MOTOROLA

Global Telecom Solutions Sector

SC4812T-MC 1X/1X-DO @ 1.9 GHz CDMA BTS FCC ID: IHET6DY1
Test Report Exhibit

Equipment Authorization Measurements

FCC Identifier:	IHET6DY1
Name of Grantee:	Motorola, Inc
Equipment Class:	Licensed Non-Broadcast Transmitter
Notes:	SC4812T-MC 1X/1X-DO @ 1.9 GHz CDMA BTS

FCC CFR Title 47	Descripion	Section	Compliant
2.1046	RF Output Power	A	Yes
2.1047	Modulation Characteristics	B	Yes
2.1049	Occupied Bandwidth	C	Yes
2.1051	Spurious Emissions at Antenna Terminals	D	Yes
2.1053	Field Strength of Spurious Radiation	E	Yes
2.1055	Frequency Stability	F	Yes

Measurements Performed by:

Motorola EMC Facility
5555 North Beach Street
Fort Worth, TX 76137
Authorized Testing Laboratory
FCC Test Firm Registration No. 90809

Test Engineer **FCC/Package Coordination**

Melissa A VanDine

MOTOROLA 5/24/2004

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

SECTION A

RF Output Power - 47CFR2.1046

Channel	Tune Frequency (MHz)	Modulation	Power Level (W)	Power Level (dBm)	Power Level Measured (dBm)	IS-97 Limit (dB)	Pass/Fail
25	1931.25	1X-QPSK	45	46.53	46.90	+2/-4	Pass
25	1931.25	1X-DO-16QAM	45	46.53	46.81	+2/-4	Pass
25	1931.25	1X-DO-8PSK	45	46.53	46.76	+2/-4	Pass
1175	1988.75	1X-QPSK	45	46.53	46.59	+2/-4	Pass
1175	1988.75	1X-DO-16QAM	45	46.53	46.73	+2/-4	Pass
1175	1988.75	1X-DO-8PSK	45	46.53	46.54	+2/-4	Pass
25	1931.25	1X-QPSK	0.45	26.50	26.47	+2/-4	Pass
25	1931.25	1X-DO-16QAM	0.45	26.50	26.71	+2/-4	Pass
25	1931.25	1X-DO-8PSK	0.45	26.50	26.70	+2/-4	Pass
1175	1988.75	1X-QPSK	0.45	26.50	26.80	+2/-4	Pass
1175	1988.75	1X-DO-16QAM	0.45	26.50	26.71	+2/-4	Pass
1175	1988.75	1X-DO-8PSK	0.45	26.50	26.69	+2/-4	Pass

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

Summary of Radiated RF Measurements

Worst Case Radiated RF Spur Level

Transmit Channel	Power Level (W)	Spur Freq. (MHz)	Spur Level Measured (dBµV/meter)	Spur Level Measured (dBm*)	FCC Max Limit (dBm)	Pass/Fail
1175	45	7955.0	57.990	-37.24	-13.0	Pass

Summary of Conducted RF Measurements

Worst Case Conducted RF Spur Level

Transmit Channel	Power Level (W)	Freq. (MHz)	Spur Level Measured (dBm)	FCC Max Limit (dBm)	Pass/Fail
1175	45	5.96525	-25.20	-13	Pass

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

SECTION B

Modulation Characteristics - 47CFR2.1047

Summary of Modulation Characteristics

Channel	Tune Frequency (MHz)	Modulation	Power Level (W)	RHO Measured	RHO Spec	Pass/Fail
25	1931.25	1X-QPSK	45	0.98527	>0.912	Pass
25	1931.25	1X-DO-16QAM	45	0.99780	>0.912	Pass
25	1931.25	1X-DO-8PSK	45	0.99788	>0.912	Pass
1175	1988.75	1X-QPSK	45	0.98497	>0.912	Pass
1175	1988.75	1X-DO-16QAM	45	0.99807	>0.912	Pass
1175	1988.75	1X-DO-8PSK	45	0.99733	>0.912	Pass
25	1931.25	1X-QPSK	0.45	0.98526	>0.912	Pass
25	1931.25	1X-DO-16QAM	0.45	0.99736	>0.912	Pass
25	1931.25	1X-DO-8PSK	0.45	0.99818	>0.912	Pass
1175	1988.75	1X-QPSK	0.45	0.98521	>0.912	Pass
1175	1988.75	1X-DO-16QAM	0.45	0.99738	>0.912	Pass
1175	1988.75	1X-DO-8PSK	0.45	0.99794	>0.912	Pass

Note: The BTS was configured for maximum power out of 46.53 dBm, and minimum power of 26.5dBm respectively. The output power was set respectively to 45W, and 450mW using a power meter.

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

SECTION C

Occupied Bandwidth - 47CFR2.1049

Summary of Occupied Bandwidth

Channel	Frequency (MHz)	Modulation	Power Level (dBm)	Measured (MHz)	FCC Limit (MHz)	Pass/Fail
25	1931.25	1X-QPSK	46.90	1.2280	1.30	Pass
25	1931.25	1X-DO-16QAM	46.81	1.2732	1.30	Pass
25	1931.25	1X-DO-8PSK	46.76	1.2747	1.30	Pass
1175	1988.75	1X-QPSK	46.59	1.2224	1.30	Pass
1175	1988.75	1X-DO-16QAM	46.73	1.2753	1.30	Pass
1175	1988.75	1X-DO-8PSK	46.54	1.2761	1.30	Pass
25	1931.25	1X-QPSK	26.47	1.2198	1.30	Pass
25	1931.25	1X-DO-16QAM	26.71	1.2747	1.30	Pass
25	1931.25	1X-DO-8PSK	26.70	1.2761	1.30	Pass
1175	1988.75	1X-QPSK	26.80	1.2241	1.30	Pass
1175	1988.75	1X-DO-16QAM	26.71	1.2764	1.30	Pass
1175	1988.75	1X-DO-8PSK	26.69	1.2741	1.30	Pass

Note: The BTS was configured for maximum power out of 46.53 dBm, and minimum power of 26.5dBm respectively. The output power was set respectively to 45W, and 450mW using a power meter.

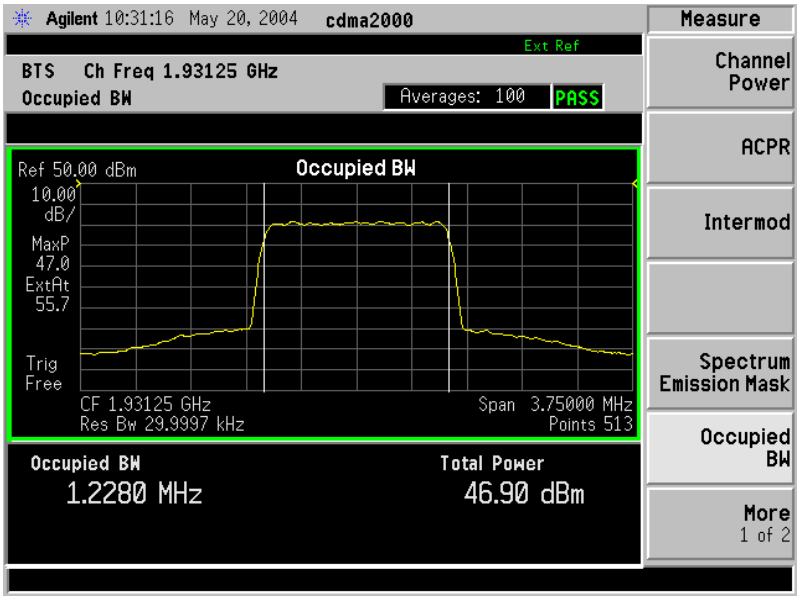
The following formula is used to obtain the correct power reference point from which the OBW of the CDMA signal is obtained. See example calculation below:

Power (measured in 30kHz bandwidth) + 10 log (1.2288 MHz/30kHz)

