

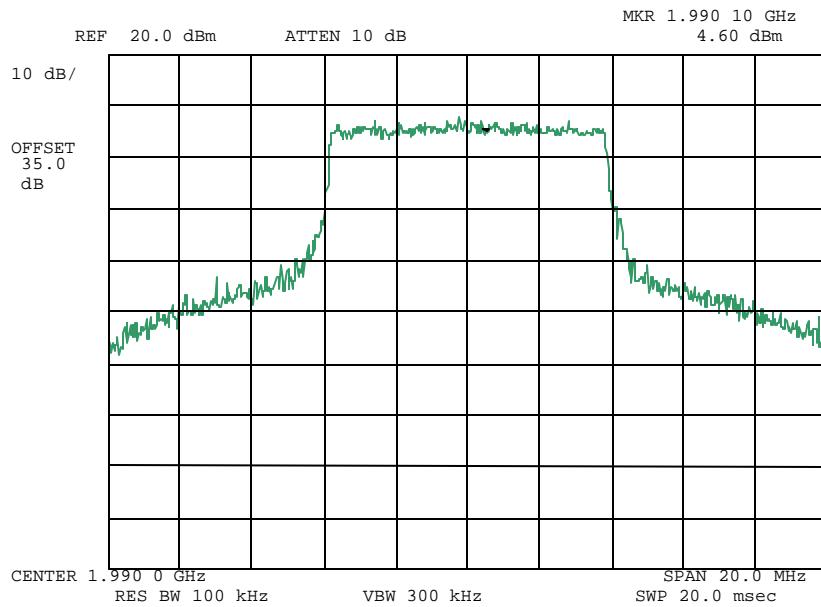
Name of Test: Emission Masks (Occupied Bandwidth)

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



Performed by:

Fred Chastain, Test Technician

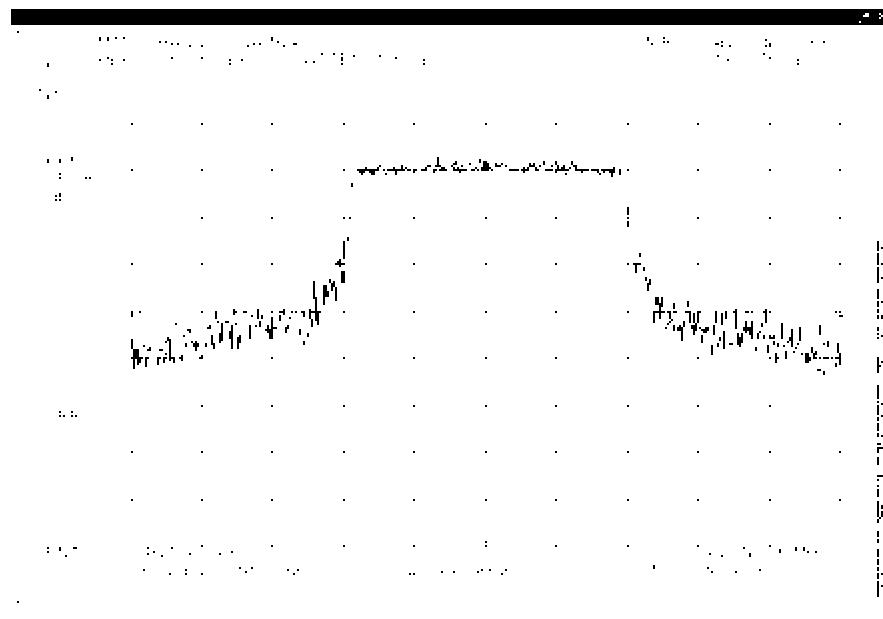
Name of Test: Emission Masks (Occupied Bandwidth)

Measurement Results

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

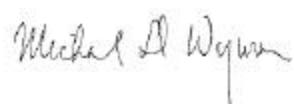
State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:
Modulation:

HIGH
64QAM
MID CHANNEL



Performed by:

