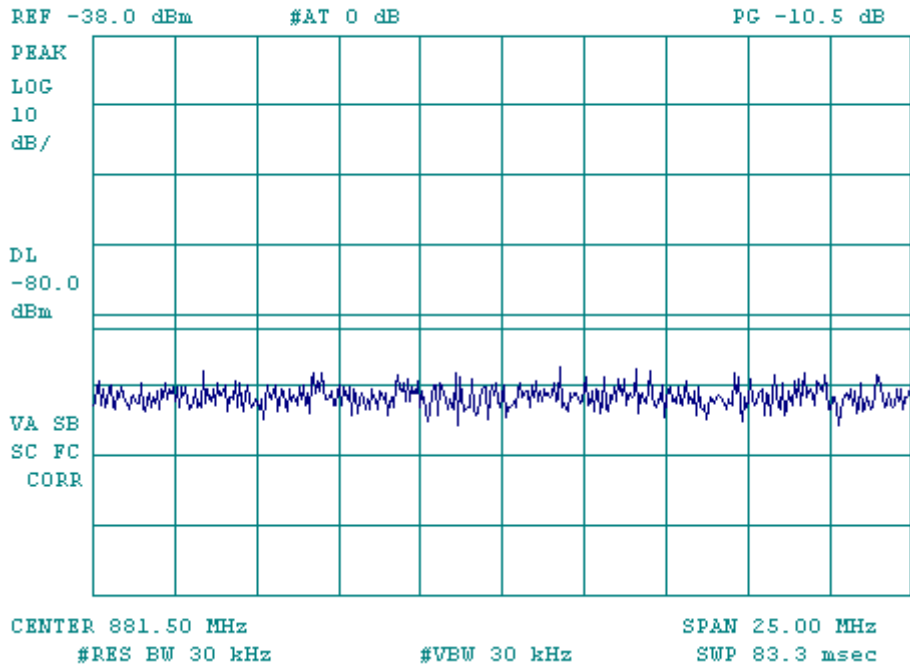
Occupied Bandwidth and Spurious Emission



15:25:13 SEP 12, 2001



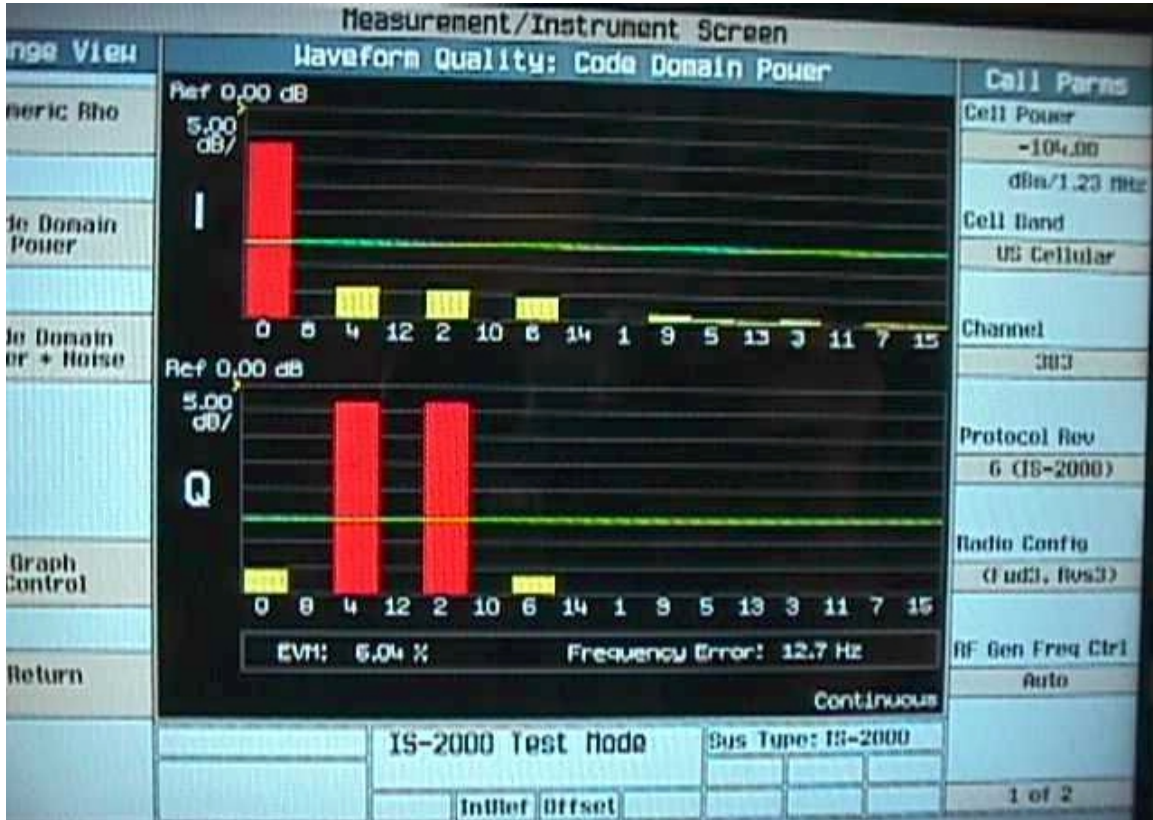
15:31:23 SEP 12, 2001



(b) RC3 R_FCH + R_SCH

Ch383

RC3 R-FCH+R-SCH Code Domain



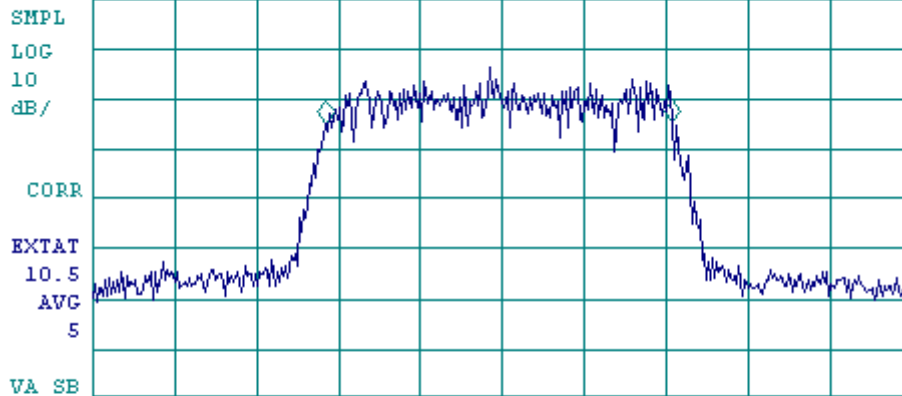
RC3 R-FCH+R-SCH

Occupied Bandwidth and Spurious Emission

13:18:29 17 SEP 2001

AP

REF 25.4 dBm AT 30 dB



SC FC MS CH 383

CENTER 836.490 MHz

SPAN 3.000 MHz

#RES BW 30 kHz

#VBW 300 kHz

SWP 20.0 msec

OCCUPIED BW [99.00%]

