

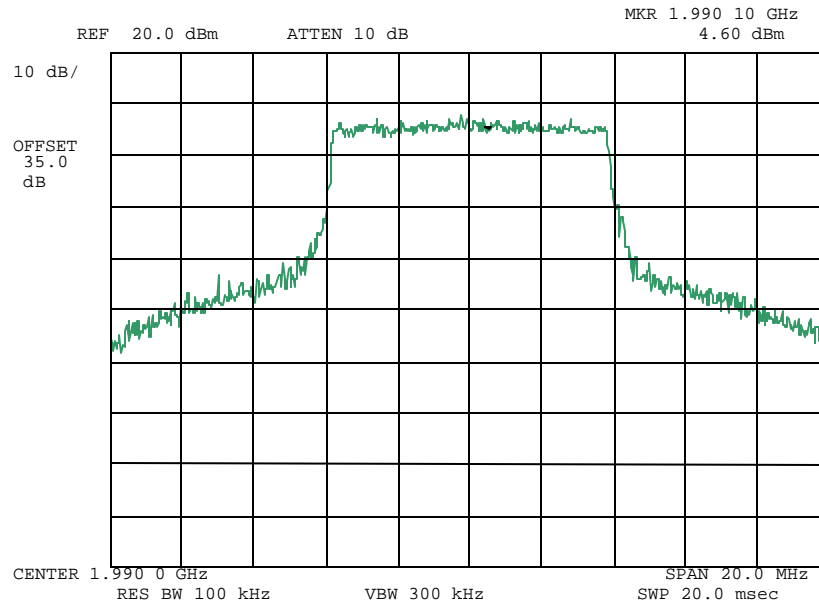
Name of Test: Emission Masks (Occupied Bandwidth)

### Measurement Results

g0610028: 2006-Jan-26 Thu 14:08:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
64QAM  
LOW CHANNEL

*Fred Chastain*

Performed by:

Fred Chastain, Test Technician

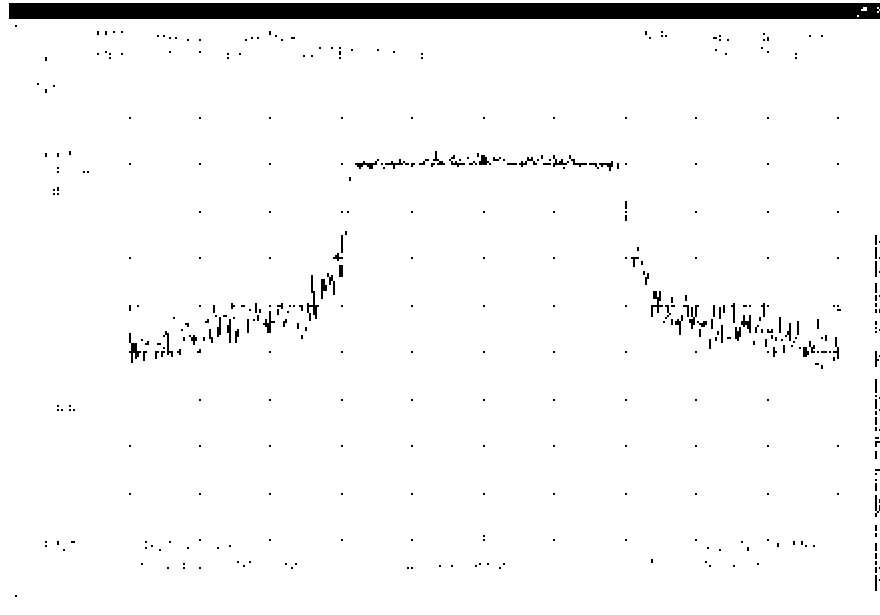
**Name of Test:** Emission Masks (Occupied Bandwidth)

**Measurement Results**

g0610030: 2006-Jan-26 Thu 14:11:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
64QAM  
MID CHANNEL

*Michael D Wyman*

Performed by:

Michael Wyman, Test Engineer

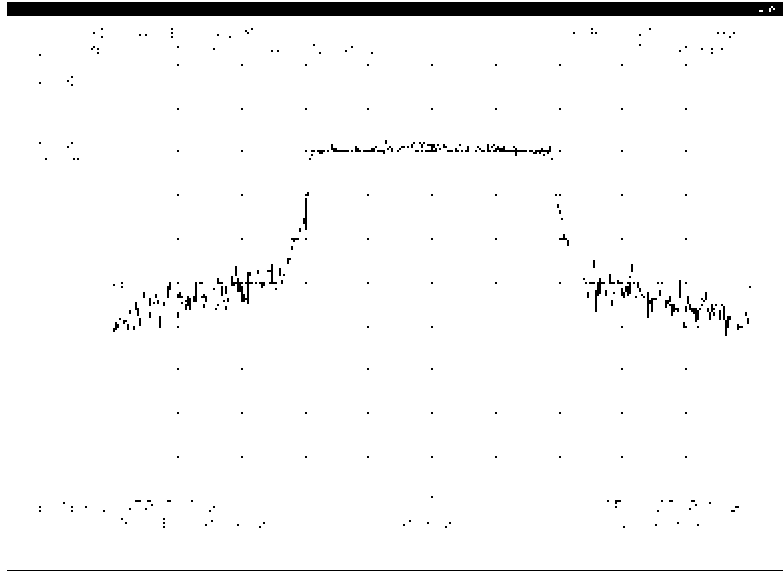
**Name of Test:** Emission Masks (Occupied Bandwidth)