Michael Wyman, Test Engineer

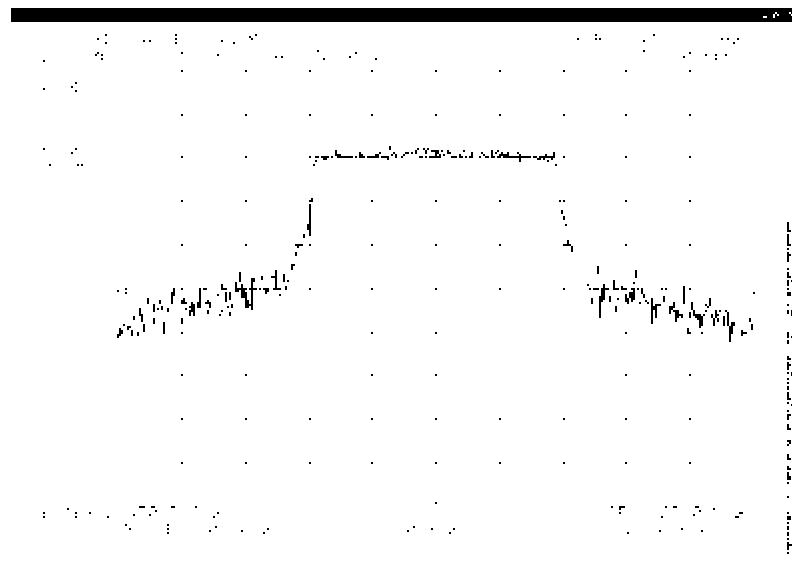
Name of Test: Emission Masks (Occupied Bandwidth)

Measurement Results

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

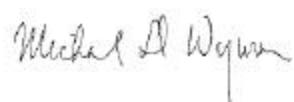
State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:
Modulation:

HIGH
64QAM
HI CHANNEL



Performed by:

Michael Wyman, Test Engineer

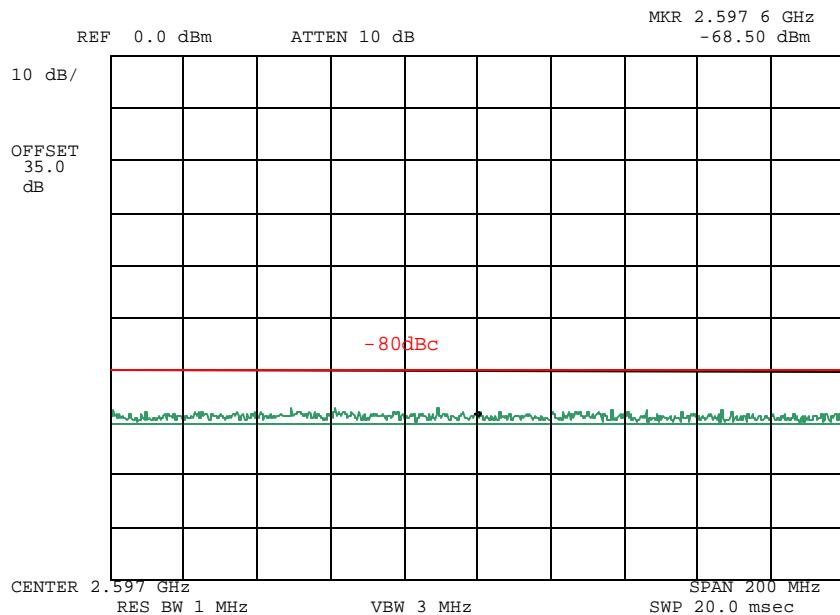
Name of Test: Emission Masks (Occupied Bandwidth)

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



Performed by:

Fred Chastain, Test Technician

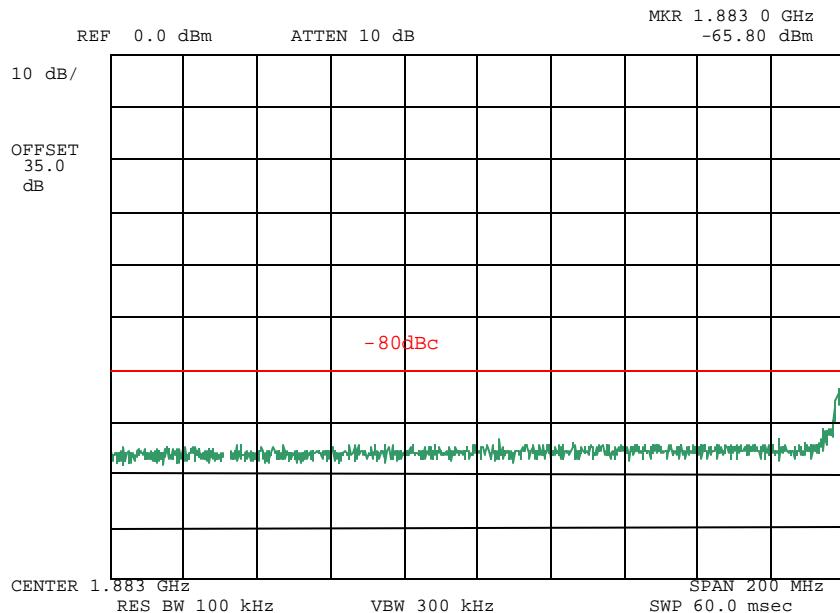
Name of Test: Emission Masks (Occupied Bandwidth)