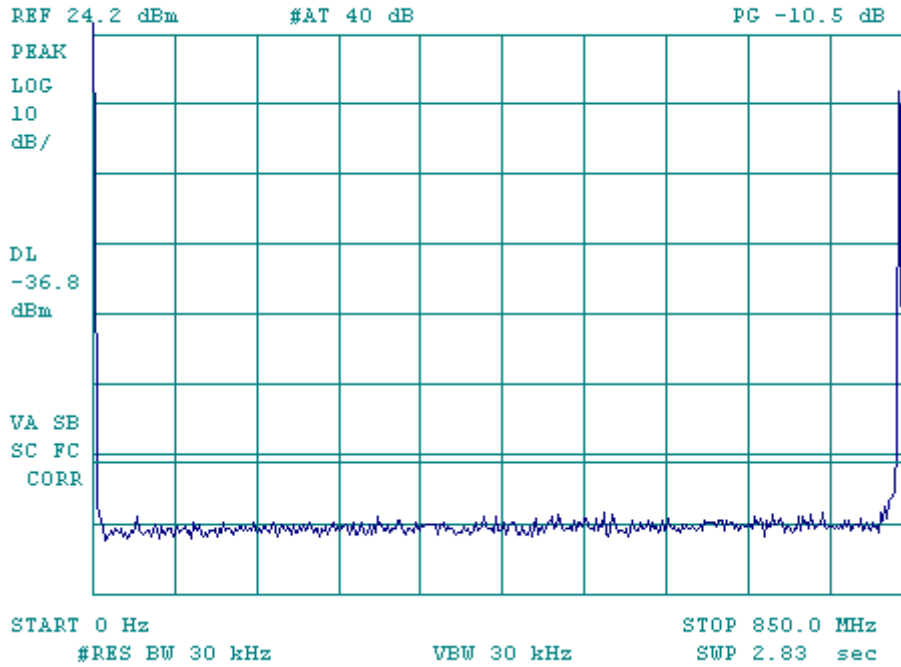
PASS

1.268 MHz

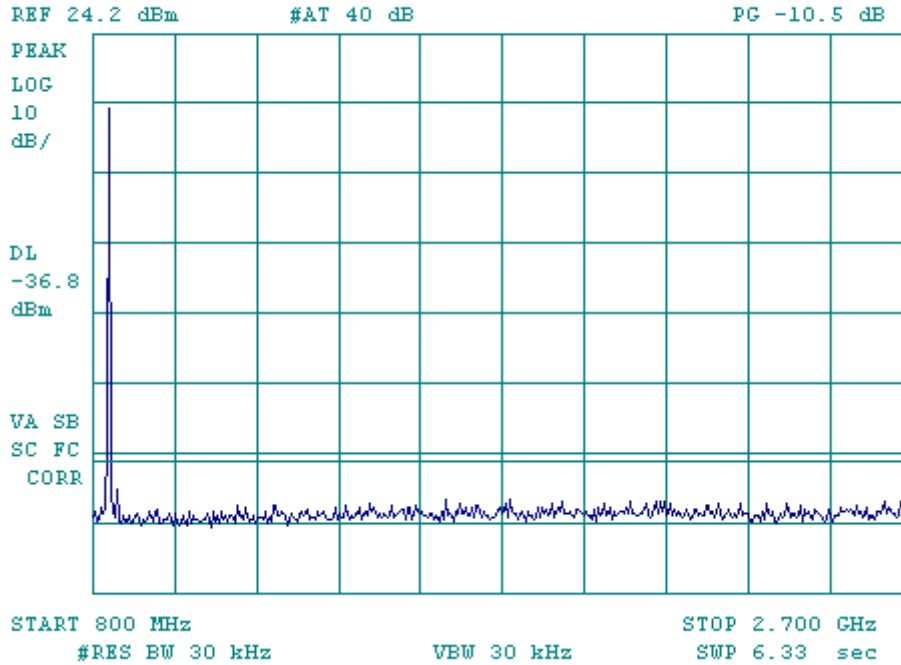
Delta Frequency

-11.2 kHz

14:08:00 SEP 17, 2001

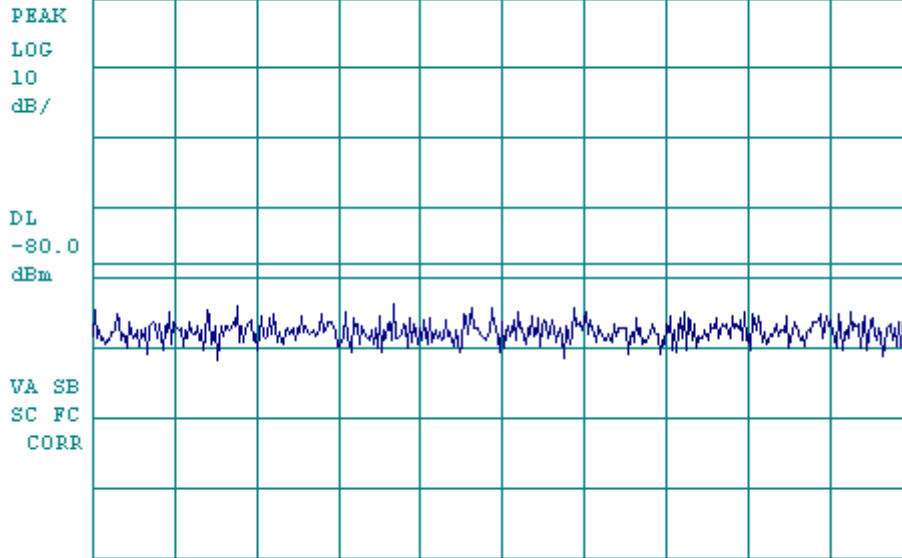


14:09:32 SEP 17, 2001



14:11:11 SEP 17, 2001

REF -42.0 dBm #AT 0 dB PG -10.5 dB



CENTER 881.00 MHz SPAN 25.00 MHz
#RES BW 30 kHz VBW 30 kHz SWP 83.3 msec

PCS Band

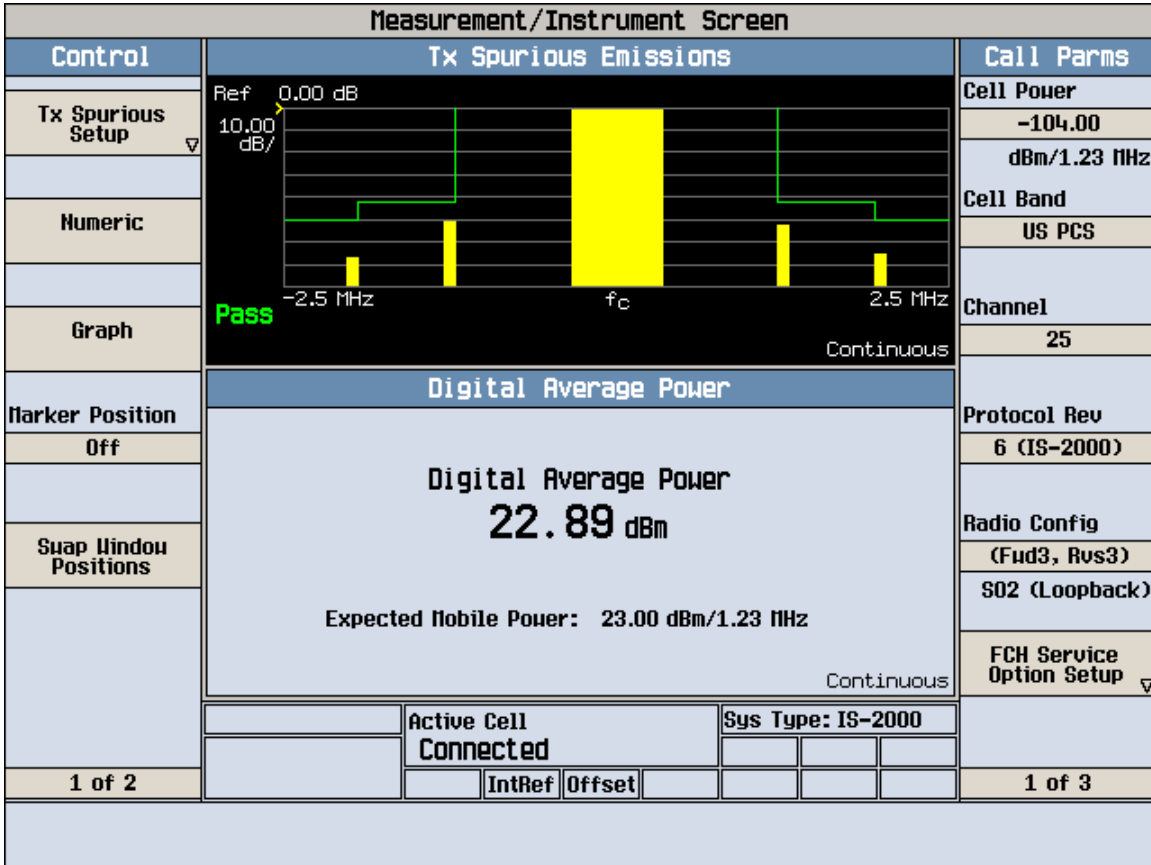
Ch25

(a) RC3 R_FCH

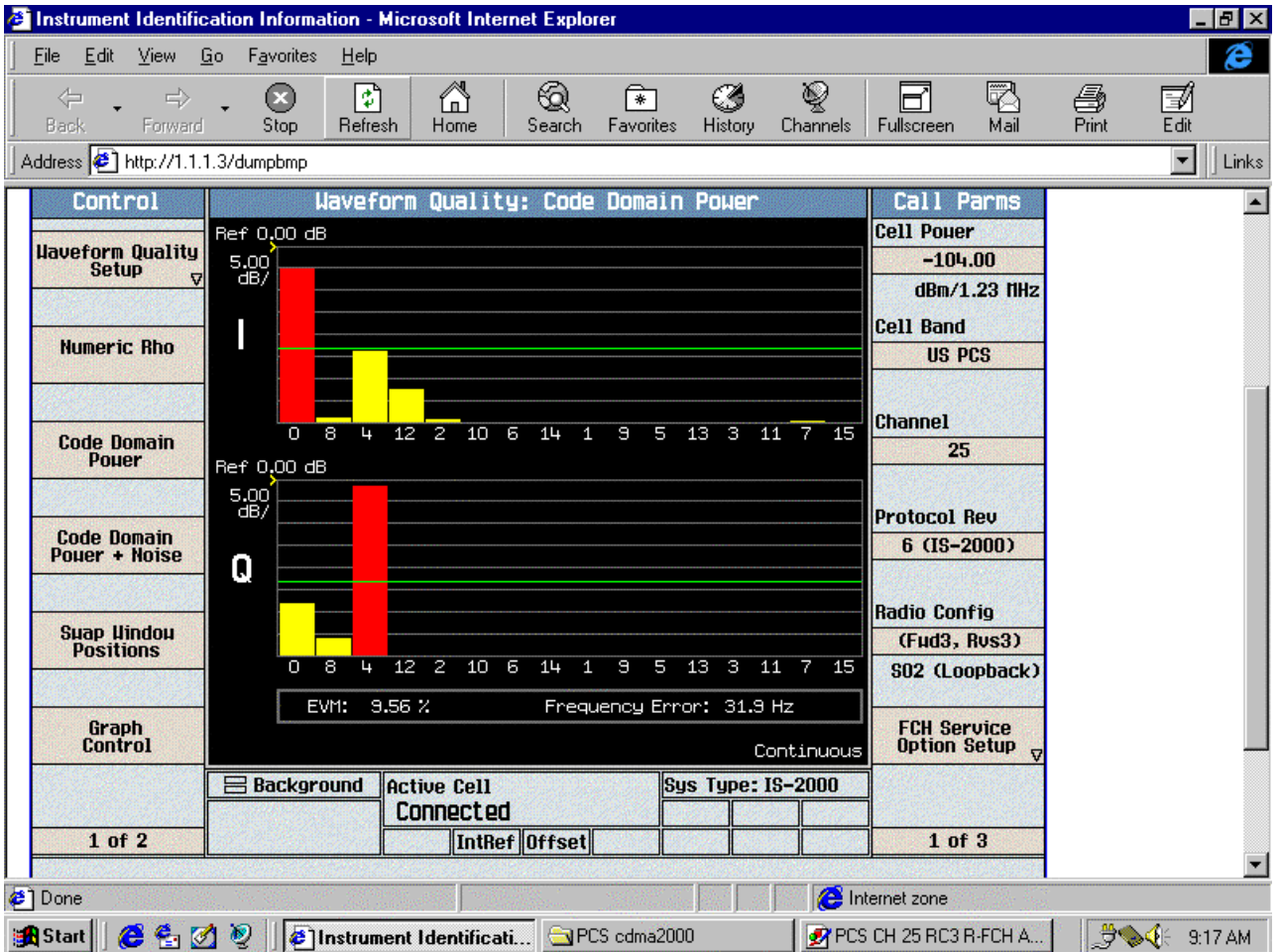
RC3 R-FCH ACPR Data + PTXmax

Measurement/Instrument Screen						
Control	Tx Spurious Emissions				Call Parm	
Tx Spurious Setup ▾	Pass				Cell Power	-104.00
	-1.250 MHz Offset		1.250 MHz Offset		dBm/1.23 MHz	
	-51.69 dBc		-52.34 dBc		Cell Band	US PCS
Numeric						
	-1.980 MHz Offset		1.980 MHz Offset		Channel	25
	-66.34 dBc		-65.53 dBc			
Graph	Continuous				Protocol Rev	6 (IS-2000)
	Digital Average Power				Radio Config	(Fud3, Rvs3)
	Digital Average Power				S02 (Loopback)	
	22.90 dBm				FCH Service Option Setup ▾	
Swap Window Positions	Expected Mobile Power: 23.00 dBm/1.23 MHz					
	Continuous					
	Active Cell Connected		Sys Type: IS-2000			
1 of 2		IntRef	Offset			1 of 3