**Measurement Results**

g0610030: 2006-Jan-26 Thu 14:11:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
64QAM  
HI CHANNEL

*Michael D Wyman*

Performed by:

Michael Wyman, Test Engineer

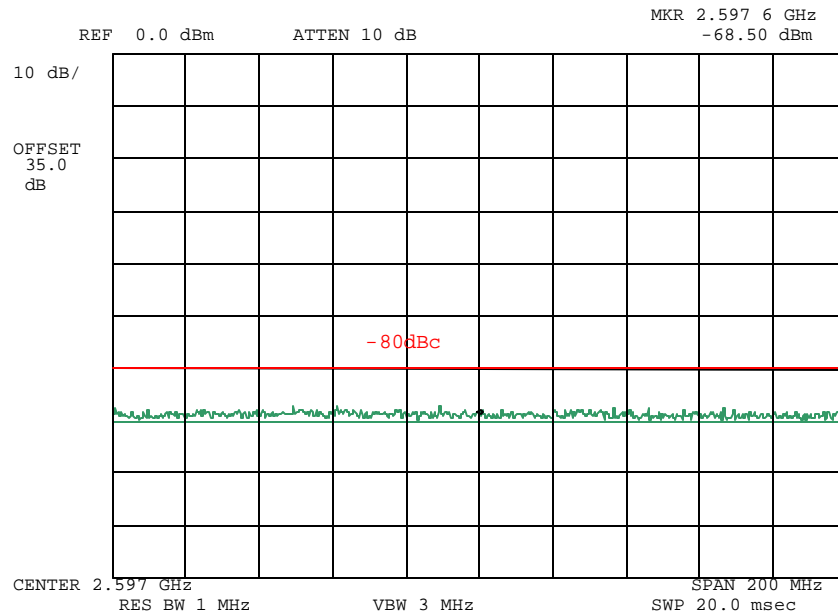
Name of Test: Emission Masks (Occupied Bandwidth)

### Measurement Results

g0610031: 2006-Jan-26 Thu 14:12:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
64QAM  
UPPER BAND EDGE

*Fred Chastain*

Performed by:

Fred Chastain, Test Technician

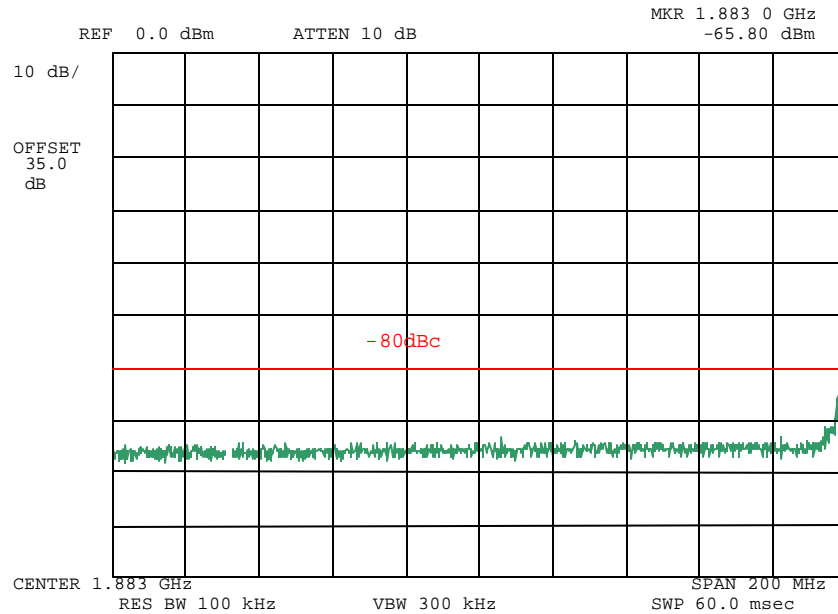
Name of Test: Emission Masks (Occupied Bandwidth)

### Measurement Results

g0610032: 2006-Jan-26 Thu 14:13:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
64QAM  
LOWER BAND EDGE

*Fred Chastain*

Performed by:

Fred Chastain, Test Technician

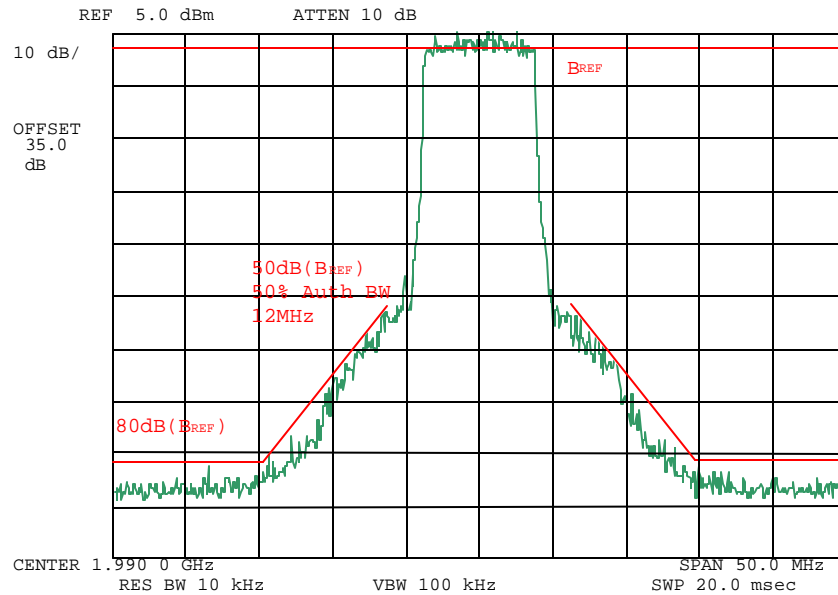
Name of Test: Emission Masks (Occupied Bandwidth)

### Measurement Results

g0610033: 2006-Jan-26 Thu 14:14:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
16QAM  
LOW CHANNEL  
MASK 74.637(a)(2)(i)

*Fred Chastain*

Performed by:

Fred Chastain, Test Technician

Name of Test: Emission Masks (Occupied Bandwidth)

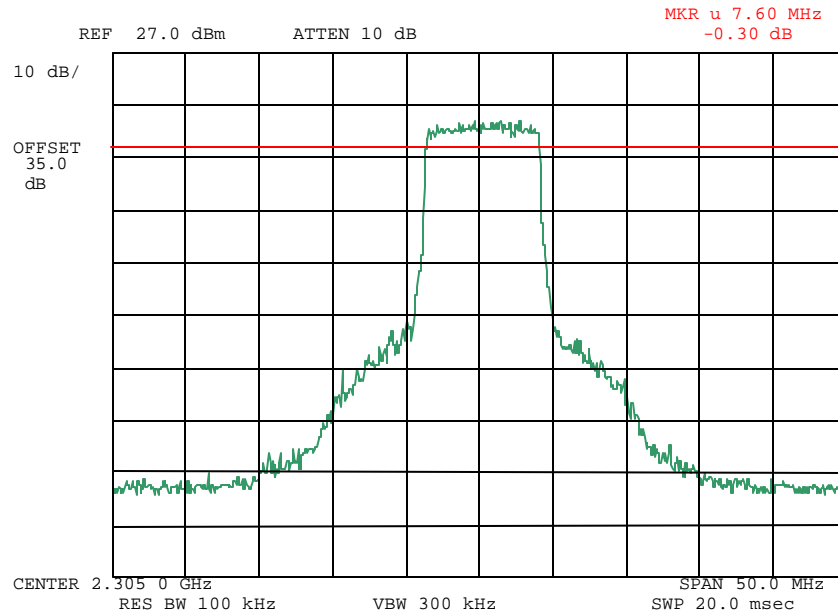
Name of Test: Emission Masks (Occupied Bandwidth)

### Measurement Results

g0610034: 2006-Jan-26 Thu 14:15:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
16QAM  
MID CHANNEL  
(OCC BW @ 6dB = 7.60MHz)

*Fred Chastain*

Performed by:

Fred Chastain, Test Technician

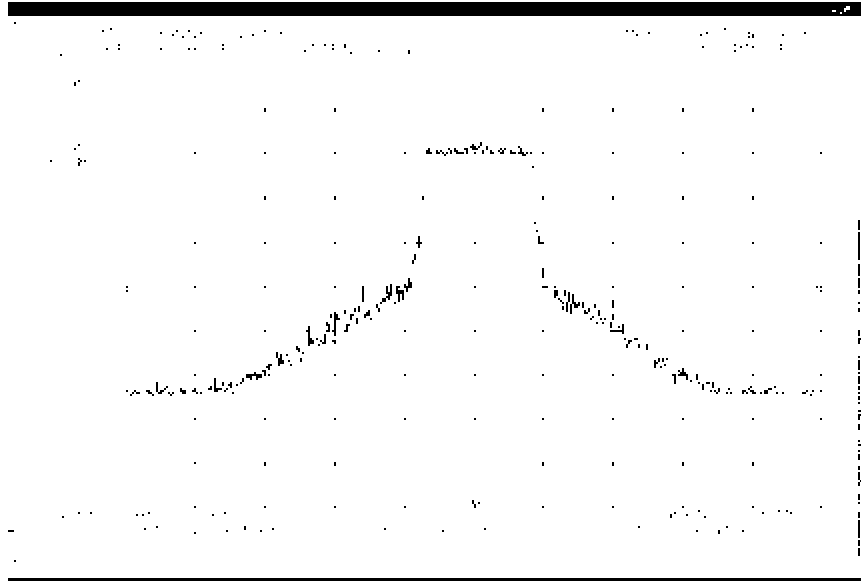
**Name of Test:** Emission Masks (Occupied Bandwidth)

**Measurement Results**

g0610035: 2006-Jan-26 Thu 14:15:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
16QAM  
MID CHANNEL

Performed by:

Michael Wyman, Test Engineer



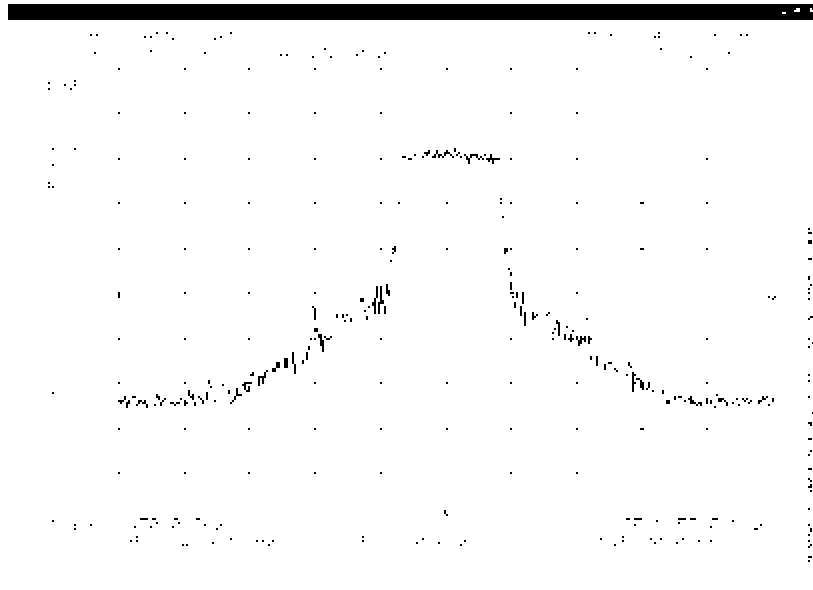
**Name of Test:** Emission Masks (Occupied Bandwidth)

**Measurement Results**

g0610035: 2006-Jan-26 Thu 14:15:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
16QAM  
HIGH CHANNEL

*Michael D Wyman*

Performed by:

Michael Wyman, Test Engineer

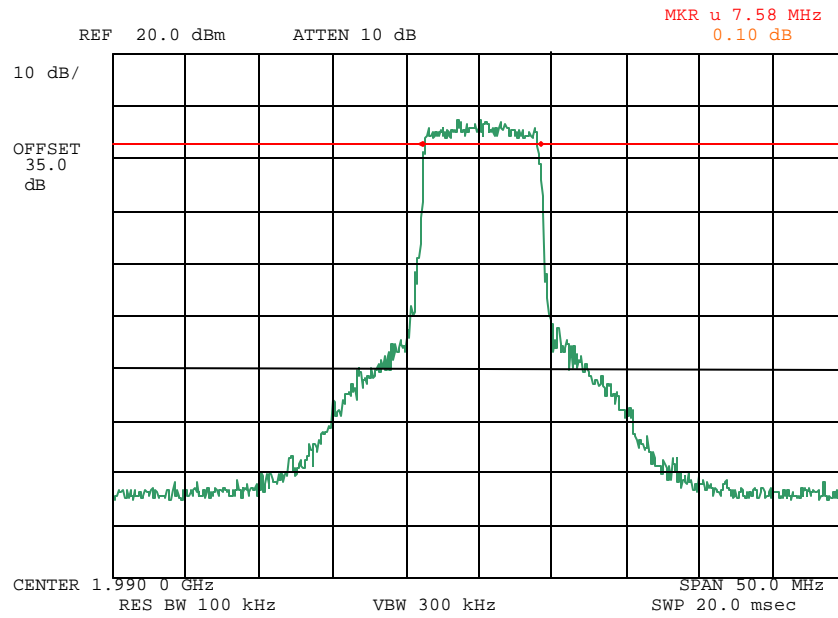
**Name of Test:** Emission Masks (Occupied Bandwidth)

**Measurement Results**

g0610246: 2006-Jan-27 Fri 10:18:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
QPSK  
LOW CHANNEL  
(OCC BW @ 6dB = 7.58MHz)

*Fred Chastain*

Performed by:

Fred Chastain, Test Technician

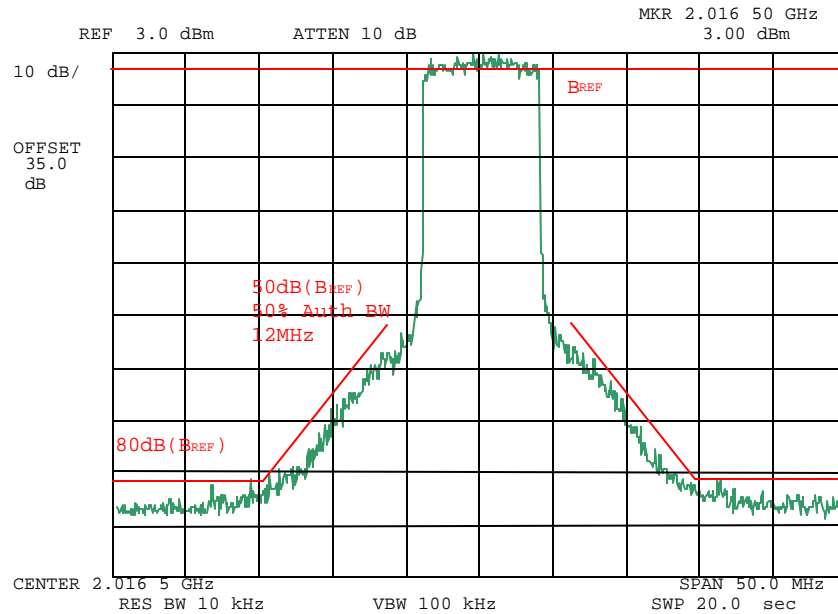
Name of Test: Emission Masks (Occupied Bandwidth)