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



Performed by:

Fred Chastain, Test Technician

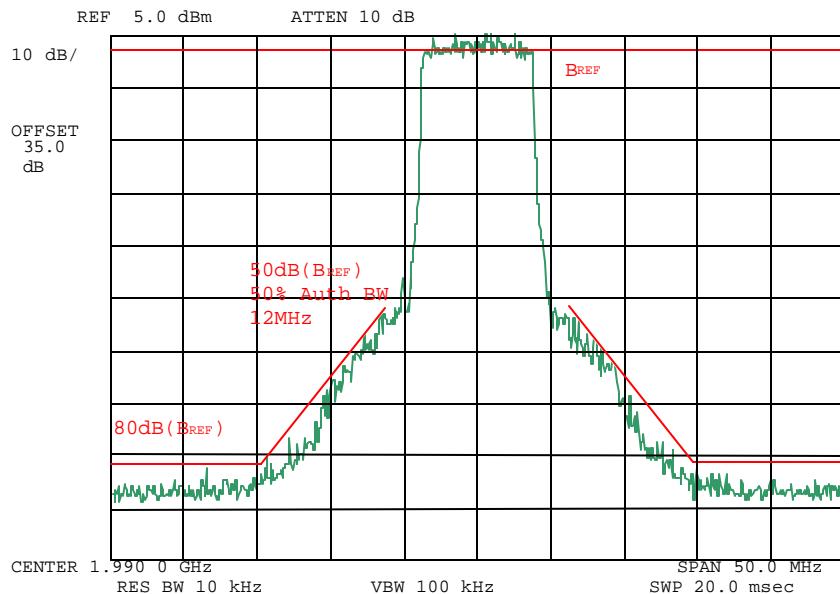
Name of Test: Emission Masks (Occupied Bandwidth)

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)



Performed by:

Fred Chastain, Test Technician

Name of Test: Emission Masks (Occupied Bandwidth)

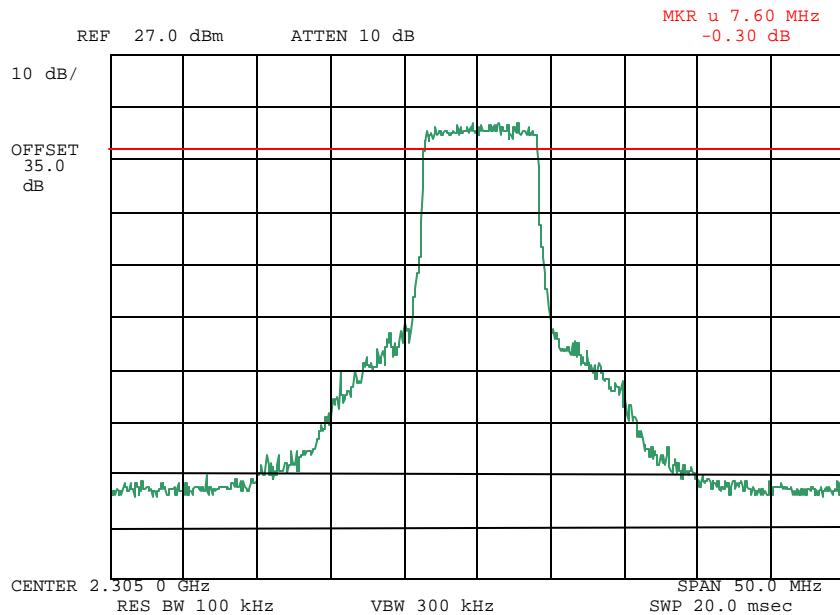
Name of Test: Emission Masks (Occupied Bandwidth)

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)



Performed by:

Fred Chastain, Test Technician

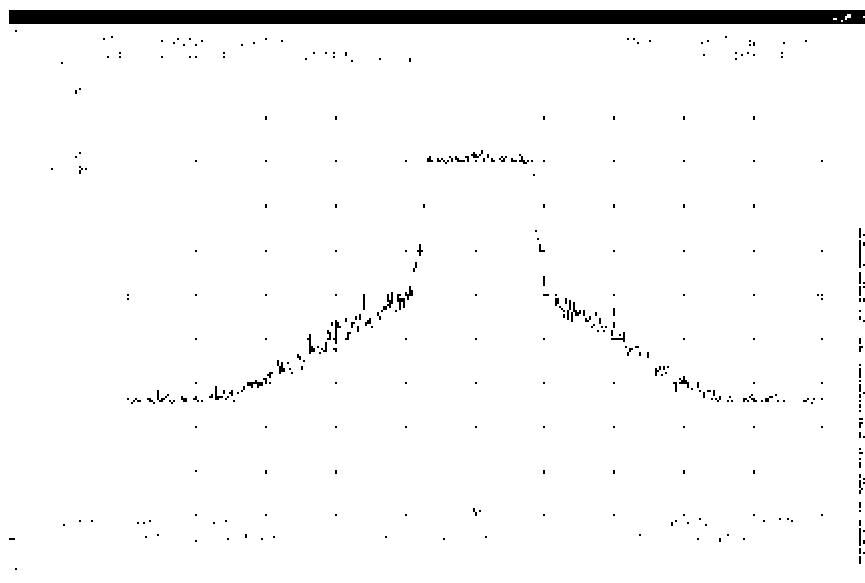
Name of Test: Emission Masks (Occupied Bandwidth)

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

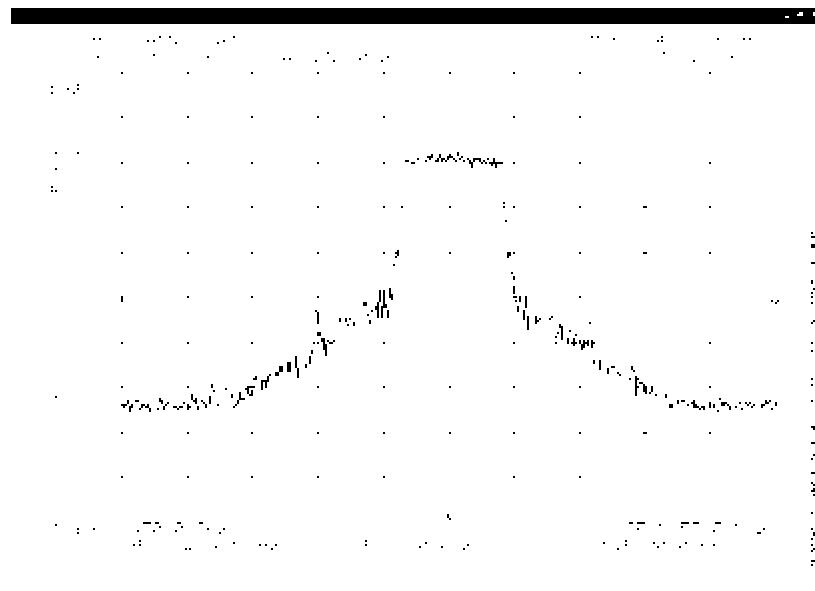
Name of Test: Emission Masks (Occupied Bandwidth)

Measurement Results

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

State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:

HIGH

Modulation:

16QAM

HIGH CHANNEL

Performed by:

Michael Wyman, Test Engineer

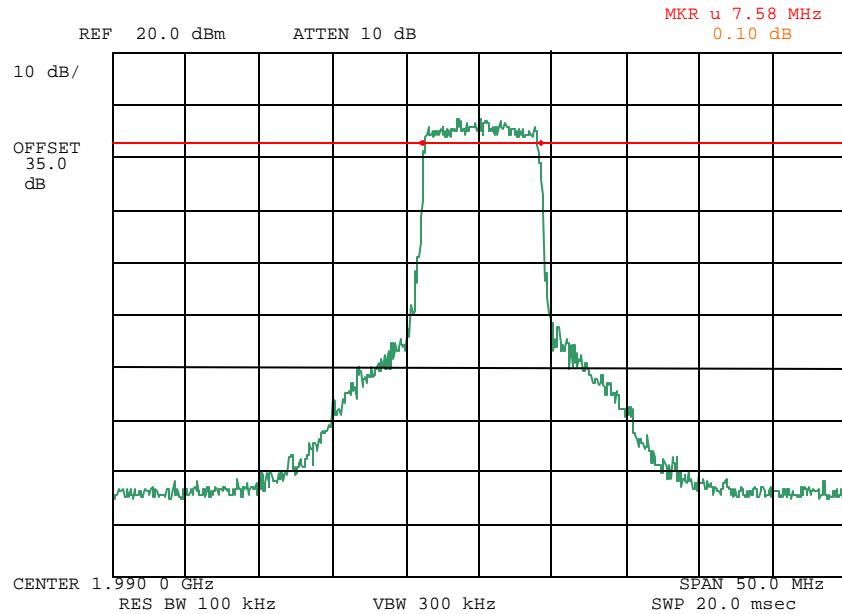
Name of Test: Emission Masks (Occupied Bandwidth)