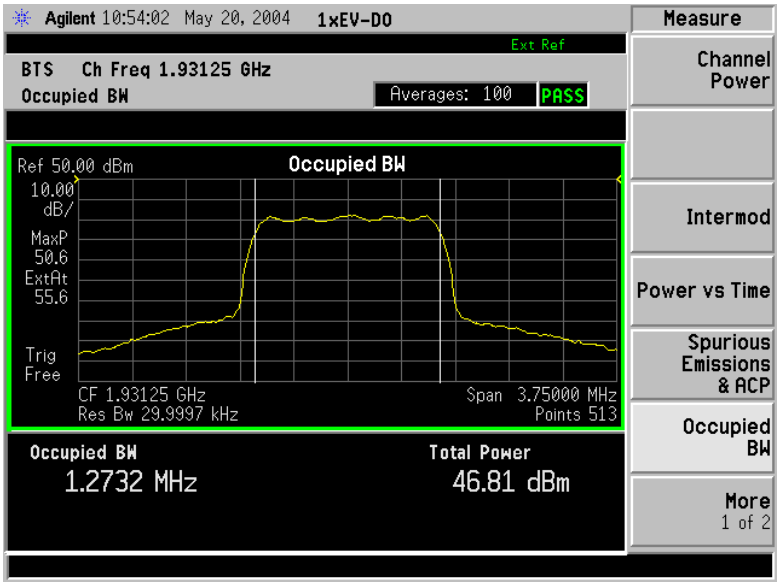
The occupied bandwidth is measured in a 30 kHz resolution bandwidth. Results are summarized above.