### Measurement Results

g0610213: 2006-Jan-27 Fri 09:07:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
QPSK  
MID CHANNEL  
MASK 74.637(a)(2)(i)

*Fred Chastain*

Performed by:

Fred Chastain, Test Technician

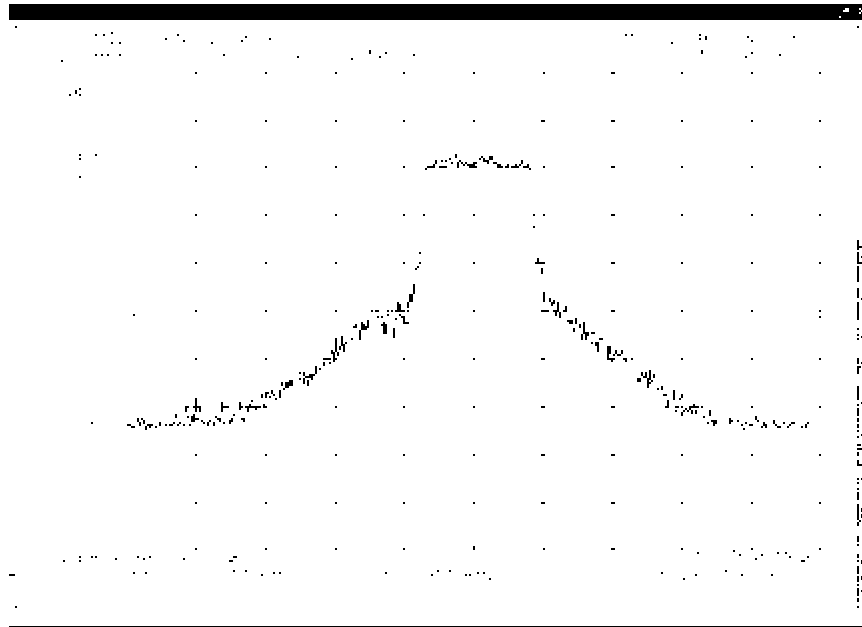
Name of Test: Emission Masks (Occupied Bandwidth)

### Measurement Results

g0610249: 2006-Jan-27 Fri 10:07:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
QPSK  
MID CHANNEL

*Michael D Wyman*

Performed by:

Michael Wyman, Test Engineer

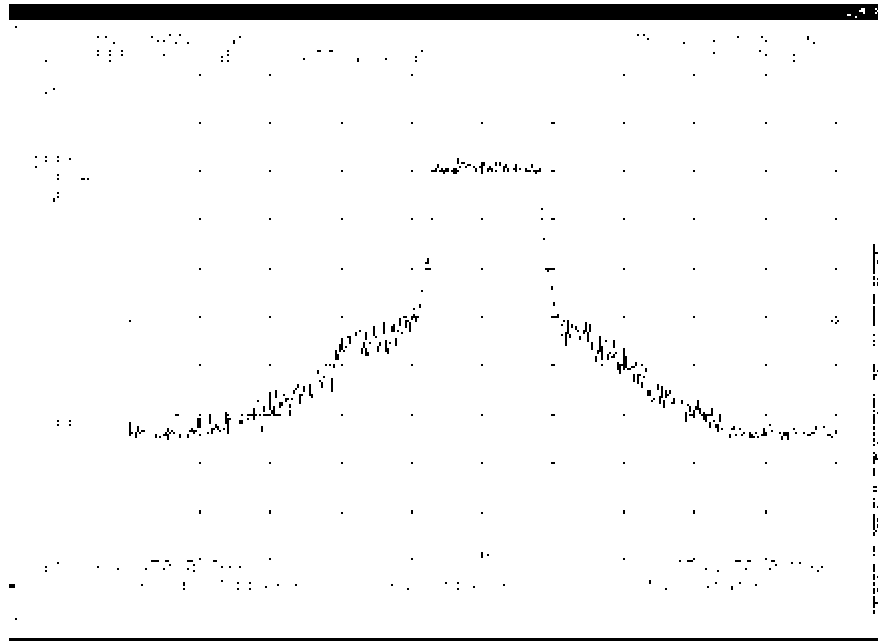
Name of Test: Emission Masks (Occupied Bandwidth)

### Measurement Results

g0610249: 2006-Jan-27 Fri 10:07:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
QPSK  
HIGH CHANNEL

*Michael D Wyman*

Performed by:

Michael Wyman, Test Engineer

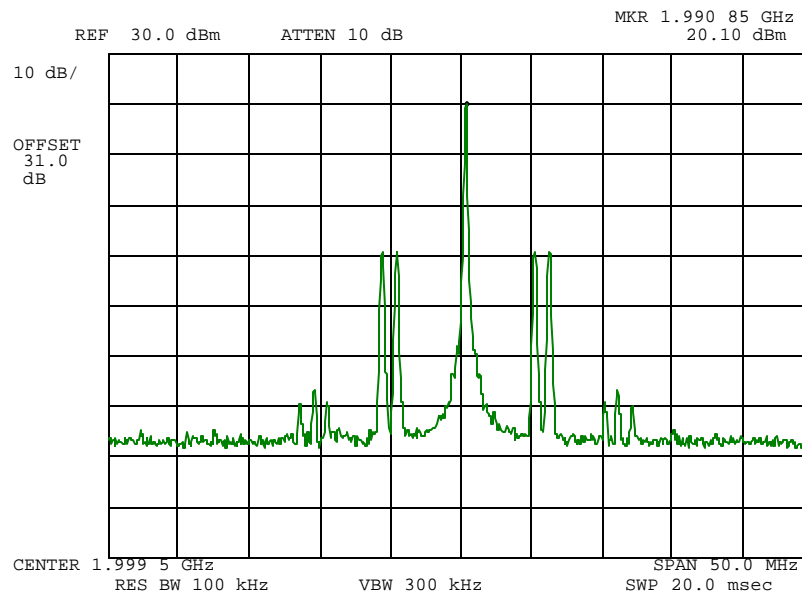
Name of Test: Emission Masks (Occupied Bandwidth)

### Measurement Results

g0610037: 2006-Jan-26 Thu 14:16:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:

Modulation:

HIGH

ANALOG

LOW CHANNEL

*Fred Chastain*

Performed by:

Fred Chastain, Test Technician

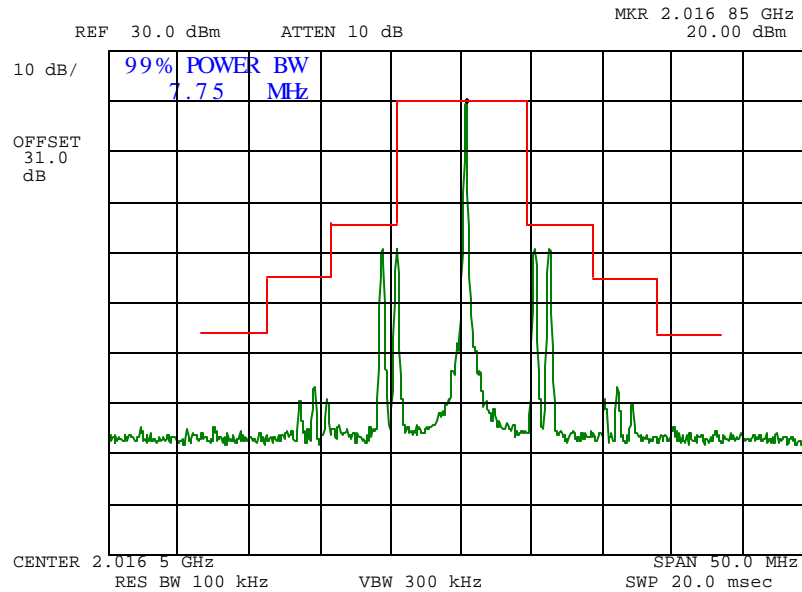
Name of Test: Emission Masks (Occupied Bandwidth)

### Measurement Results

g0610038: 2006-Jan-26 Thu 14:16:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
ANALOG  
MID CHANNEL  
MASK 74.637(a)

*Fred Chastain*

Performed by:

Fred Chastain, Test Technician

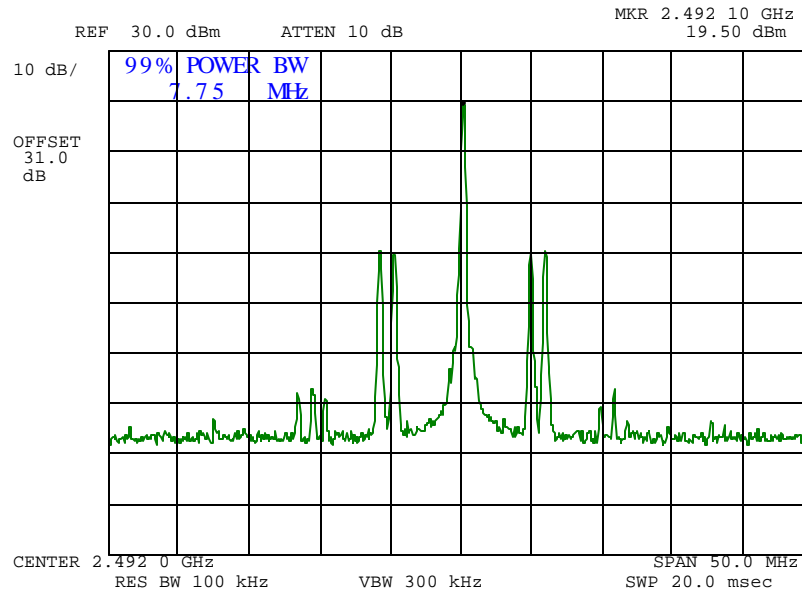
Name of Test: Emission Masks (Occupied Bandwidth)