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)



Performed by:

Fred Chastain, Test Technician

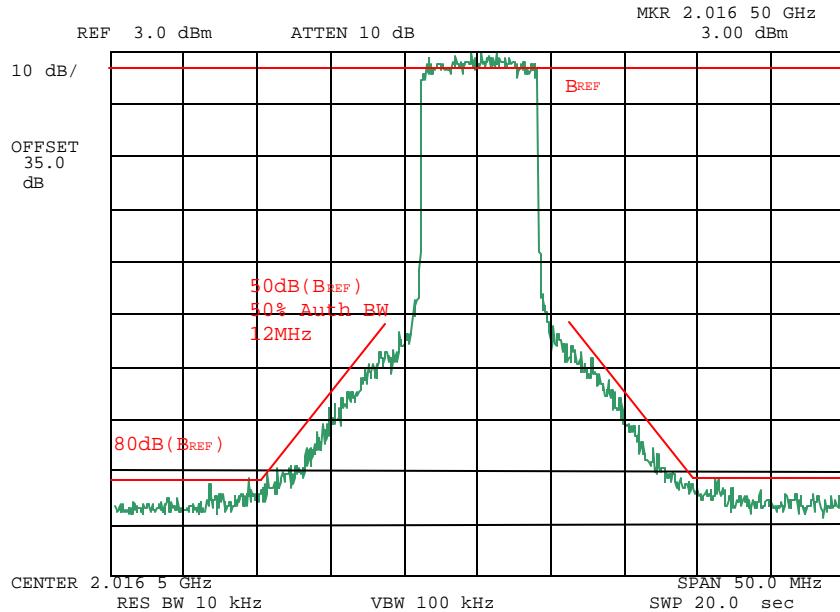
Name of Test: Emission Masks (Occupied Bandwidth)

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)



Performed by:

Fred Chastain, Test Technician

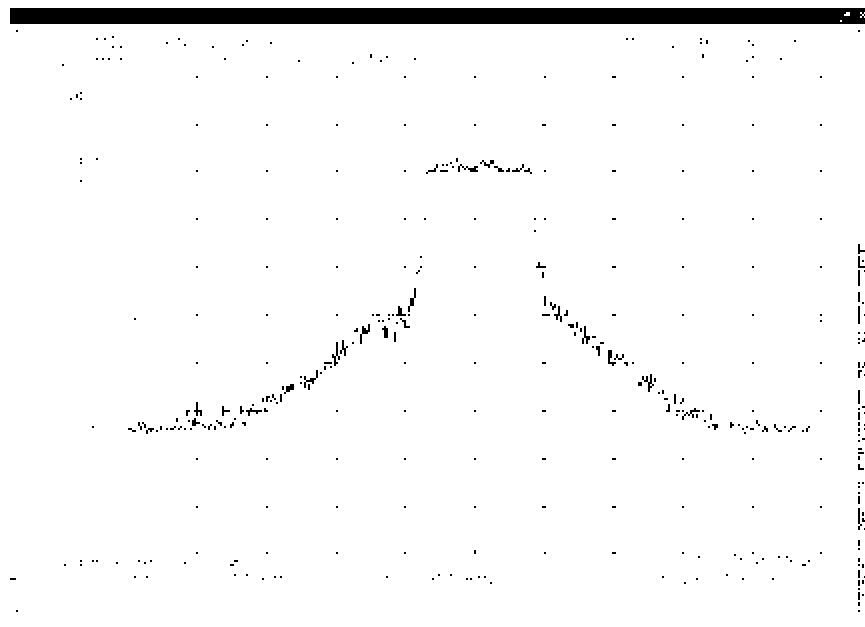
Name of Test: Emission Masks (Occupied Bandwidth)