RC3 R-FCH ACPR Spectrum + PTXmax



RC3 R-FCH Code Domain

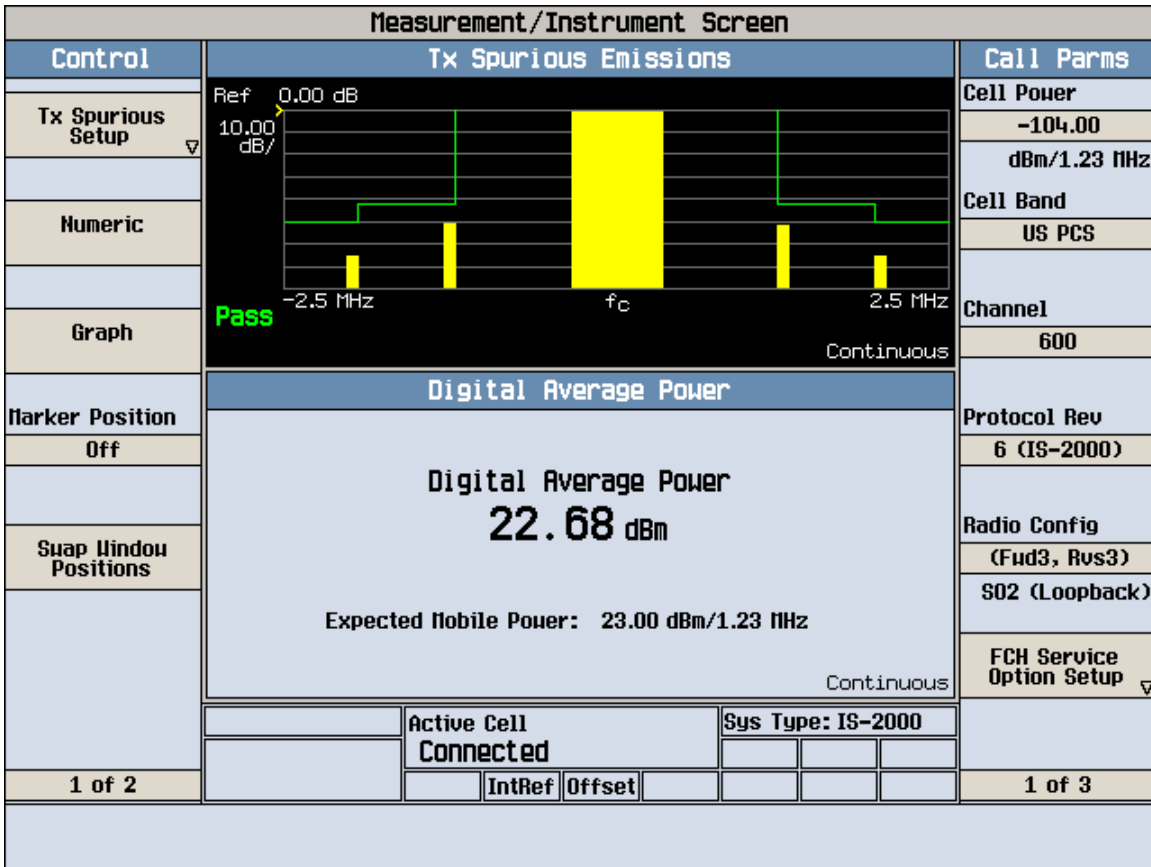


Ch600

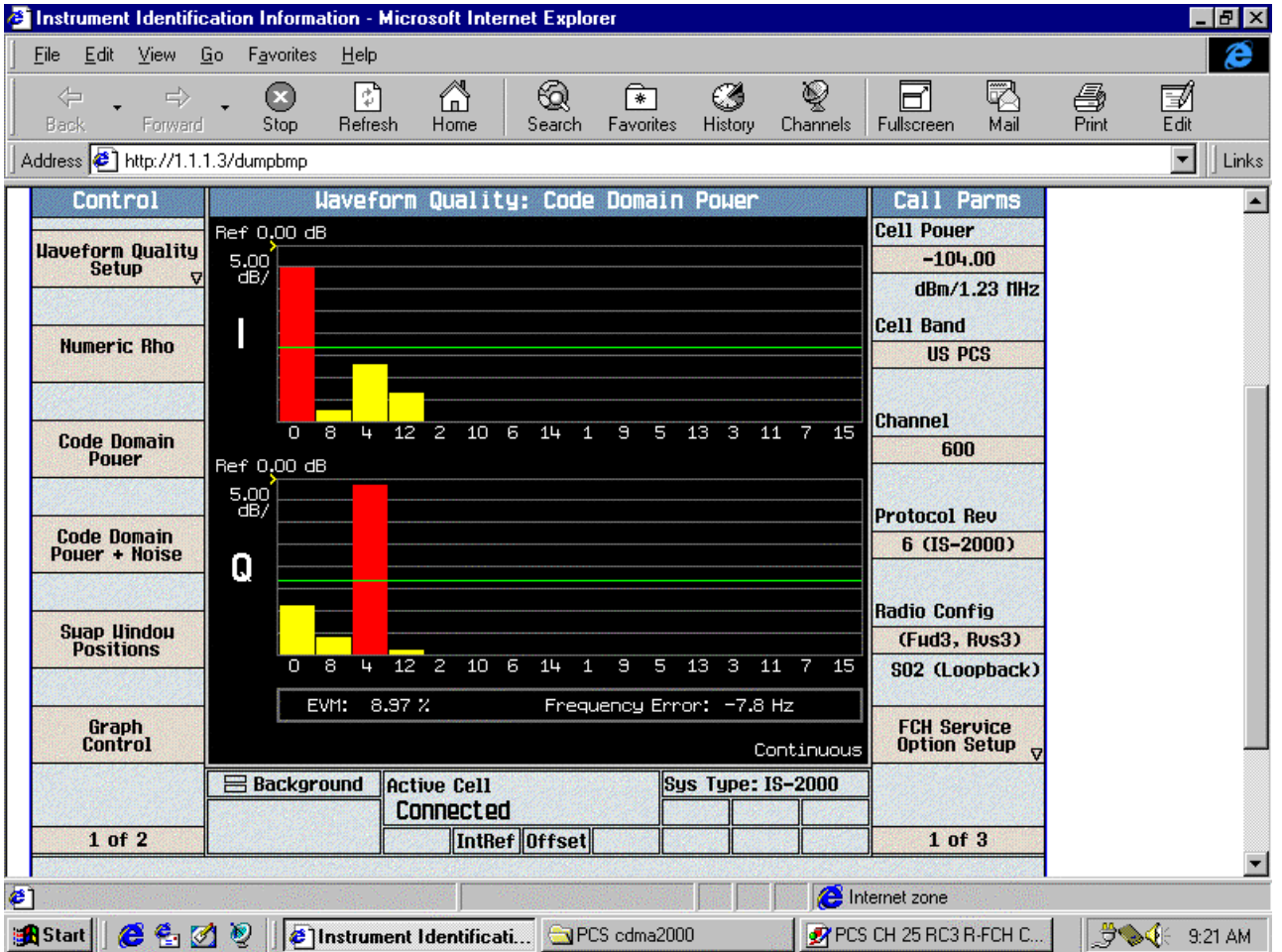
RC3 R-FCH ACPR Data + PTXmax

Measurement/Instrument Screen						
Control	Tx Spurious Emissions				Call Parms	
Tx Spurious Setup ▾	Pass				Cell Power	
	-1.250 MHz Offset		1.250 MHz Offset		-104.00	
	-51.97 dBc		-51.79 dBc		dBm/1.23 MHz	
Numeric	-1.980 MHz Offset		1.980 MHz Offset		Cell Band	
	-66.48 dBc		-65.94 dBc		US PCS	
Graph					Channel	
					600	
					Protocol Rev	
					6 (IS-2000)	
Swap Window Positions	Digital Average Power				Radio Config	
	Digital Average Power				(Fud3, Rvs3)	
	22.70 dBm				S02 (Loopback)	
	Expected Mobile Power: 23.00 dBm/1.23 MHz				FCH Service Option Setup ▾	
		Active Cell Connected		Sys Type: IS-2000		
1 of 2		IntRef	Offset			1 of 3

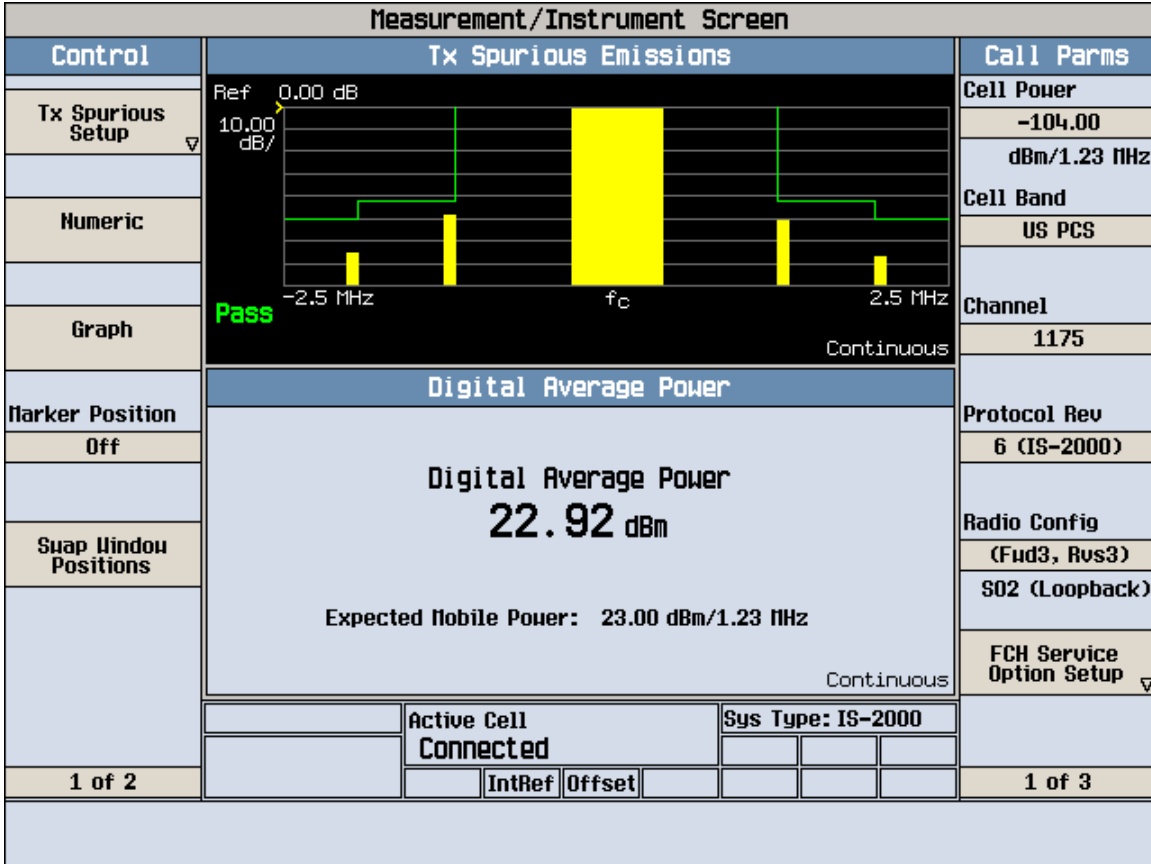
RC3 R-FCH ACPR Spectrum + PTXmax



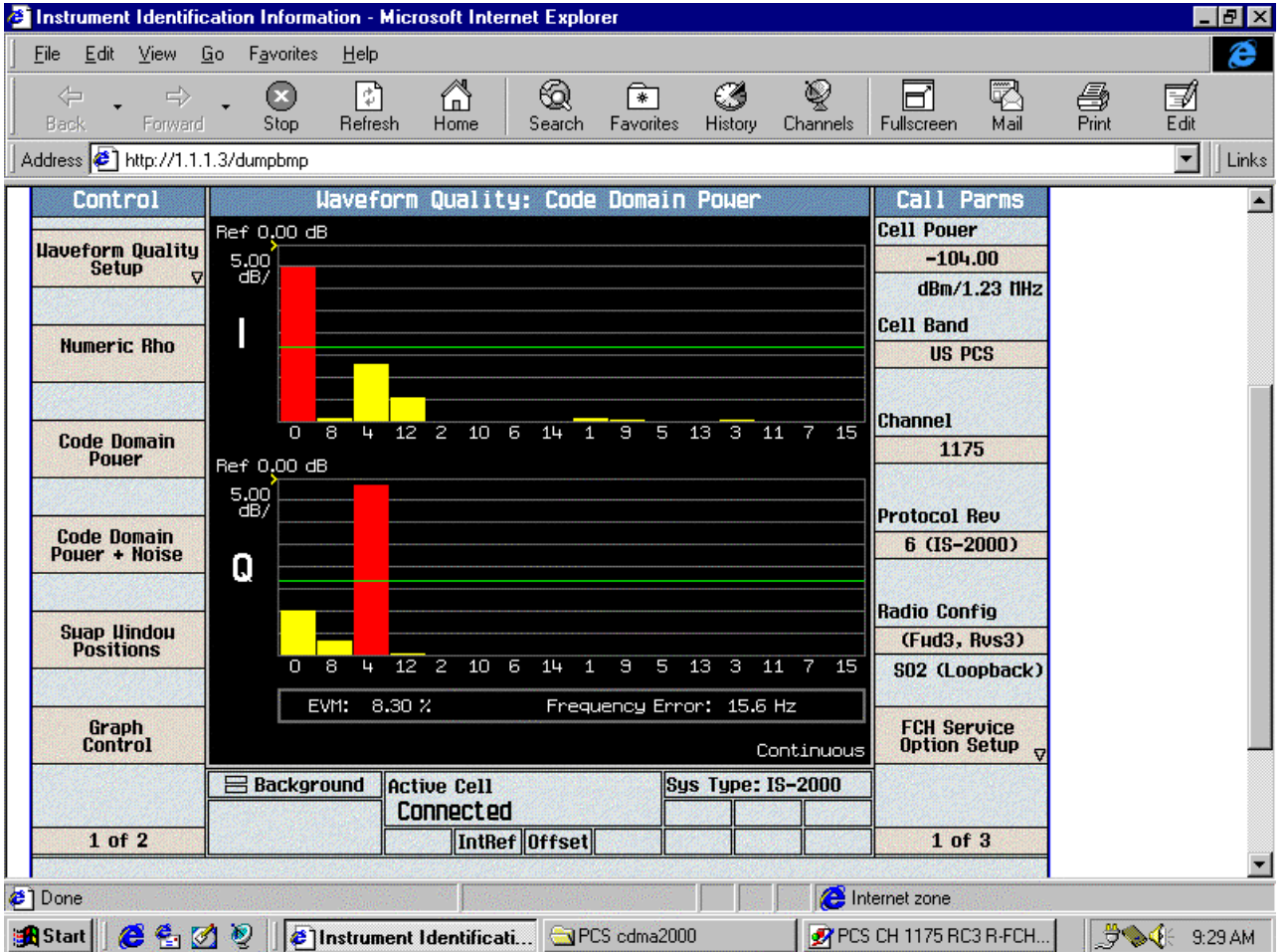
RC3 R-FCH Code Domain



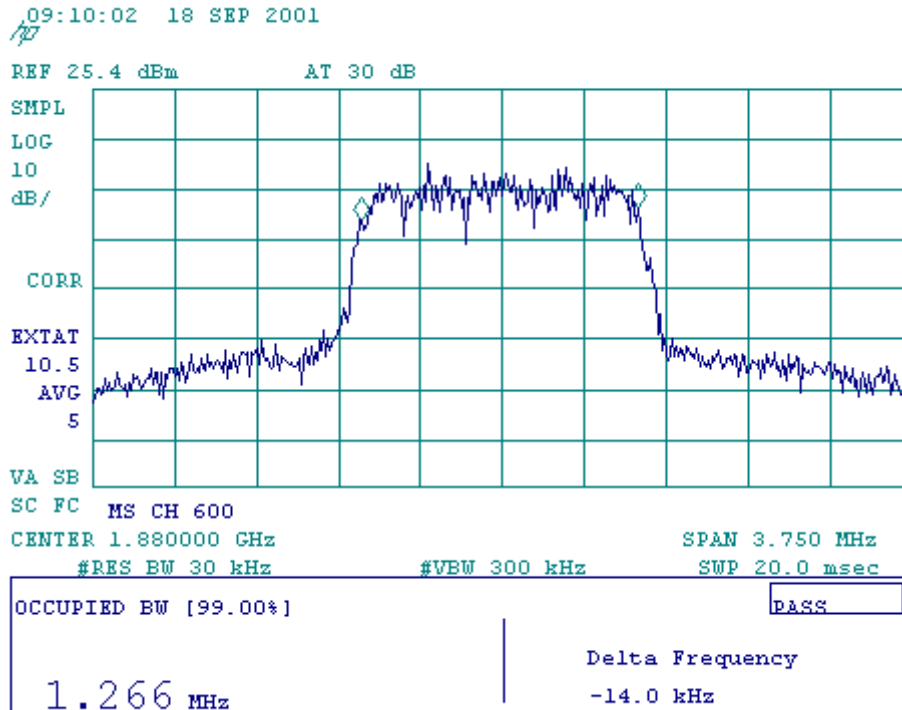
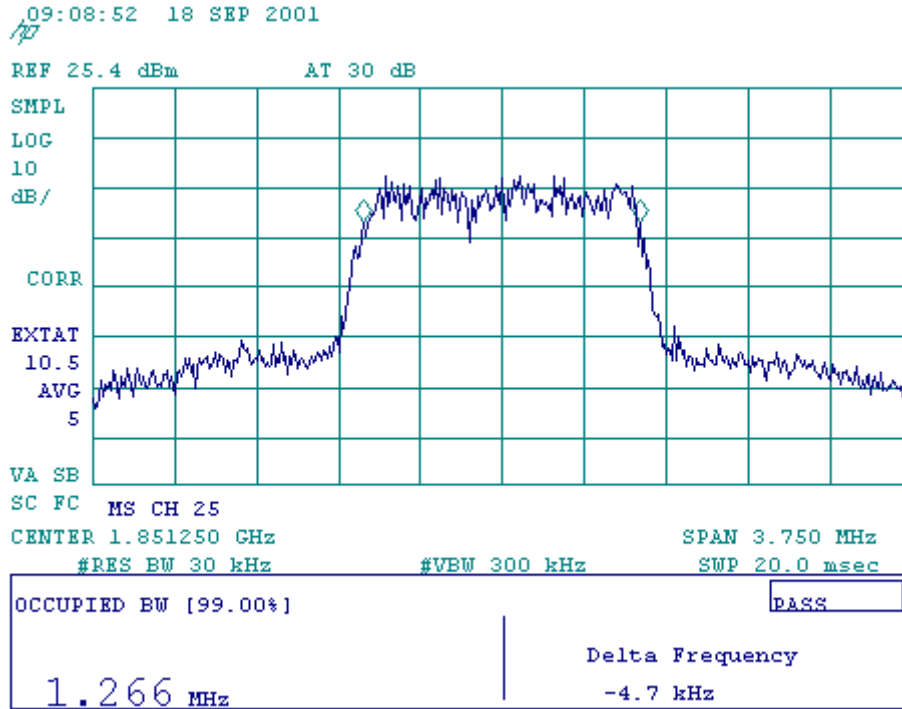
RC3 R-FCH ACPR Spectrum + PTXmax