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

Occupied Bandwidth – 45W

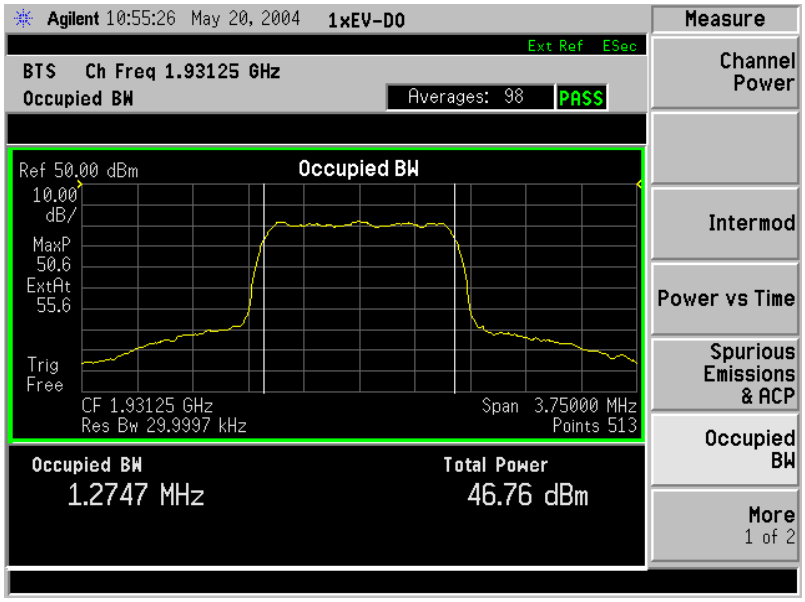


Channel 25 – 1.93125 GHz – QPSK

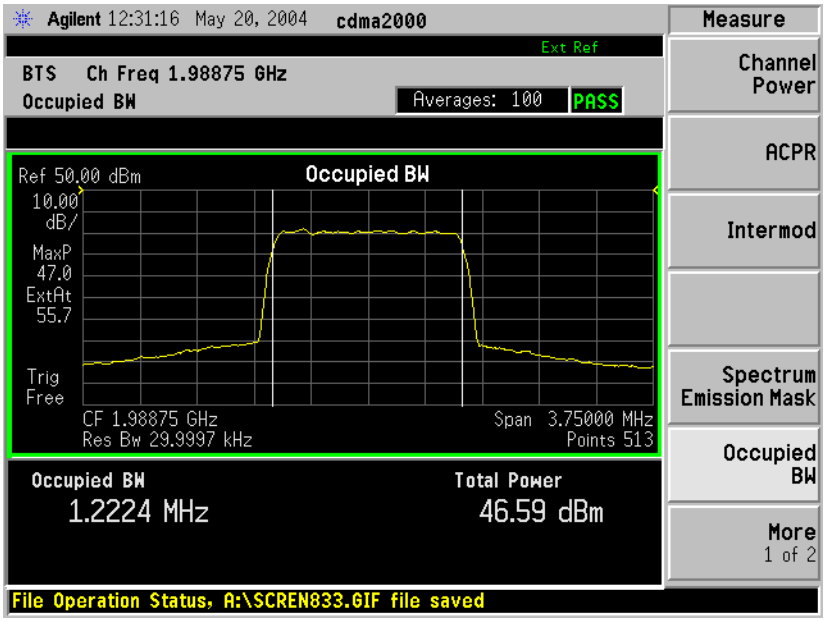


Channel 25 – 1.93125 GHz – 16QAM

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

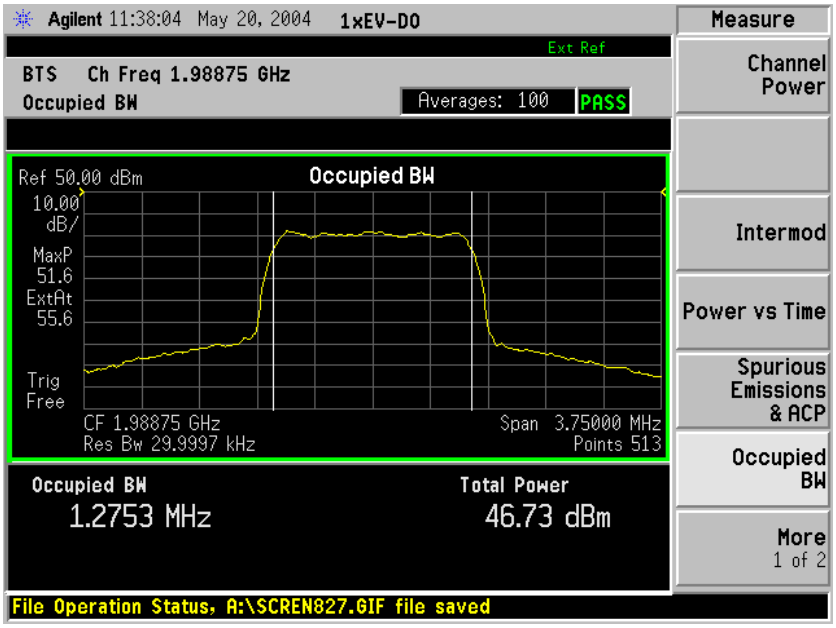


Channel 25 – 1.93125 GHz – 8PSK

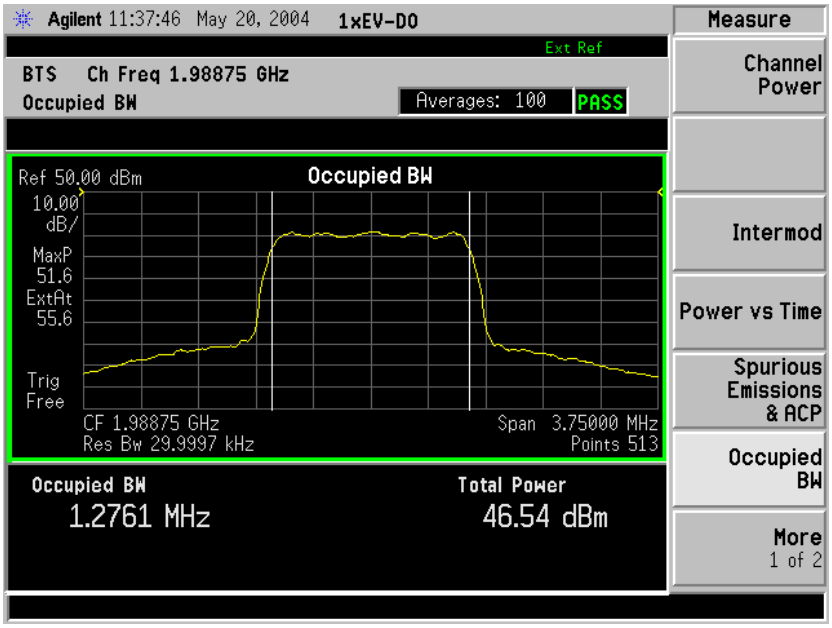


Channel 1175 – 1.98875 GHz – QPSK

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



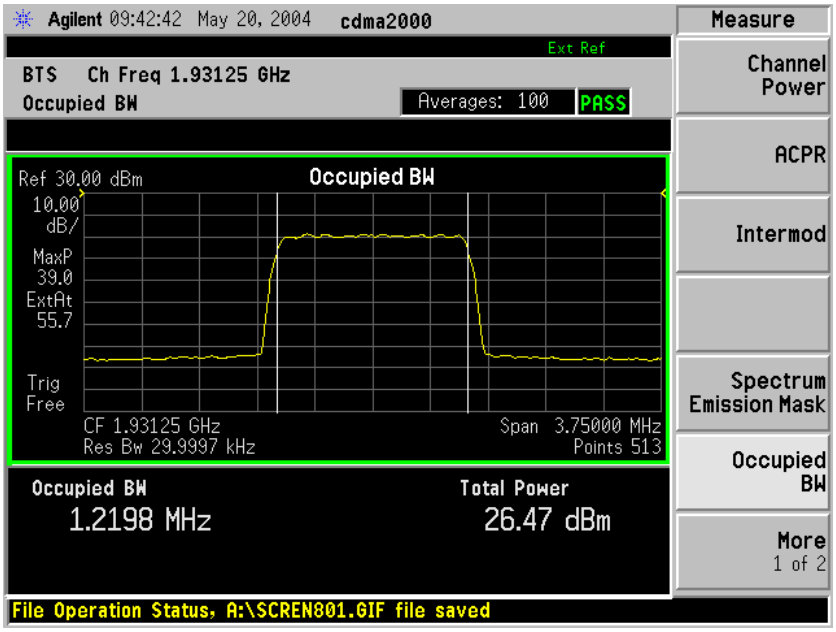
Channel 1175 – 1.98875 GHz – 16QAM



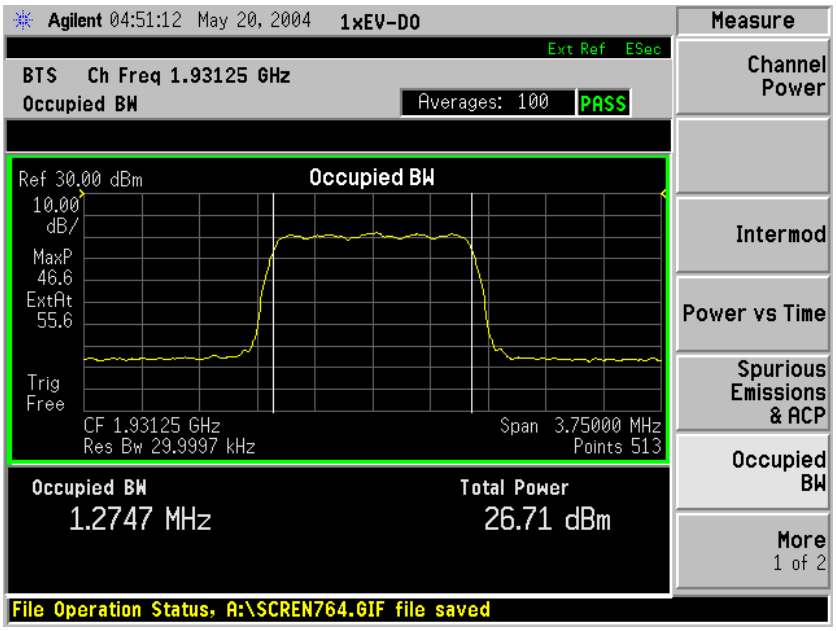
Channel 1175 – 1.98875 GHz – 8PSK

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

Occupied Bandwidth – .45W

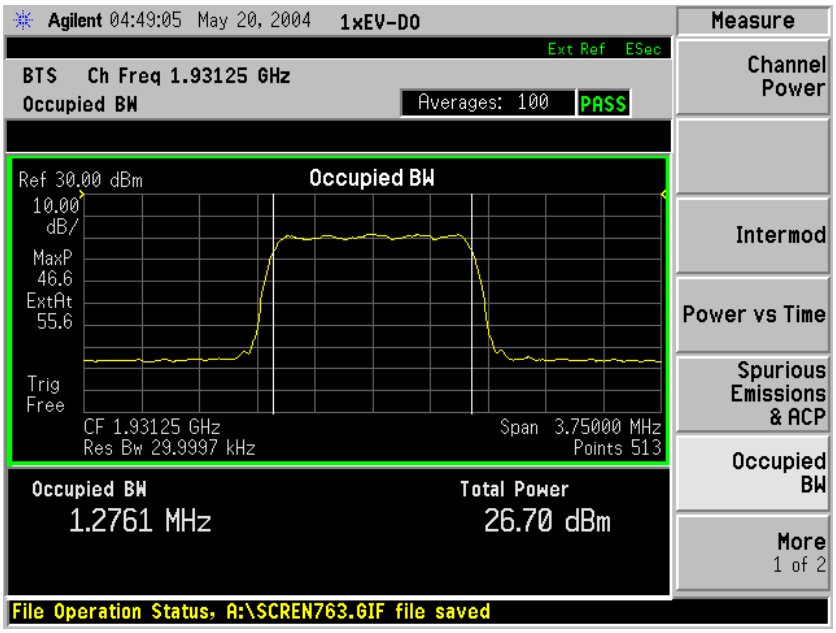


Channel 25 – 1.93125 GHz - QPSK

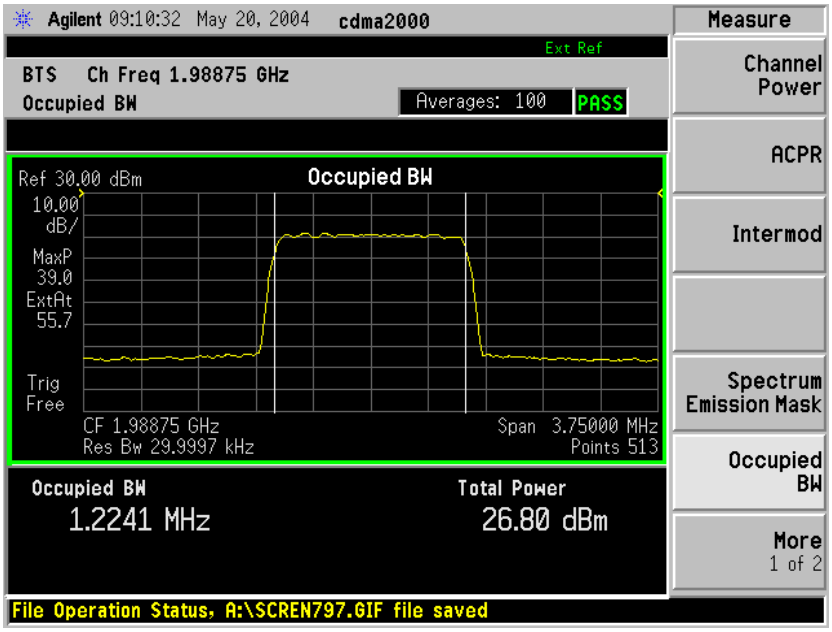


Channel 25 – 1.93125 GHz – 16QAM

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

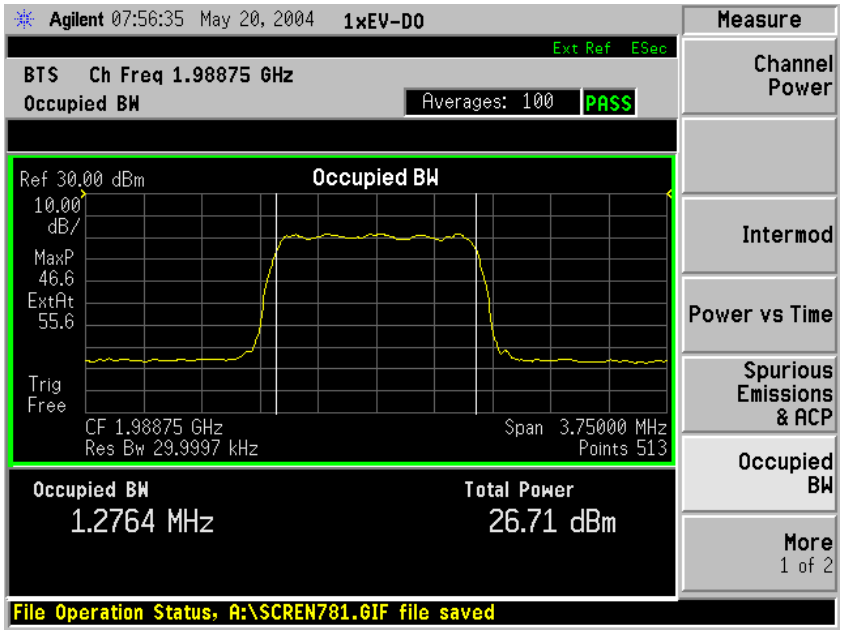


Channel 25 – 1.93125 GHz – 8PSK