Measurement Results

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

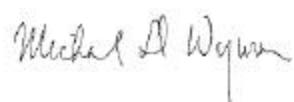
State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:
Modulation:

HIGH
QPSK
MID CHANNEL



Performed by:

Michael Wyman, Test Engineer

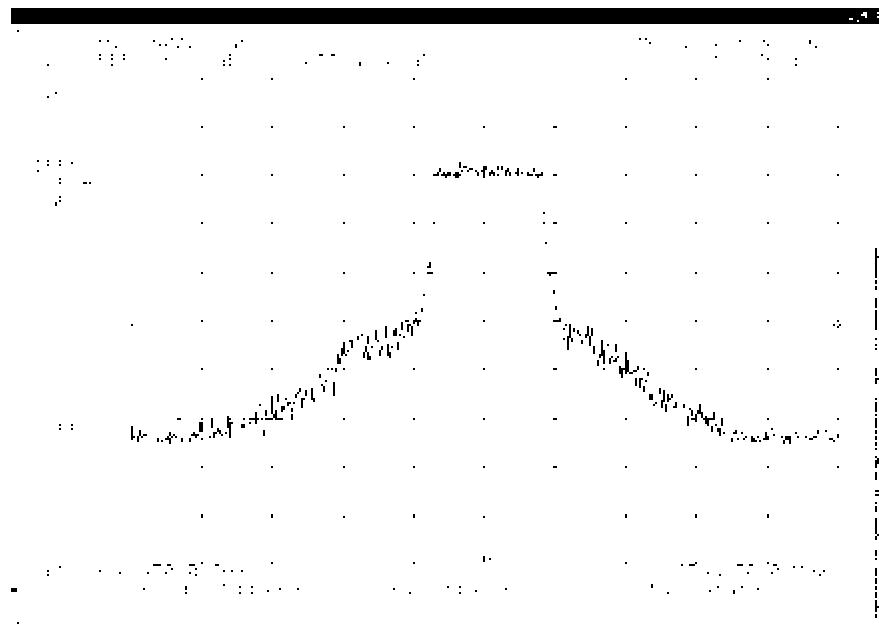
Name of Test: Emission Masks (Occupied Bandwidth)

Measurement Results

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

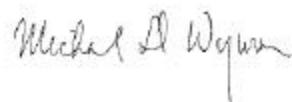
State: 2:High Power

Ambient Temperature: 23°C ± 3°C



Power:
Modulation:

HIGH
QPSK
HIGH CHANNEL



Performed by:

Michael Wyman, Test Engineer

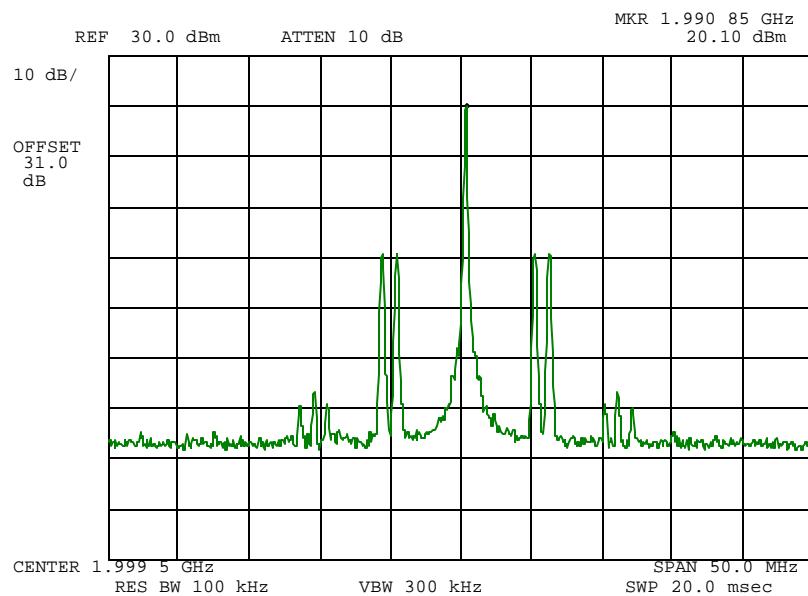
Name of Test: Emission Masks (Occupied Bandwidth)

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



Performed by:

Fred Chastain, Test Technician

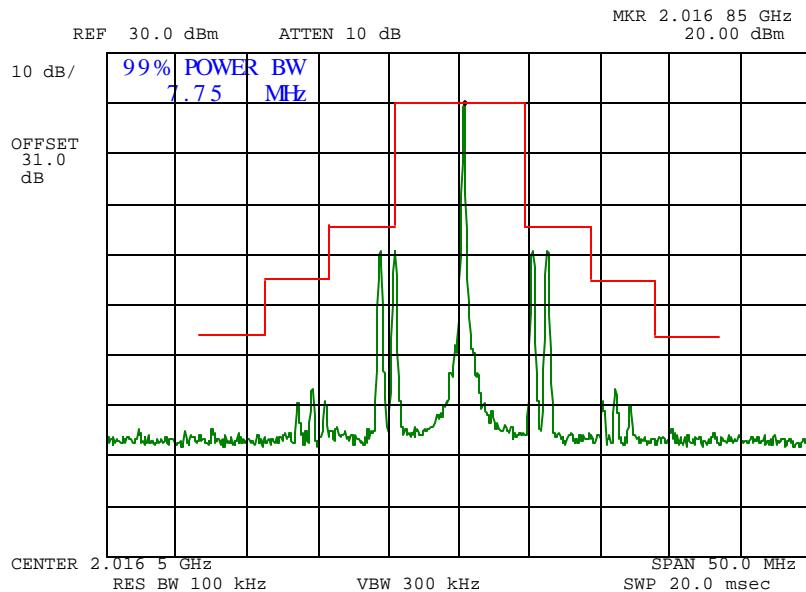
Name of Test: Emission Masks (Occupied Bandwidth)

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)

Performed by:

Fred Chastain, Test Technician

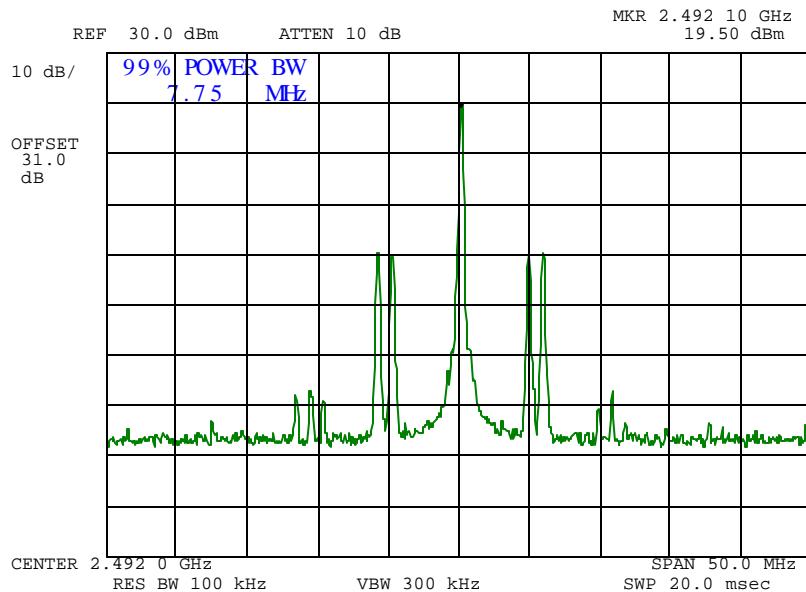
Name of Test: Emission Masks (Occupied Bandwidth)

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



Performed by:

Fred Chastain, Test Technician

Name of Test: Frequency Stability (Temperature Variation)

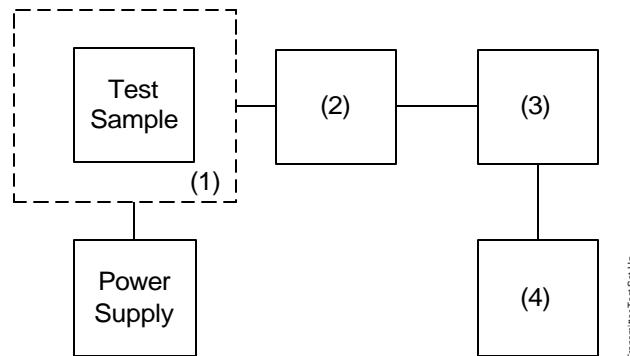
Specification: 47 CFR 2.1055(a)(1)