RC3 R-FCH Code Domain

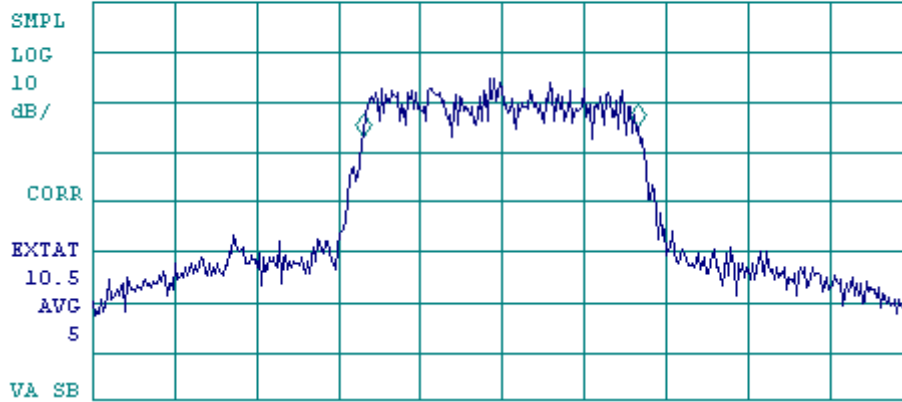


Occupied Bandwidth



09:11:34 18 SEP 2001

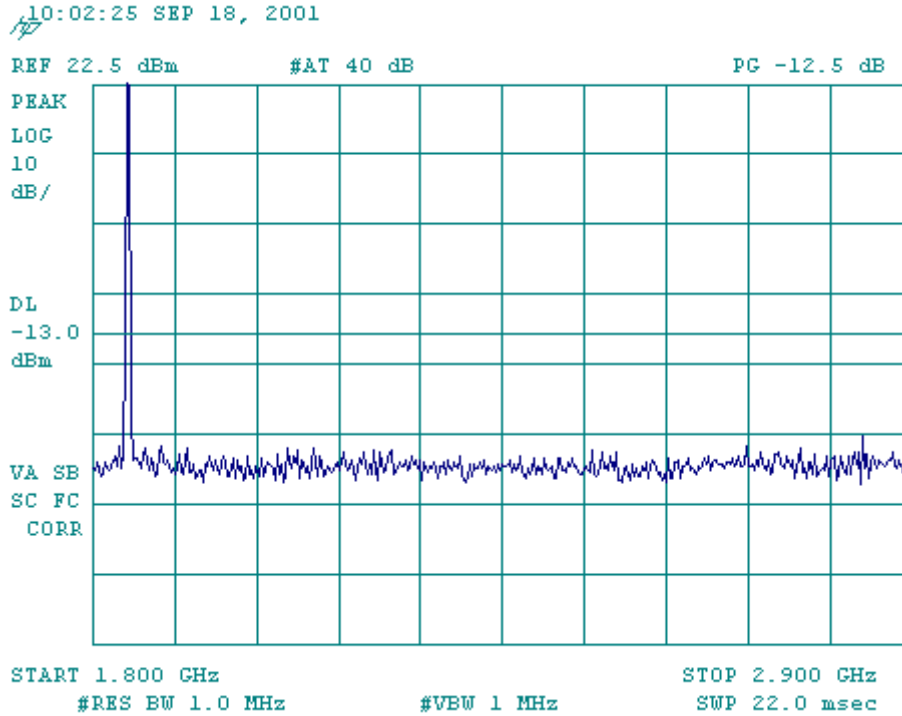
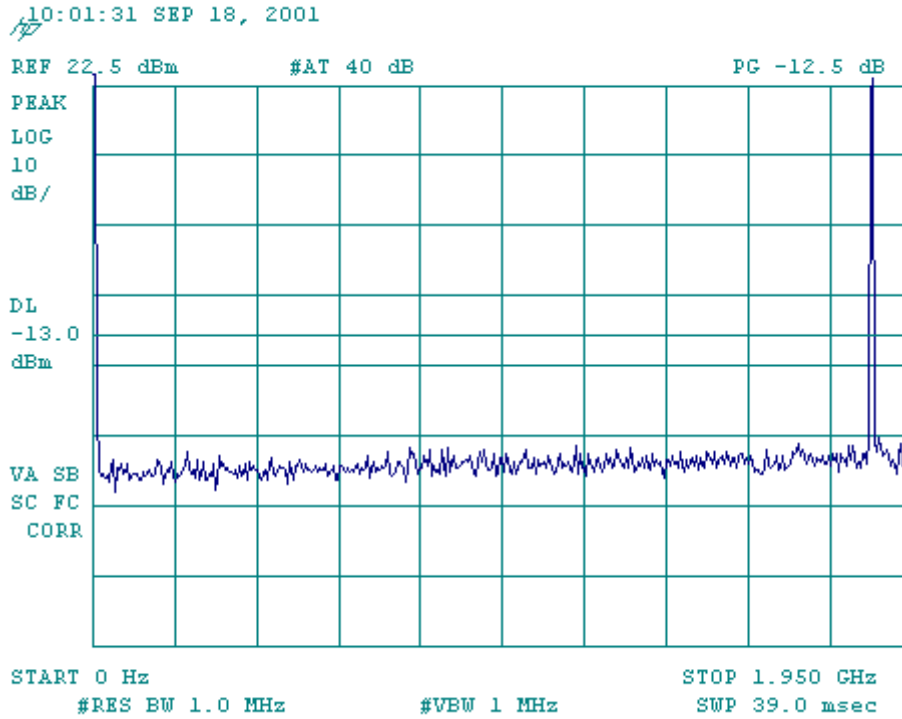
REF 25.3 dBm AT 30 dB



VA SB
SC FC MS CH 1175
CENTER 1.908750 GHz SPAN 3.750 MHz
#RES BW 30 kHz #VBW 300 kHz SWP 20.0 msec
OCCUPIED BW [99.00%] PASS
1.256 MHz Delta Frequency -9.4 kHz

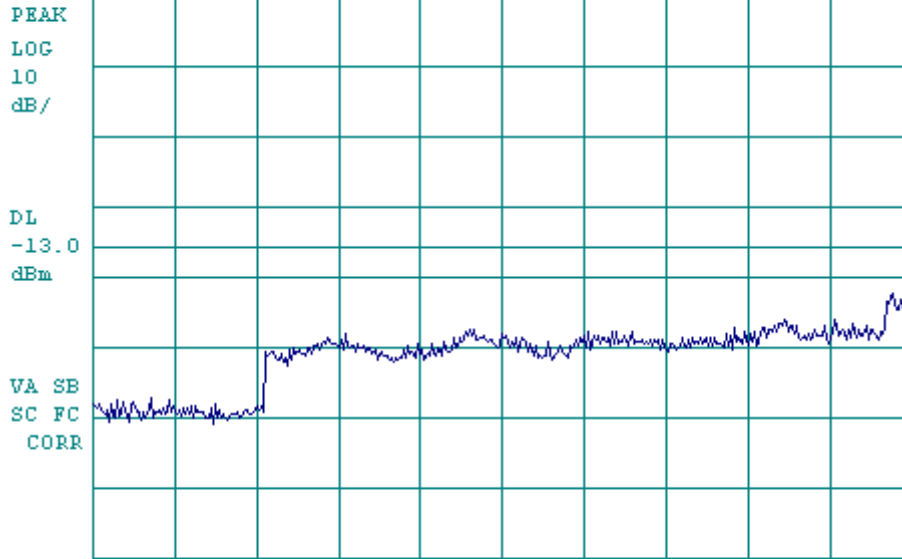
Spurious Up to 10th Harmonics

Ch25



10:03:17 SEP 18, 2001

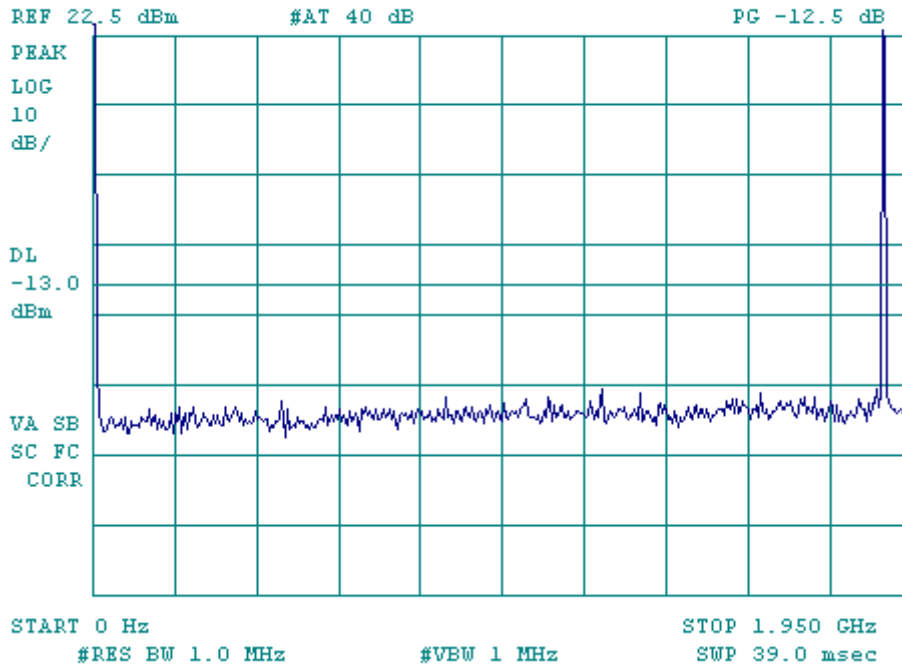
REF 22.5 dBm #AT 30 dB PG -12.5 dB



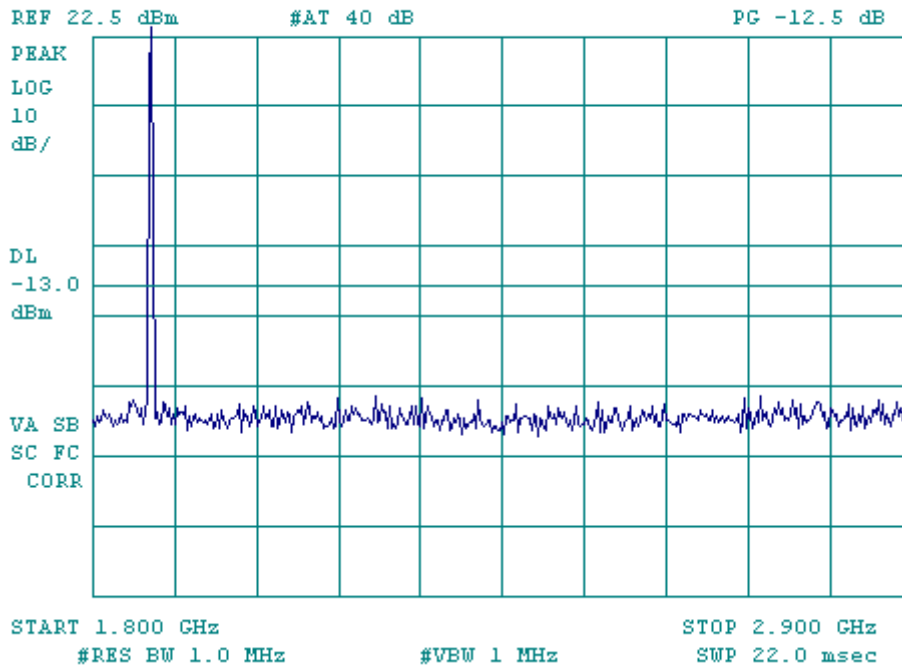
START 2.90 GHz STOP 20.00 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 351 msec