### Measurement Results

g0610039: 2006-Jan-26 Thu 14:17:00

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:  
Modulation:

HIGH  
ANALOG  
HIGH CHANNEL

*Fred Chastain*

Performed by:

Fred Chastain, Test Technician



**Name of Test:** Frequency Stability (Temperature Variation)

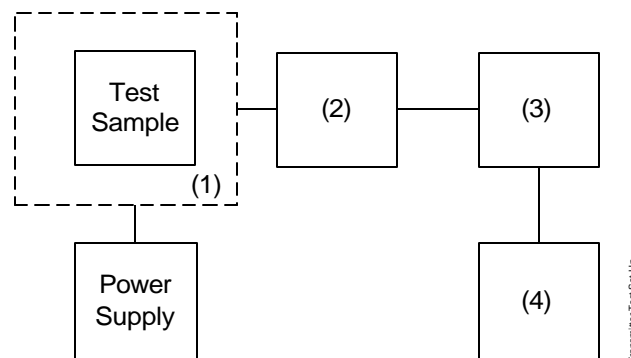
**Specification:** 47 CFR 2.1055(a)(1)

**Guide:** ANSI/TIA/EIA-603-1992, Paragraph 2.2.2

### Measurement Procedure

- A) The EUT and test equipment were set up as shown on the following page.
- B) With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was noted within one minute.
- C) With power OFF, the temperature was raised in 10°C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
- D) The temperature tests were performed for the worst case.

### Transmitter Test Set-Up: Temperature Variation

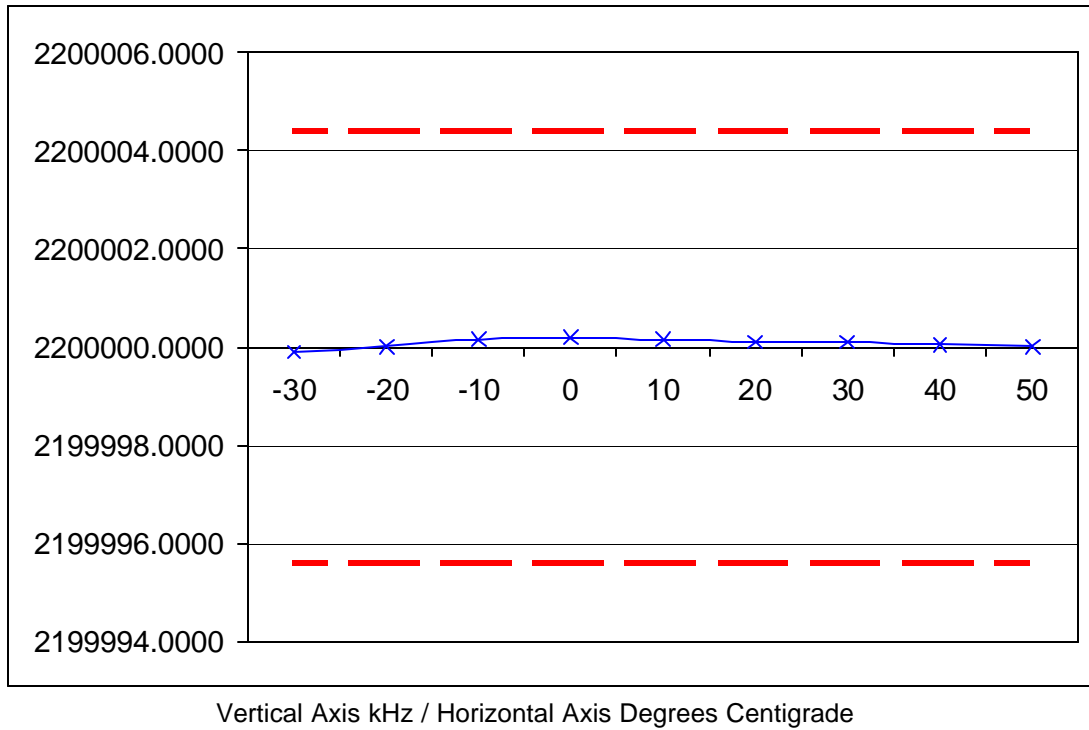


Asset	Description	s/n	Cycle	Last Cal
<b>(1) Temperature, Humidity, Vibration</b>				
X i00027	Tenney Temp. Chamber	9083-765-234	NCR	
<b>(2) Coaxial Attenuator</b>				
X i00231/2	PASTERNAK PE7021-30 (30 dB)	231 or 232	NCR	
i00122/3	NARDA 766 (10 dB)	7802 or 7802A	NCR	
<b>(3) RF Power</b>				
X i00067	HP 8920A Communications TS	3345U01242	12 mo.	Jun-05
<b>(4) Frequency Counter</b>				
X i00067	HP 8920A Communications TS	3345U01242	12 mo.	Jun-05

Name of Test: Frequency Stability (Temperature Variation)