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



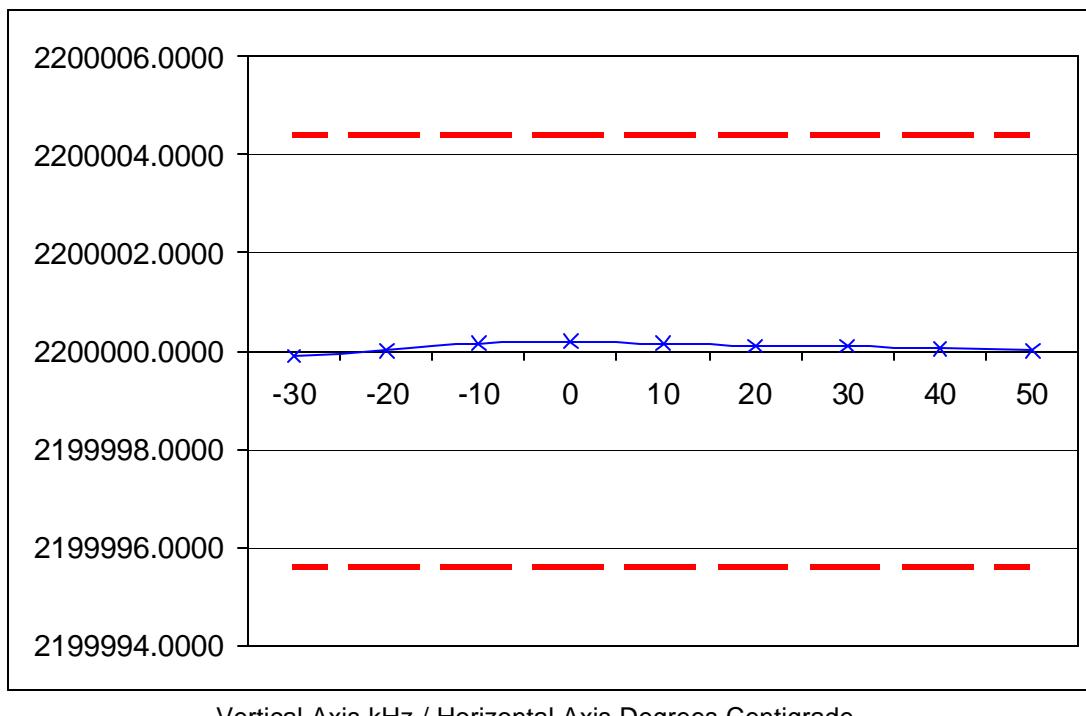
Asset	Description	s/n	Cycle	Last Cal
(1) Temperature, Humidity, Vibration				
X i00027	Tenney Temp. Chamber	9083-765-234	NCR	
(2) Coaxial Attenuator				
X i00231/2	PASTERNACK PE7021-30 (30 dB)	231 or 232	NCR	
i00122/3	NARDA 766 (10 dB)	7802 or 7802A	NCR	
(3) RF Power				
X i00067	HP 8920A Communications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

Name of Test: Frequency Stability (Temperature Variation)

Measurement Results

State:

Ambient Temperature: $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$



Performed by:


Fred Chastain, Test Technician

Name of Test: Frequency Stability (Voltage Variation)

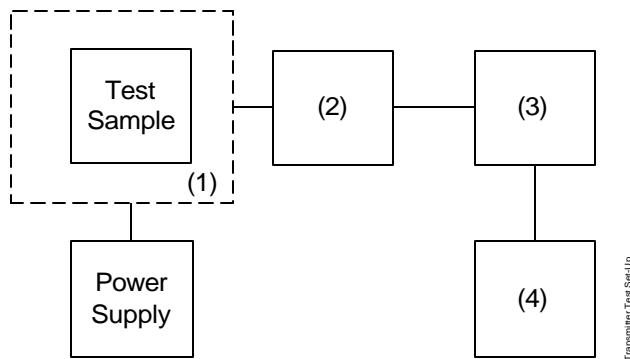
Specification: 47 CFR 2.1055(d)(1)

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

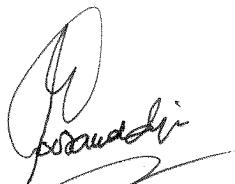
12M0 Emission Bandwidth used to comply with Mask 74.637(a)(2)(i)

Modulation = F3

Measured as 7.75MHz Bandwidth for all channel.

Complies with Mask 74.637(a)

Performed by:



Hoosamuddin S. Bandukwala, Lab Director

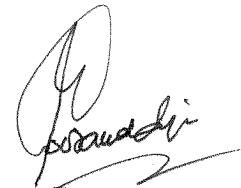
END OF TEST REPORT

**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