Ch600

10:04:21 SEP 18, 2001

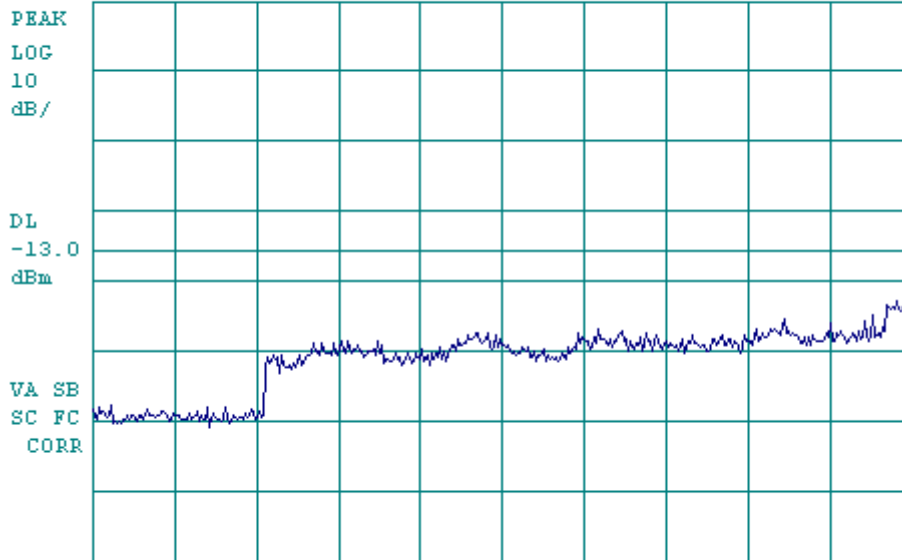


10:05:09 SEP 18, 2001



10:05:56 SEP 18, 2001

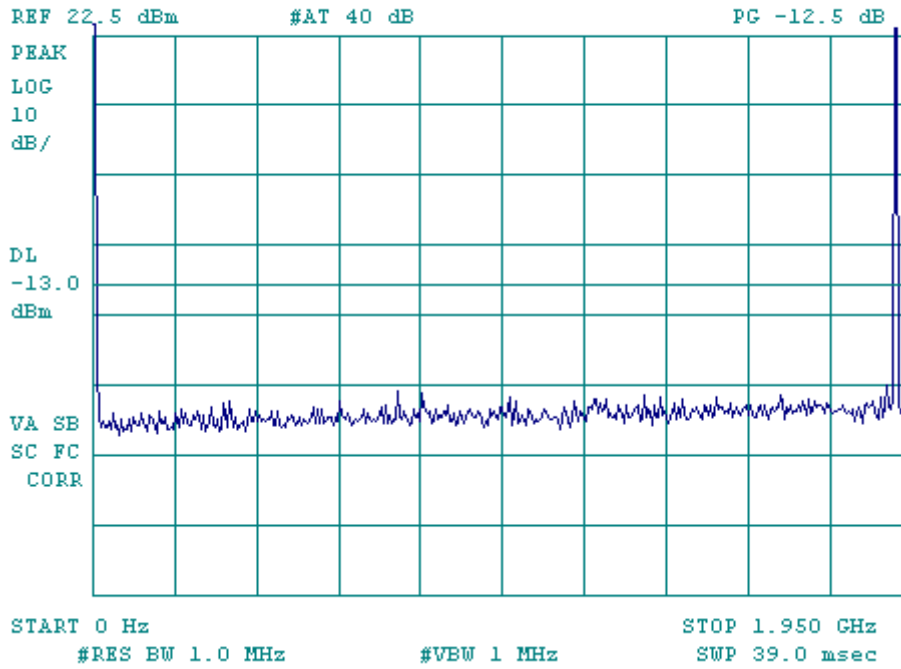
REF 22.5 dBm #AT 30 dB PG -12.5 dB



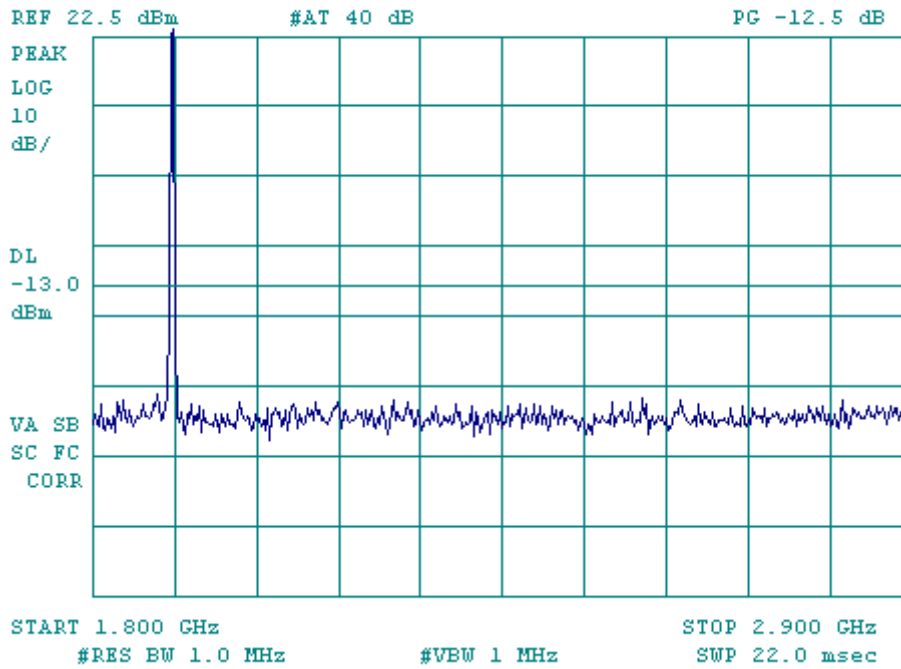
START 2.90 GHz STOP 20.00 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 351 msec