### Measurement Results

State: Ambient Temperature: 23°C ± 3°C



*Fred Chastain*

Performed by: Fred Chastain, Test Technician

**Name of Test:** Frequency Stability (Voltage Variation)

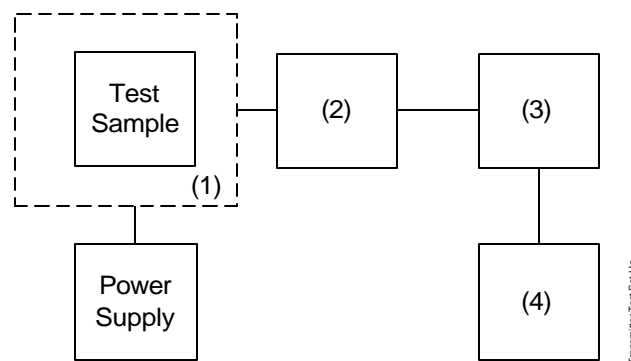
**Specification:** 47 CFR 2.1055(d)(1)

**Guide:** ANSI/TIA/EIA-603-1992, Paragraph 2.2.2

### Measurement Procedure

- A) The EUT was placed in a temperature chamber (if required) at  $25 \pm 5^\circ\text{C}$  and connected as shown below.
- B) The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
- C) The variation in frequency was measured for the worst case.

### Transmitter Test Set-Up: Voltage Variation



Asset	Description	s/n	Cycle	Last Cal
<b>(1) Temperature, Humidity, Vibration</b>				
i00027	Tenney Temp. Chamber	9083-765-234	NCR	
<b>(2) Coaxial Attenuator</b>				
X i00231/2	PASTERNAK PE7021-30 (30 dB)	231 or 232	NCR	
i00122/3	NARDA 766 (10 dB)	7802 or 7802A	NCR	
<b>(3) RF Power</b>				
X i00020	HP 8901A Power Mode	2105A01087	12 mo.	Apr-05
<b>(4) Frequency Counter</b>				
X i00020	HP 8901A Frequency Mode	2105A01087	12 mo.	Apr-05

**Results:** Frequency Stability (Voltage Variation)

State: Ambient Temperature: 23°C ± 3°C

Limit, ppm = 2.0  
 Limit, Hz = 4400.0  
 Battery End Point (Voltage) = 8.0

% of STV	Voltage	Frequency, MHz	Change, Hz	Change, ppm
115	13.8	2200.000200	200.0	+0.05
100	12.0	2200.000200	200.0	+0.05
85	10.2	2200.000200	200.0	+0.05
75	9.0	2200.000150	150.0	+0.03



Performed by: Fred Chastain, Test Technician

**Name of Test:** Necessary Bandwidth and Emission Bandwidth

**Specification:** 47 CFR 2.202(g)

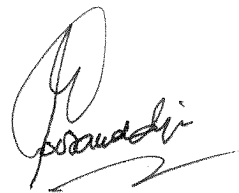
Modulation = QAM, QPSK

Mem	Part Number	Rate (Mbit/s)	COFDM Mode	MPEG	Video Rate (Mbit/s)	Video LPF	Low Delay Mode	Audio Rate (kbit/s)
0	PBSW-TDMP - 0303-05-00	18.096257	64-QAM, 1/2, 1/32	422P@ML, GOP4	16.59	No	No	192
1	PBSW-TDMP - 0303-05-01	18.096257	64-QAM, 1/2, 1/32	SP@ML, infinite GOP,	11.81	No	Yes	192
2	PBSW-TDMP - 0303-05-02	12.06417	16-QAM, 1/2, 1/32	MP@ML, GOP4	10.00	Yes	No	192
3	PBSW-TDMP - 0303-05-03	12.06417	16-QAM, 1/2, 1/32	SP@ML, Infinite GOP, Intra-slice	8.00	Yes	Yes	160
4	PBSW-TDMP - 0303-05-04	9.048128	QPSK 3/4, 1/32	422P@ML, GOP4	7.79	Yes	No	192
5	PBSW-TDMP - 0303-05-05	9.048128	QPSK 3/4, 1/32	SP@ML, Infinite GOP, Intra-slice	6.00	Yes	Yes	192
6	PBSW-TDMP - 0303-05-06	6.032086	QPSK 1/2, 1/32	SP@ML, Infinite GOP	4.94	Yes	No	128
7	PBSW-TDMP - 0303-05-07	6.032086	QPSK 1/2, 1/32	MP@ML, GOP4	4.94	Yes	No	192

Measured as 7.8MHz Bandwidth worst case for all modes.  
 12M0 Emission Bandwidth used to comply with Mask 74.637(a)(2)(i)

Modulation = F3

Measured as 7.75MHz Bandwidth for all channel.  
 Complies with Mask 74.637(a)



Performed by:

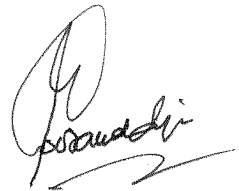
Hoosamuddin S. Bandukwala, Lab Director

END OF TEST REPORT

**Testimonial  
and  
Statement of Certification**

**This is to Certify:**

1. **That** the application was prepared either by, or under the direct supervision of, the undersigned.
2. **That** the technical data supplied with the application was taken under my direction and supervision.
3. **That** the data was obtained on representative units, randomly selected.
4. **That**, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data are true and correct.



Certifying Engineer:

Hoosamuddin S. Bandukwala, Lab  
Director