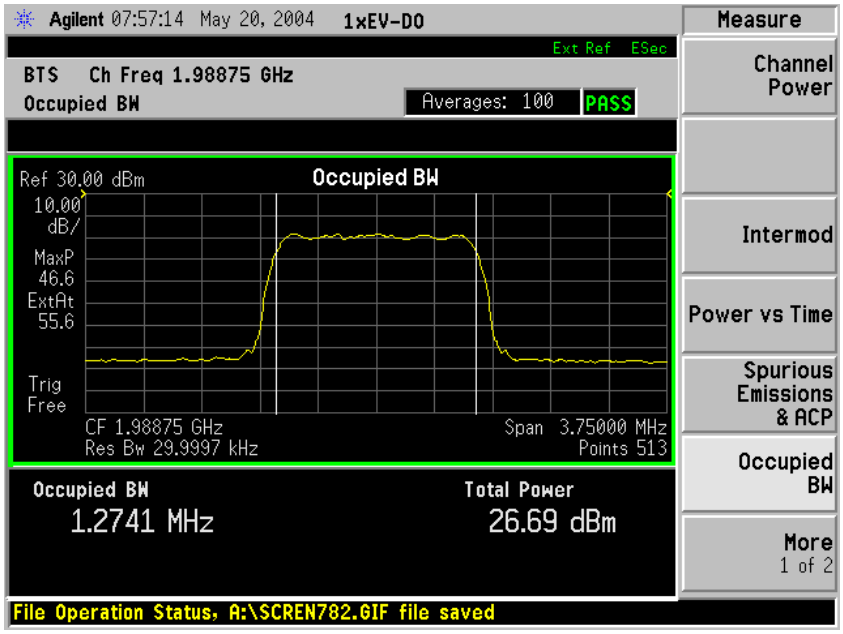


Channel 1175 – 1.98875 GHz – QPSK

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



Channel 1175 – 1.98875 GHz – 16QAM



Channel 1175 – 1.98875 GHz – 8PSK

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

SECTION D

Spurious Emissions at Antenna Terminal - 47 CFR 2.1051

Summary of Worst Case Spurious Emissions at Antenna Terminal

Channel	Modulation	Freq. (GHz)	Spur Level Measured (dBm)	FCC Max Limit (dBm)	Pass/Fail
25	1X-QPSK	5.72975	-25.64	-13	Pass
25	1X-DO-16QAM	5.72975	-25.75	-13	Pass
25	1X-DO-8PSK	5.7475	-25.59	-13	Pass
1175	1X-QPSK	5.96525	-25.20	-13	Pass
1175	1X-DO-16QAM	5.96525	-25.24	-13	Pass
1175	1X-DO-8PSK	5.72975	-25.26	-13	Pass

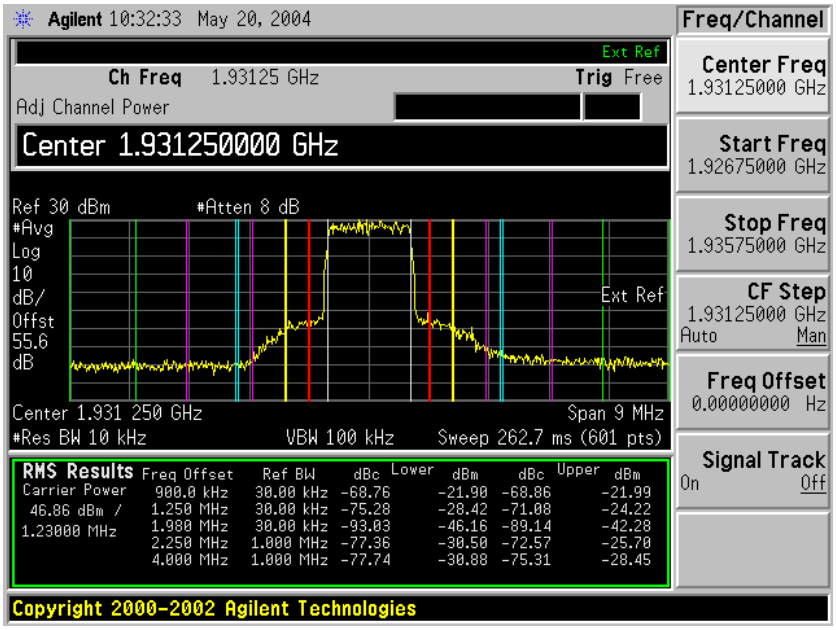
FCC Max. Limit Per 47 CFR:

= Transmitted Power (10 Log10 (Pwatt)) - (43 + 10 Log10 (Pwatt)) dBW
= 10 Log10 (Pwatt) - (43 + 10 Log10 (Pwatt)) dBW
= -43 dBW
= -13 dBm

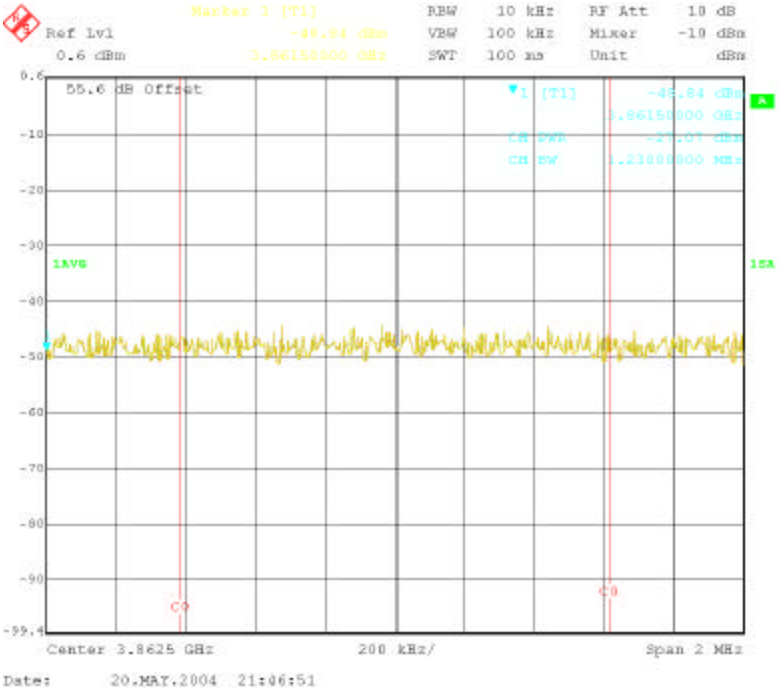
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