Ch1175

10:07:00 SEP 18, 2001

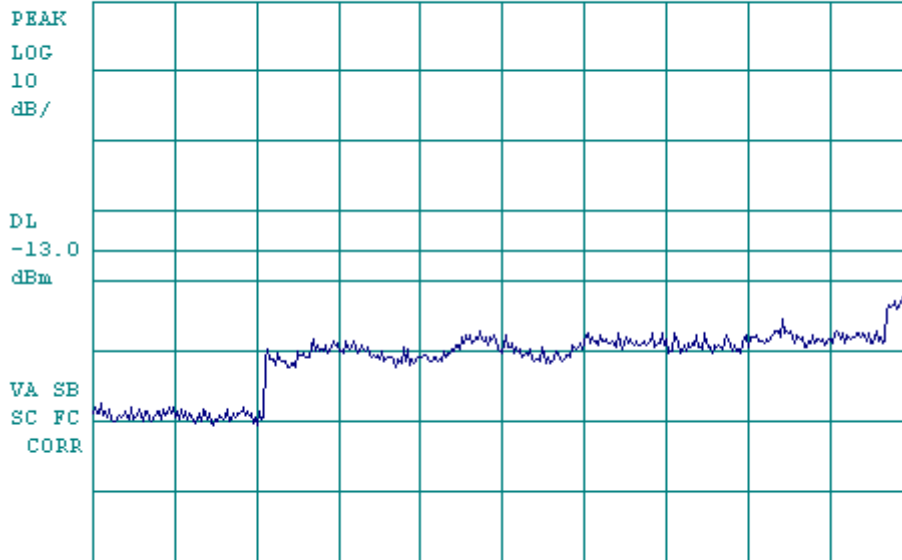


10:07:46 SEP 18, 2001



10:08:35 SEP 18, 2001

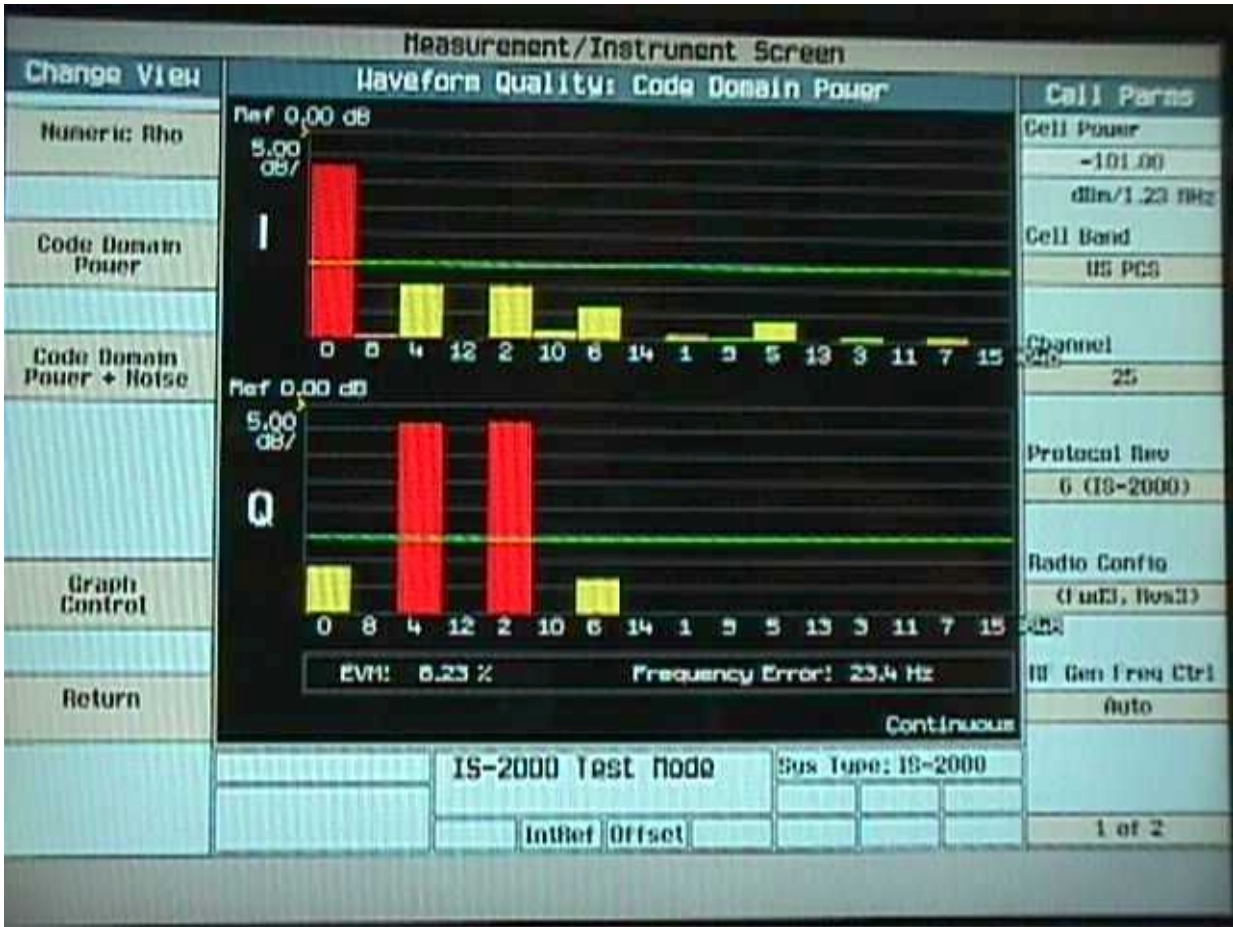
REF 22.5 dBm #AT 30 dB PG -12.5 dB

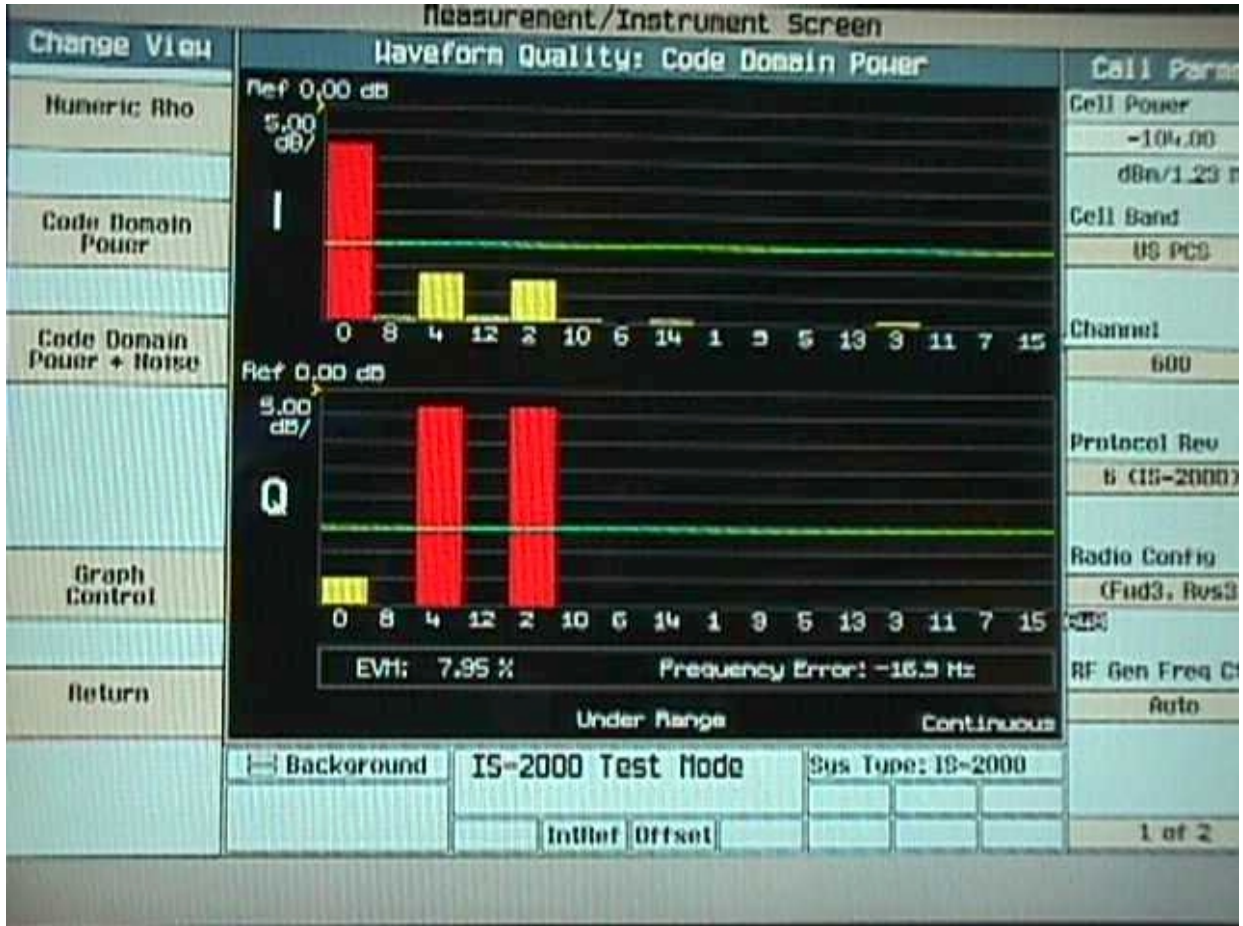


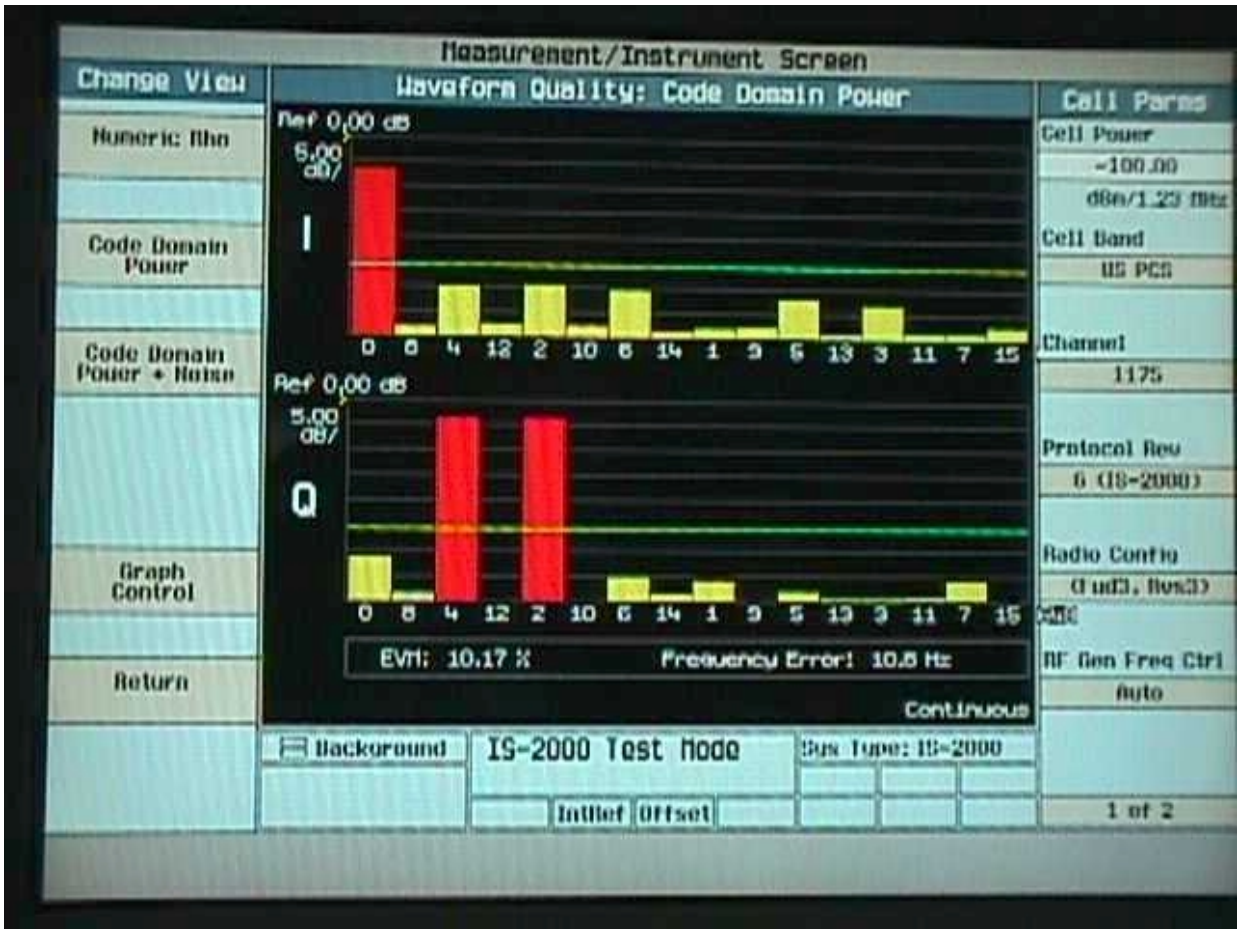
START 2.90 GHz STOP 20.00 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 351 msec

(b) RC3 R_FCH + R_SCH

RC3 R-FCH+R_SCH Code Domain

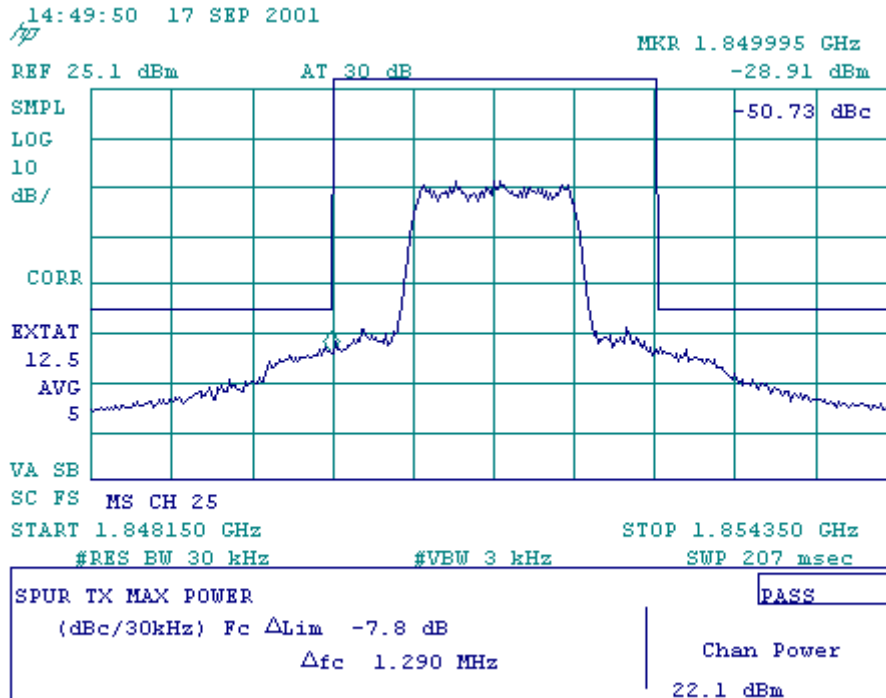
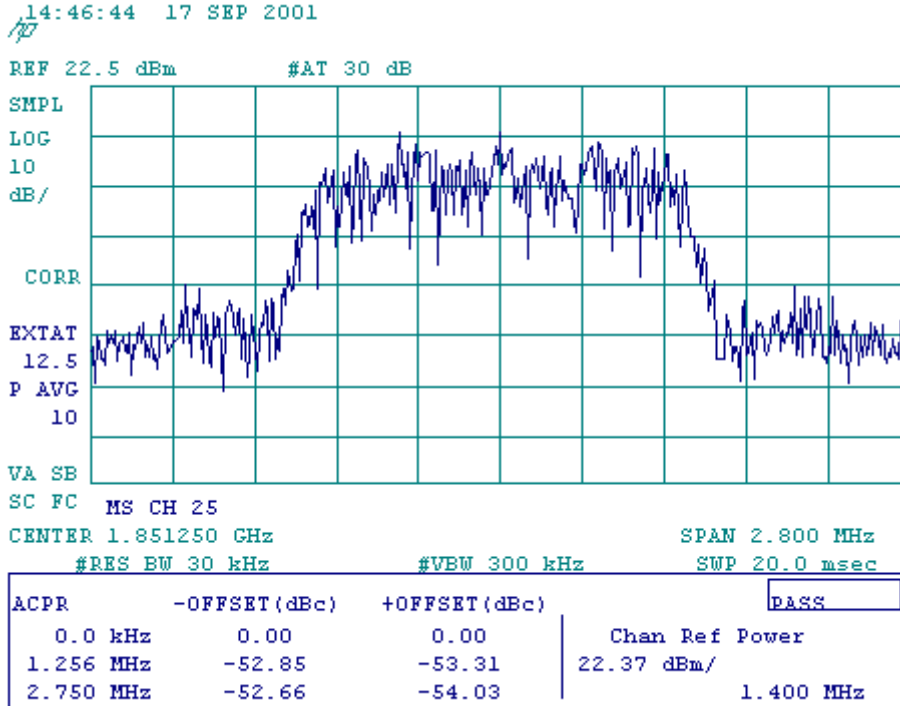






RC3 R-FCH+R-SCH ACPR Spectrum + PTXmax

Ch25

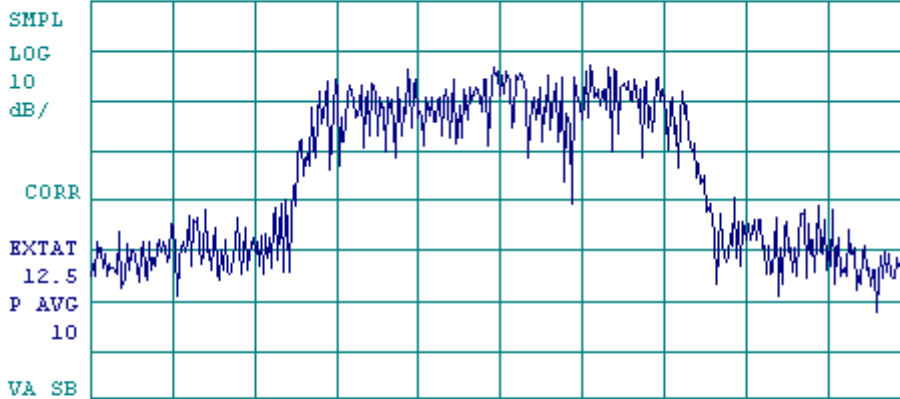


Ch600

15:23:42 17 SEP 2001

AP

REF 22.5 dBm #AT 30 dB



SC FC MS CH 600
CENTER 1.880000 GHz SPAN 2.800 MHz
#RES BW 30 kHz #VBW 300 kHz SWP 20.0 msec

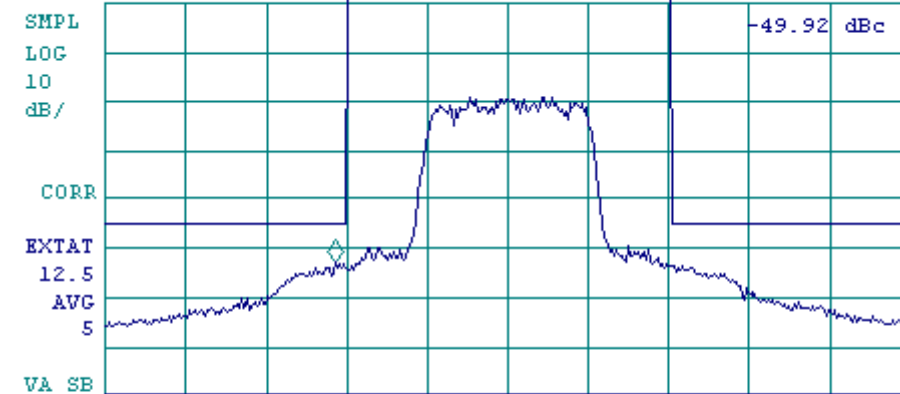
ACPR	-OFFSET (dBc)	+OFFSET (dBc)	PASS
0.0 kHz	0.00	0.00	Chan Ref Power 22.34 dBm/ 1.400 MHz
1.256 MHz	-53.22	-55.04	
2.750 MHz	-52.88	-53.73	