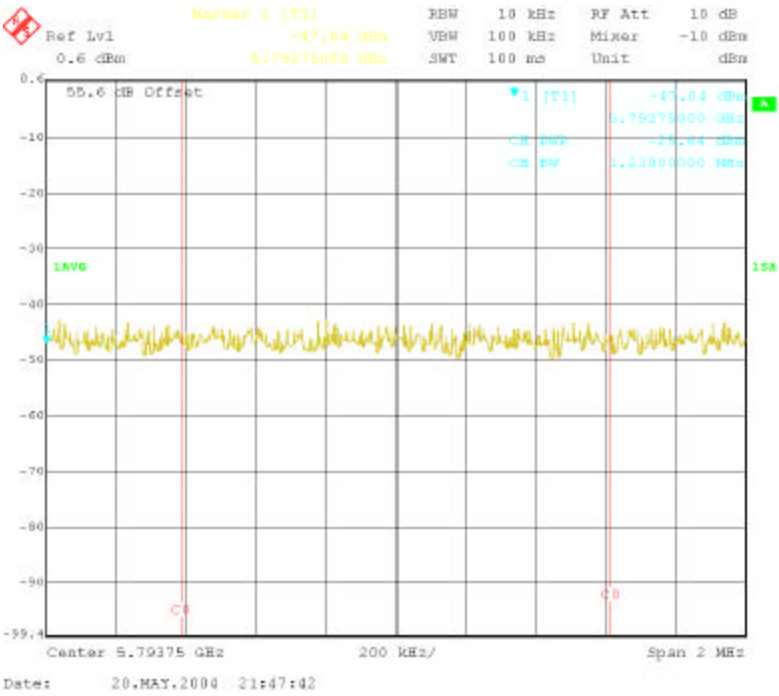
Spurious Emissions at Antenna Terminal – 45W

Channel 25 – 1.93325 GHz – QPSK

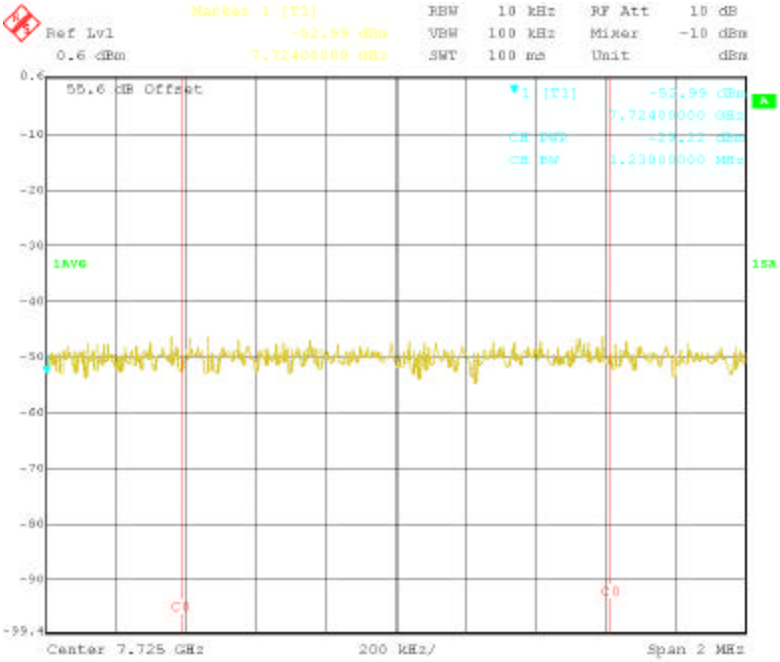


Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

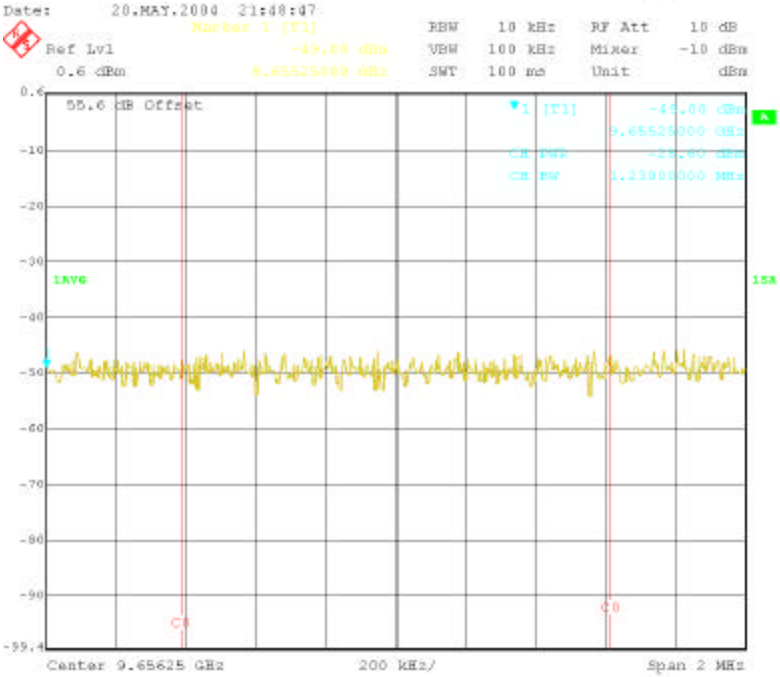




Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

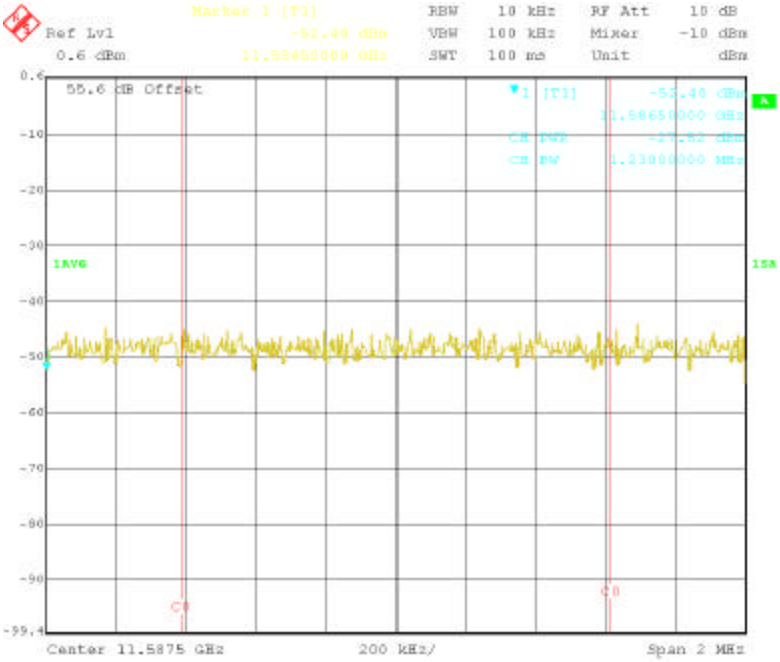


Date: 20.MAY.2004 21:48:47

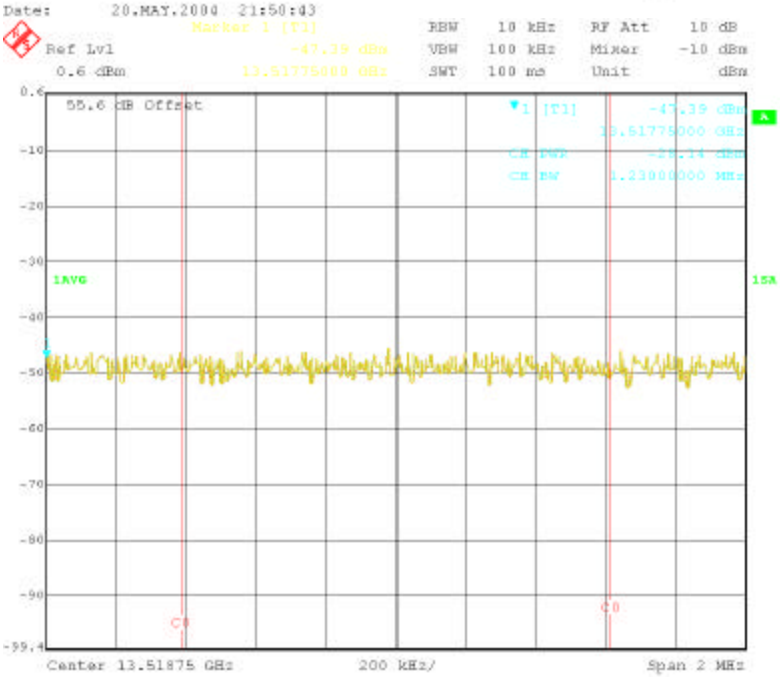


Date: 20.MAY.2004 21:49:42

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

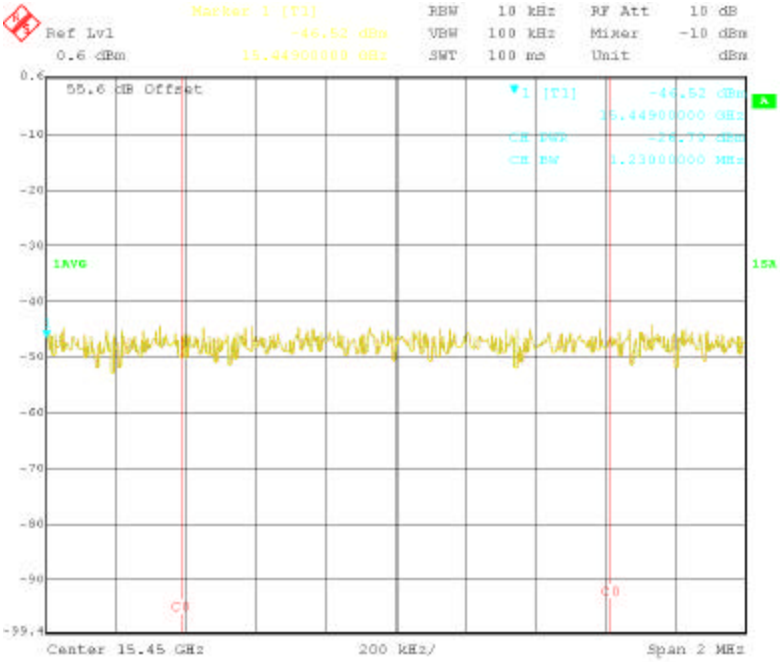


Date: 20.MAY.2004 21:50:43

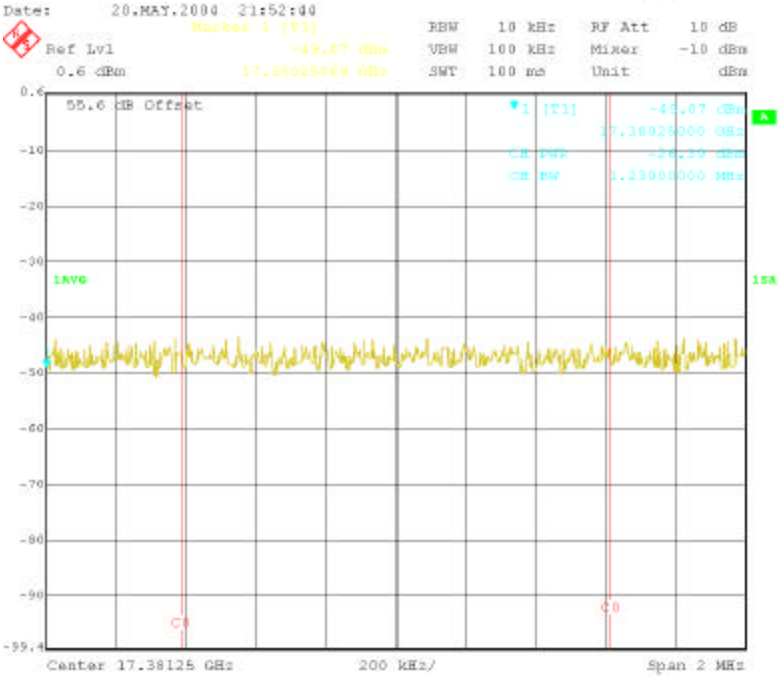


Date: 20.MAY.2004 21:51:45

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