15:27:39 17 SEP 2001

AP

MKR 1.878667 GHz

REF 25.2 dBm AT 30 dB -27.93 dBm



SC FS MS CH 600
START 1.876900 GHz STOP 1.883100 GHz
#RES BW 30 kHz #VBW 3 kHz SWP 207 msec

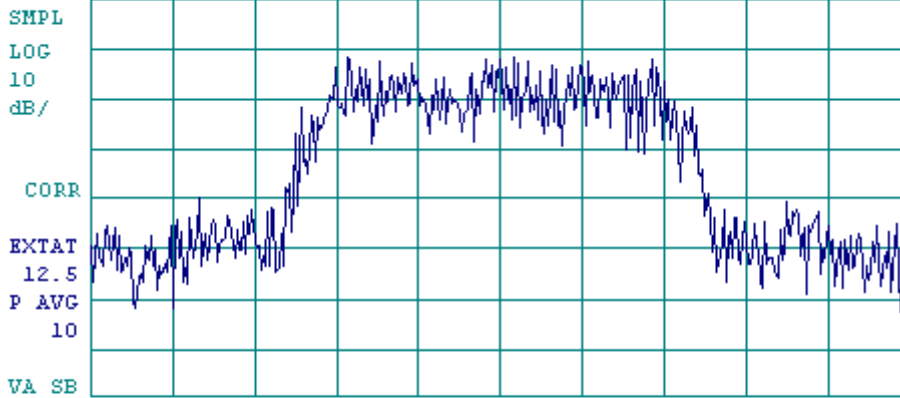
SPUR TX MAX POWER	PASS
(dBc/30kHz) Fc Δ Lim -8.1 dB	Chan Power 22.2 dBm
Δ fc -1.330 MHz	

Ch1175

15:45:43 17 SEP 2001

hp

REF 22.5 dBm #AT 30 dB



SC FC MS CH 1175

CENTER 1.908750 GHz

SPAN 2.800 MHz

#RES BW 30 kHz

#VBW 300 kHz

SWP 20.0 msec

ACPR	-OFFSET (dBc)	+OFFSET (dBc)	PASS
0.0 kHz	0.00	0.00	Chan Ref Power 22.47 dBm/ 1.400 MHz
1.256 MHz	-50.64	-52.98	
2.750 MHz	-55.95	-52.04	

15:50:25 17 SEP 2001

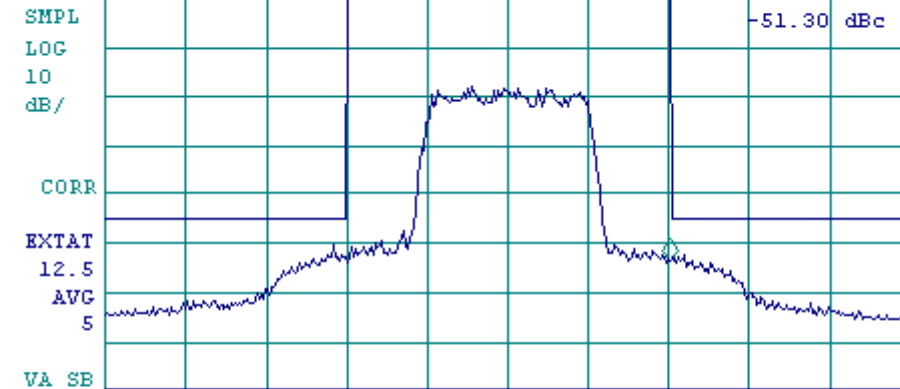
hp

MKR 1.910006 GHz

REF 25.7 dBm

AT 30 dB

-28.28 dBm



SC FS MS CH 1175

START 1.905650 GHz

STOP 1.911850 GHz

#RES BW 30 kHz

#VBW 3 kHz

SWP 207 msec

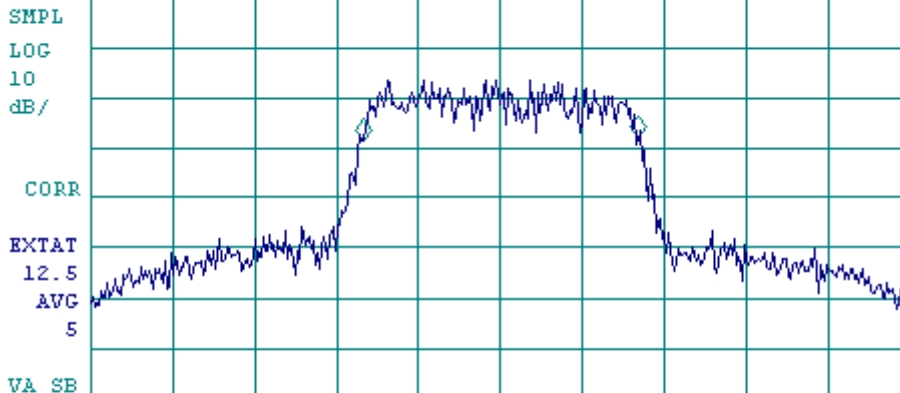
SPUR TX MAX POWER	PASS
(dBc/30kHz) Fc Δ Lim -5.5 dB	Chan Power 22.7 dBm
Δ fc -1.350 MHz	

Occupied Bandwidth

14:51:17 17 SEP 2001

AP

REF 25.1 dBm AT 30 dB



SC FC MS CH 25

CENTER 1.851250 GHz

SPAN 3.750 MHz

#RES BW 30 kHz

#VBW 300 kHz

SWP 20.0 msec

OCCUPIED BW [99.00%]

PASS

1.256 MHz

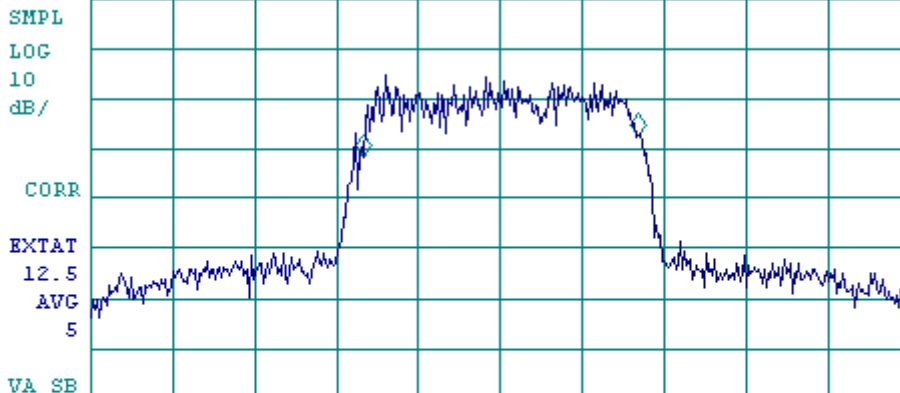
Delta Frequency

0.0 kHz

15:30:51 17 SEP 2001

AP

REF 26.0 dBm AT 30 dB



SC FC MS CH 600

CENTER 1.880000 GHz

SPAN 3.750 MHz

#RES BW 30 kHz

#VBW 300 kHz

SWP 20.0 msec

OCCUPIED BW [99.00%]

PASS

1.256 MHz

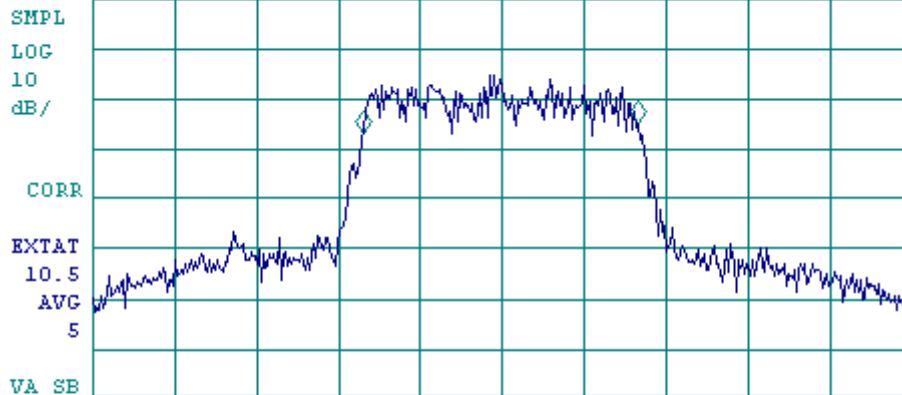
Delta Frequency

0.0 kHz

09:11:34 18 SEP 2001

~~AP~~

REF 25.3 dBm AT 30 dB



SC FC MS CH 1175

CENTER 1.908750 GHz

SPAN 3.750 MHz

#RES BW 30 kHz

#VBW 300 kHz

SWP 20.0 msec

OCCUPIED BW [99.00%]

DASS

1.256 MHz

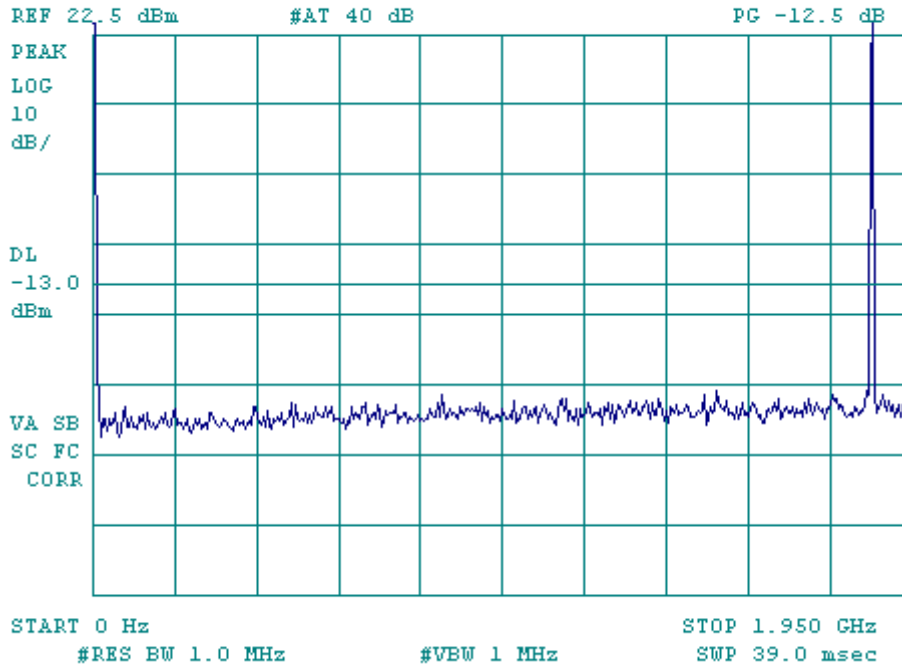
Delta Frequency

-9.4 kHz

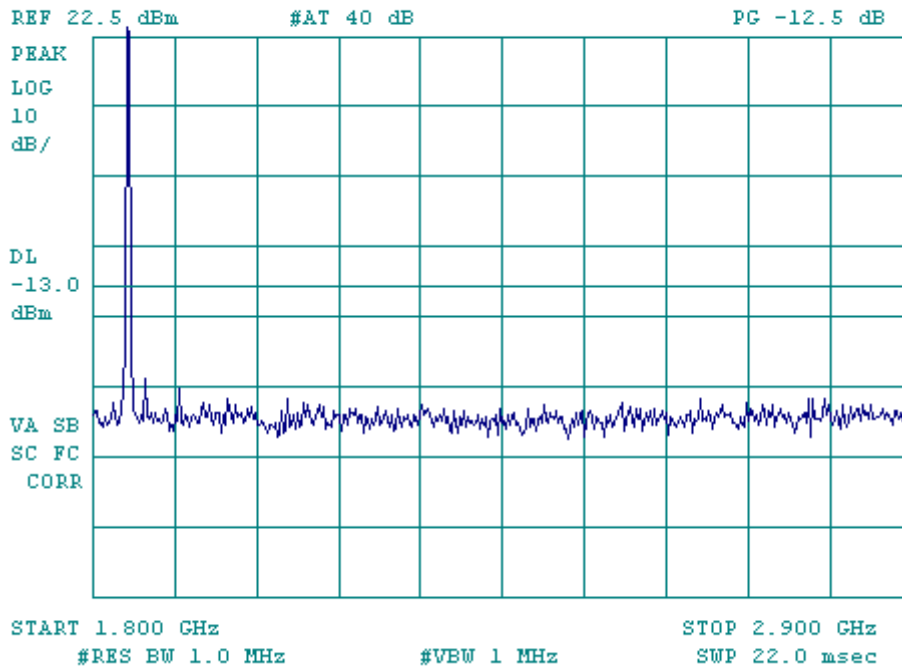
Spurious Up to 10th Harmonics

Ch25

14:44:17 SEP 17, 2001

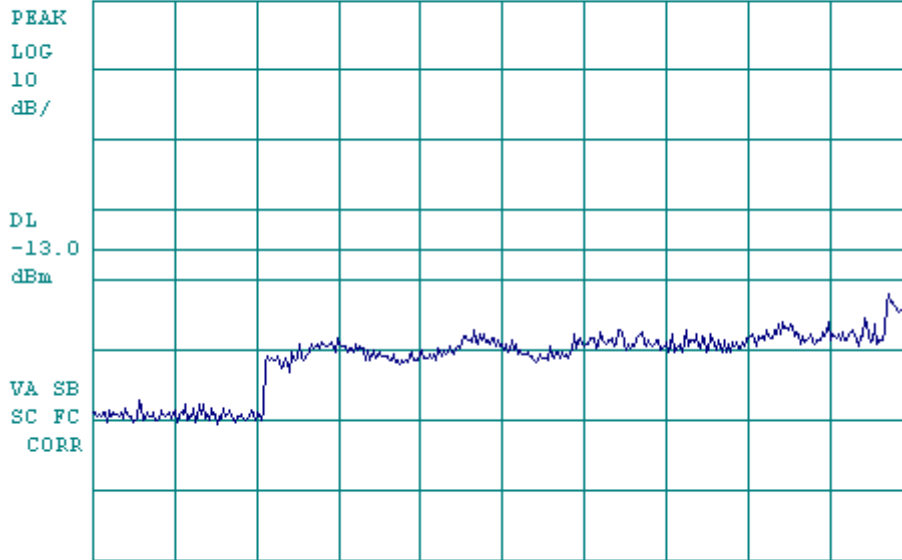


14:45:11 SEP 17, 2001



14:46:22 SEP 17, 2001

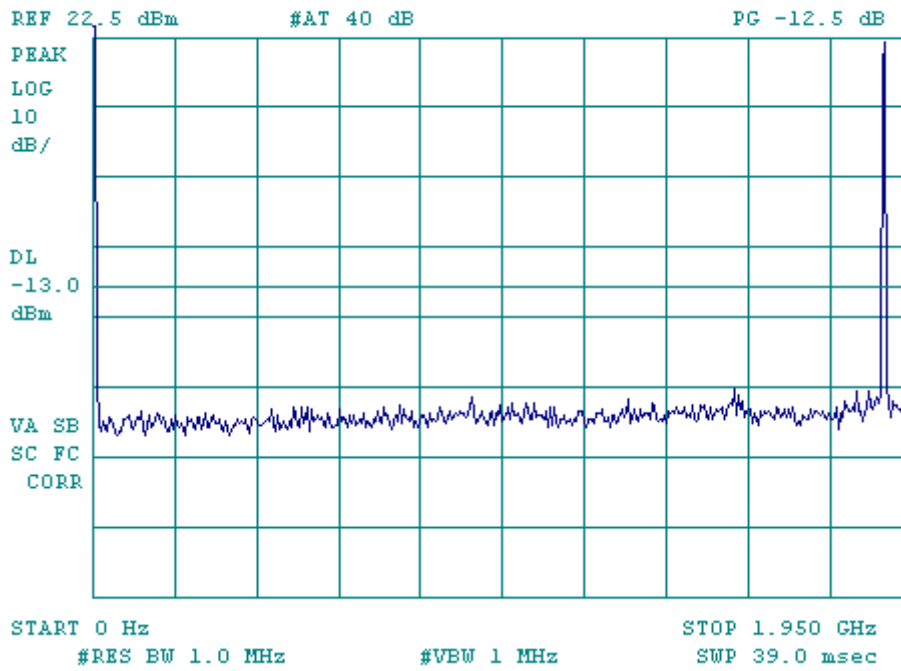
REF 22.5 dBm #AT 30 dB PG -12.5 dB



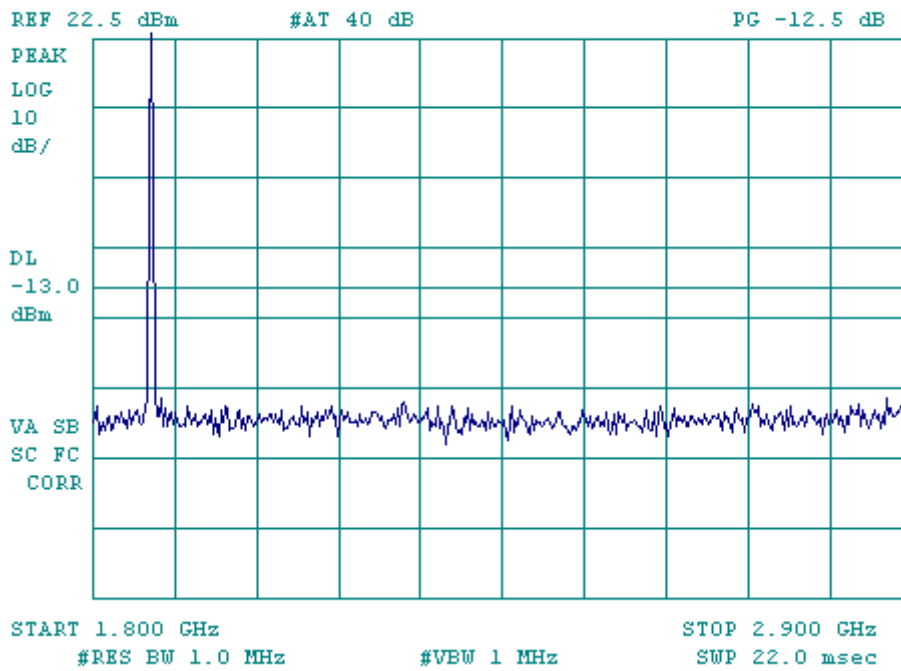
#RES BW 1.0 MHz #VBW 1 MHz SWP 351 msec

Ch600

15:23:07 SEP 17, 2001

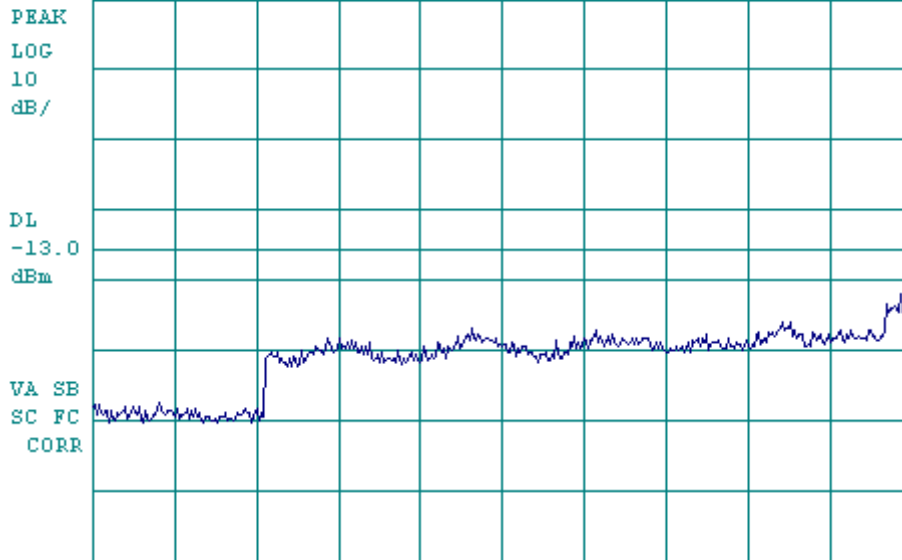


15:24:42 SEP 17, 2001



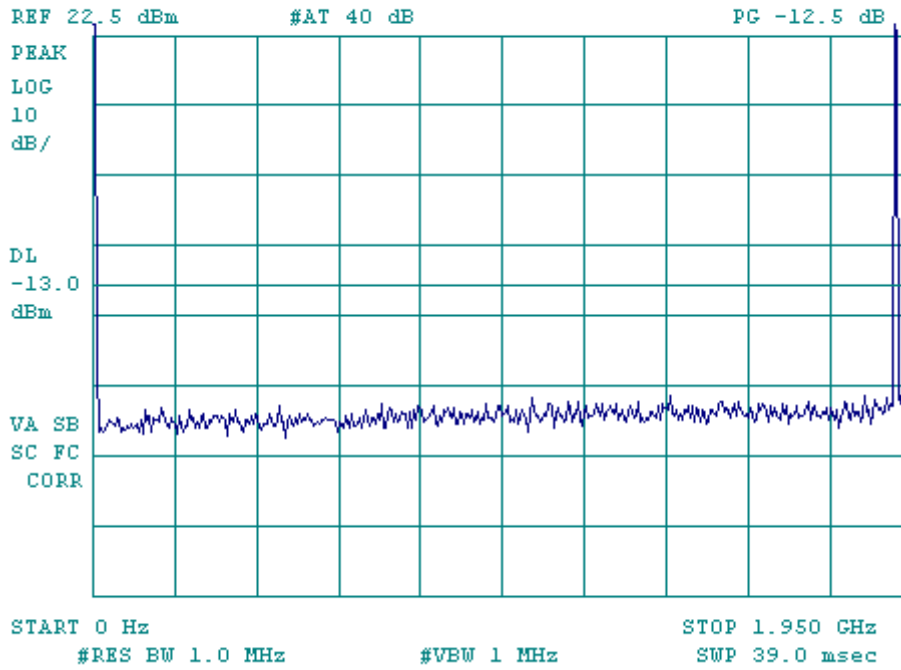
15:25:35 SEP 17, 2001

REF 22.5 dBm #AT 30 dB PG -12.5 dB

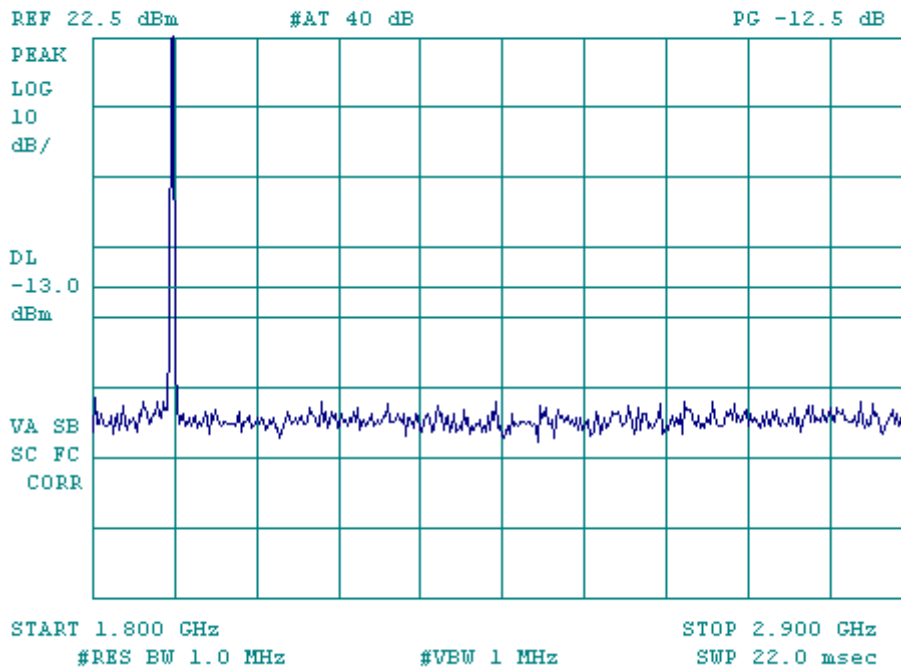


Ch1175

07:12:23 SEP 18, 2001

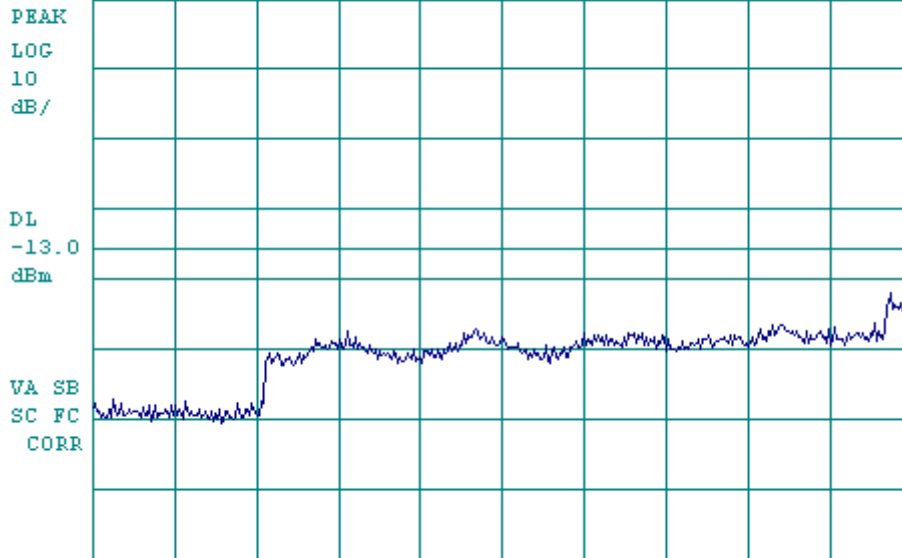


07:15:13 SEP 18, 2001



07:16:11 SEP 18, 2001

REF 22.5 dBm #AT 30 dB PG -12.5 dB



START 2.90 GHz STOP 20.00 GHz
#RES BW 1.0 MHz #VBW 1 MHz SWP 351 msec