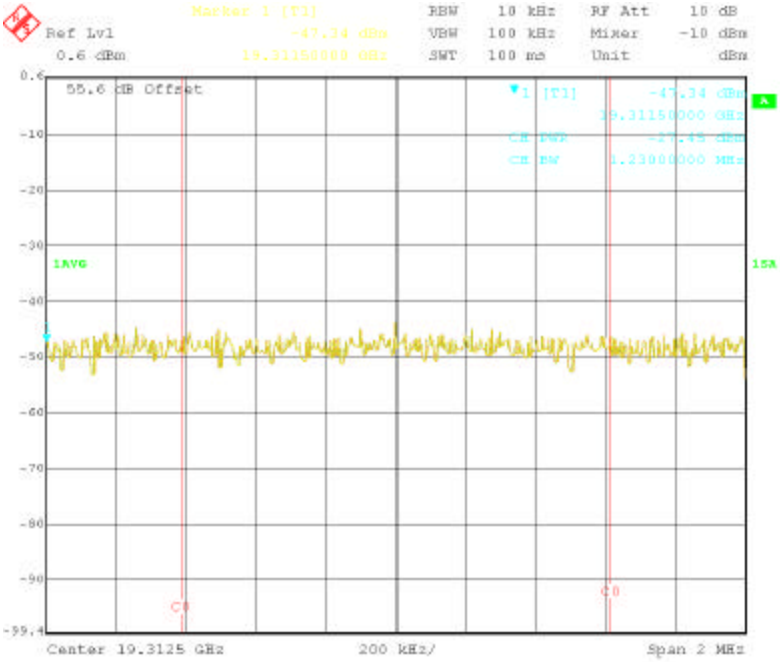


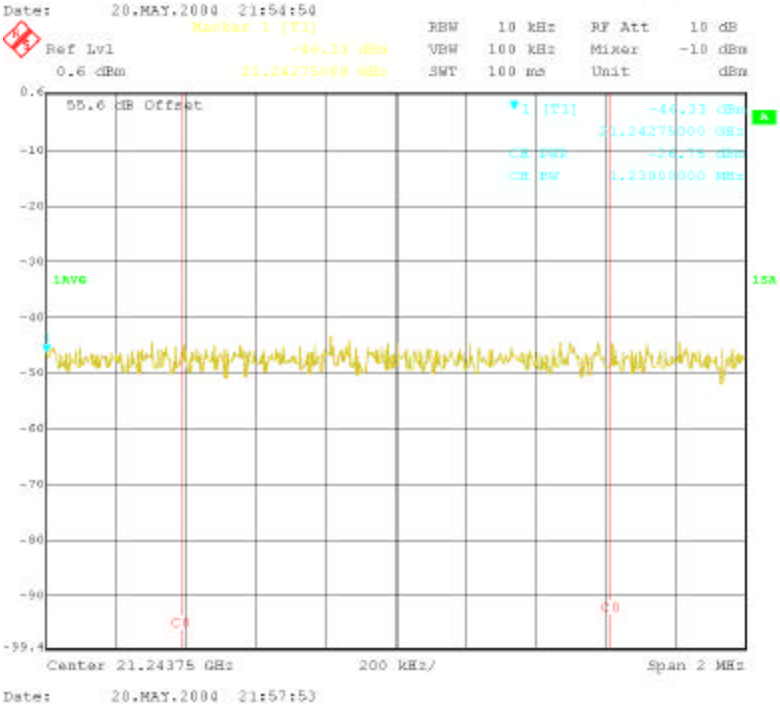
Date: 20.MAY.2004 21:52:40



Date: 20.MAY.2004 21:53:55

Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

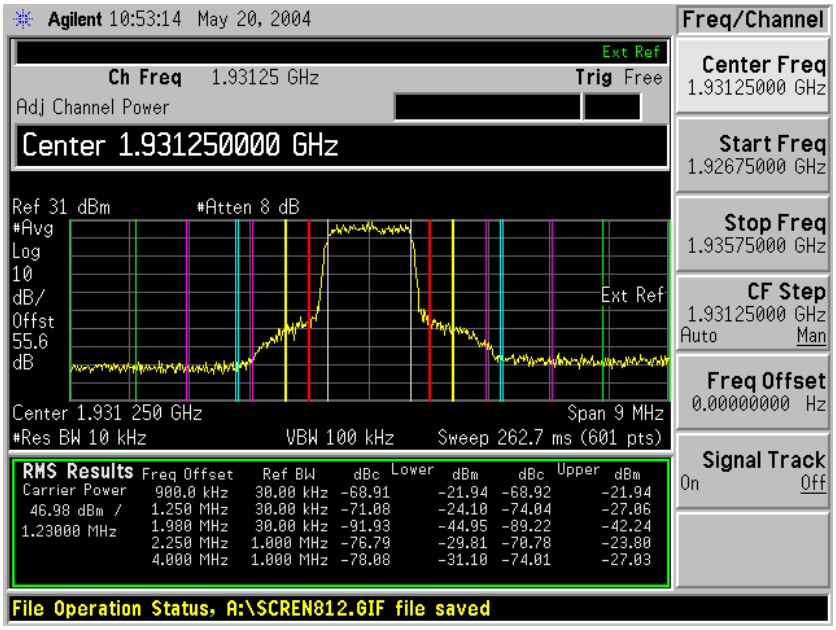




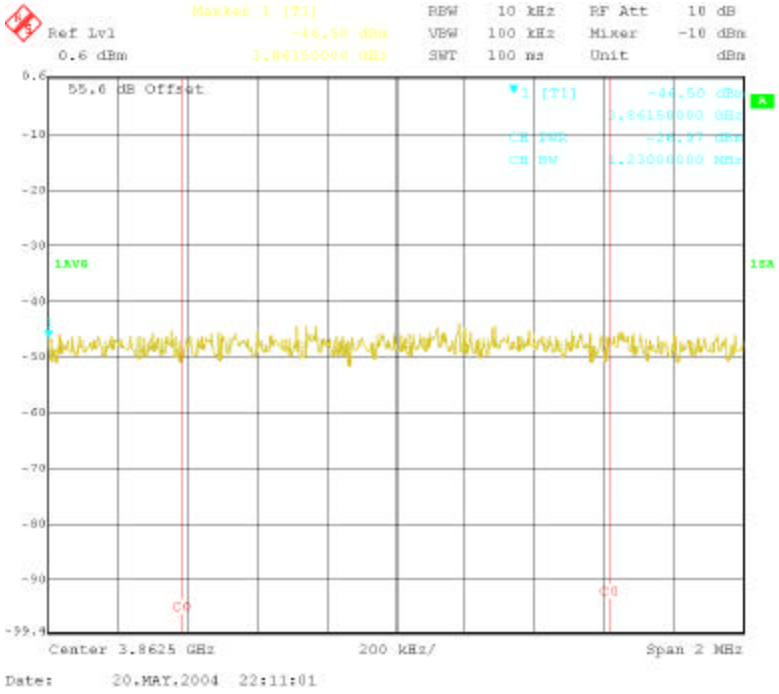
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

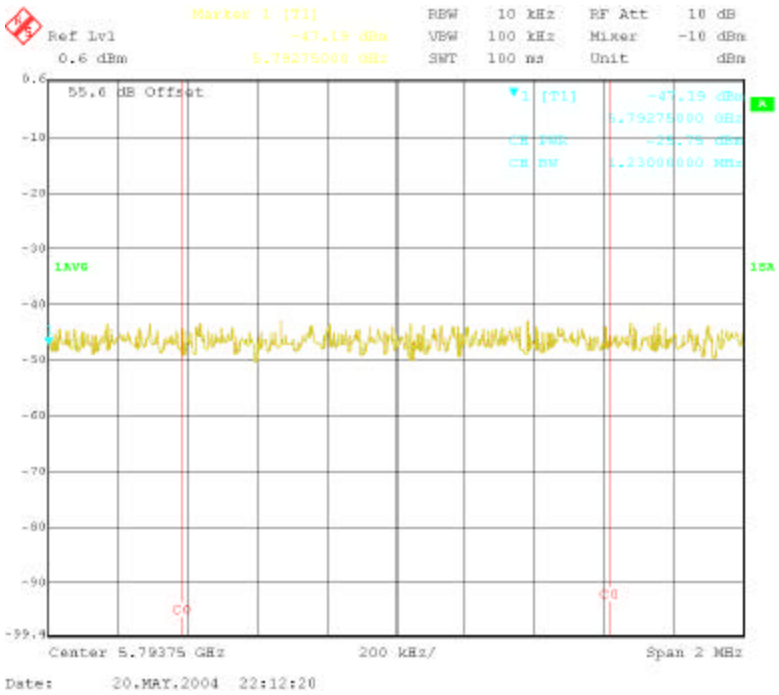
Spurious Emissions at Antenna Terminal – 45W

Channel 25 – 1.93325 GHz – 16QAM

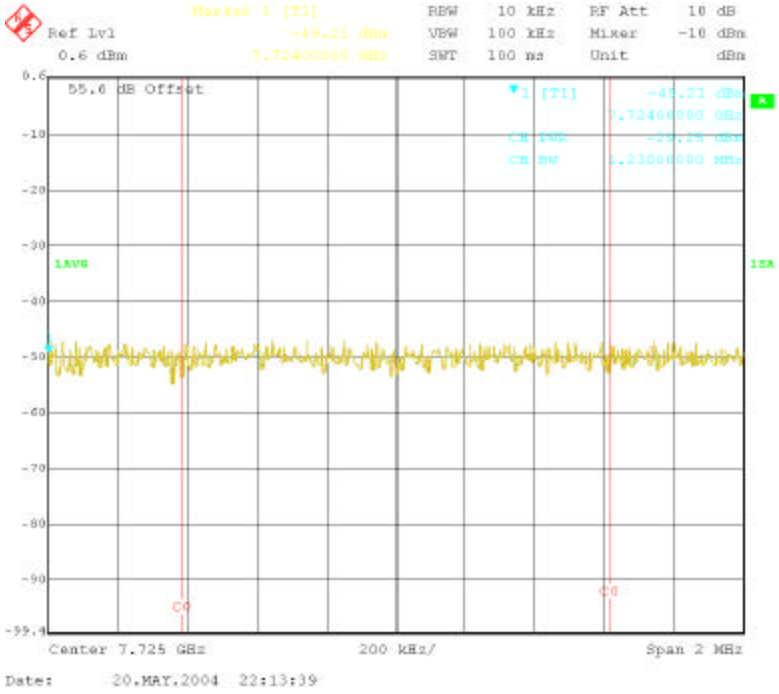


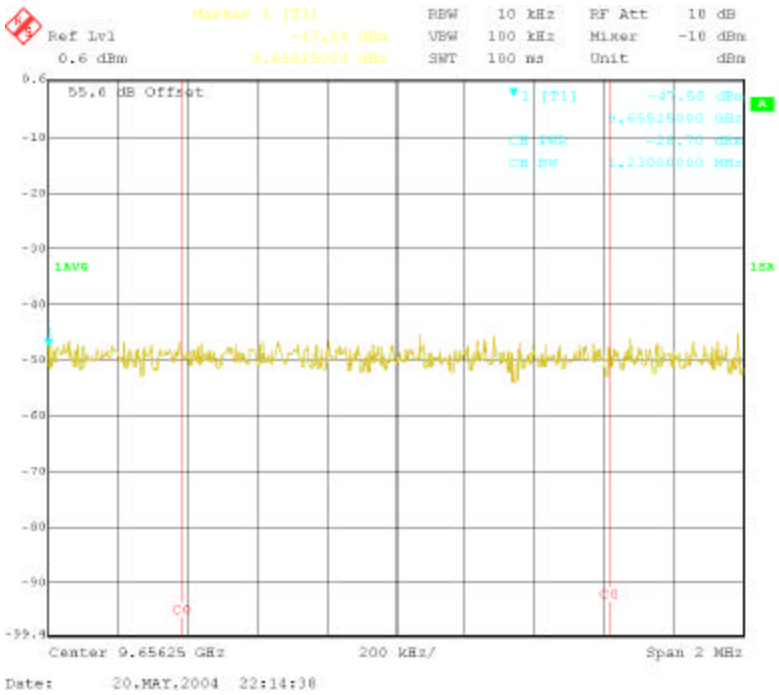
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



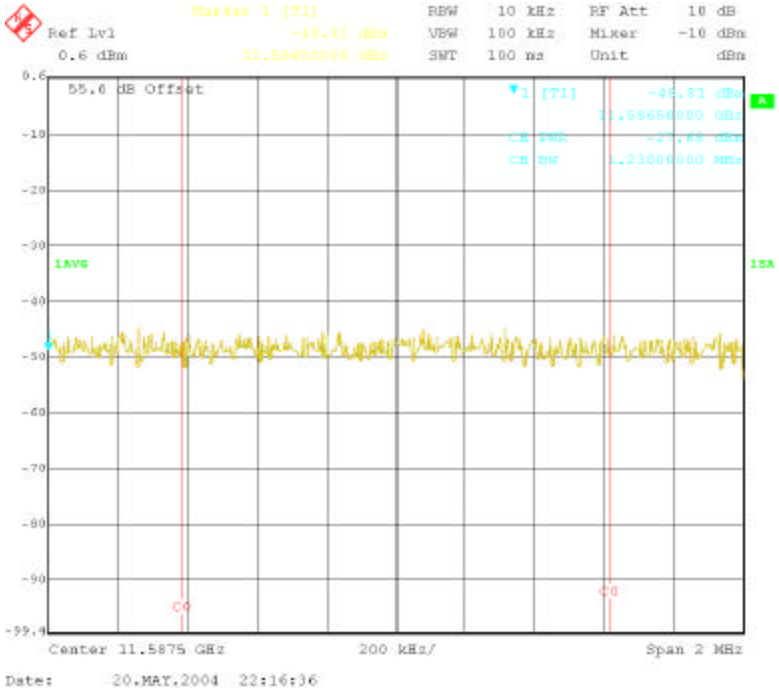


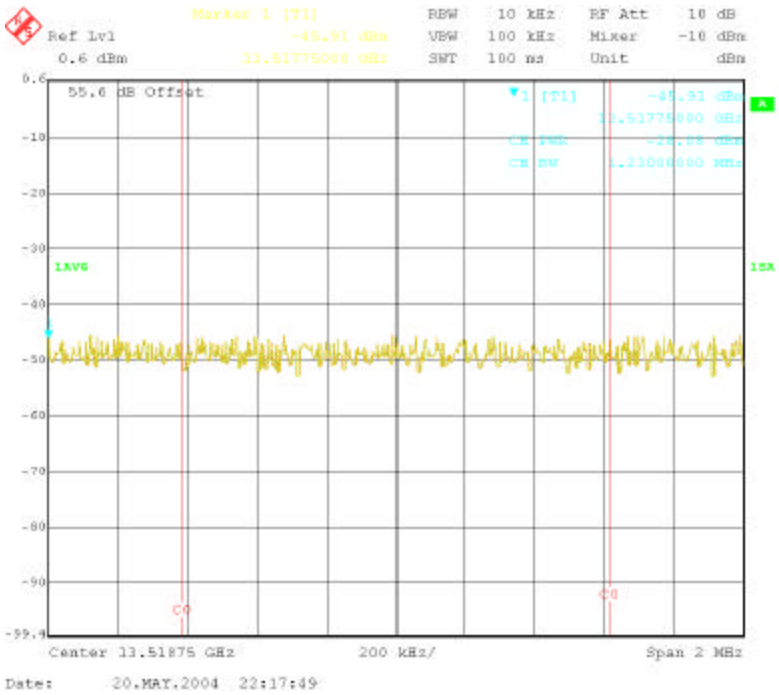
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



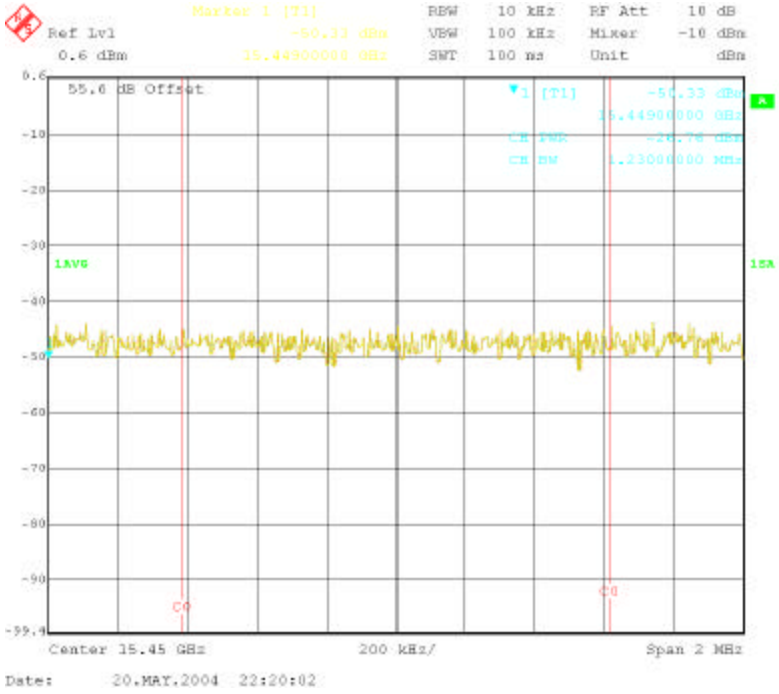


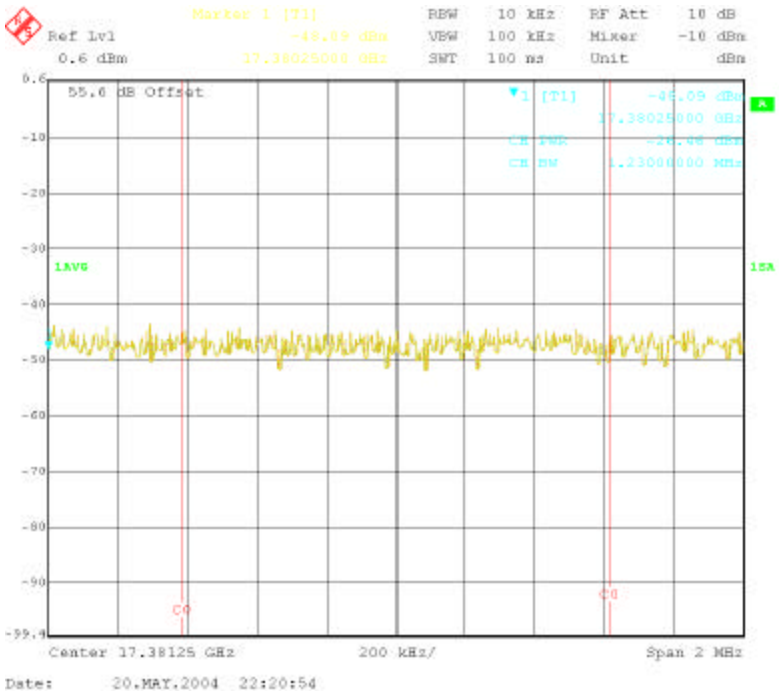
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



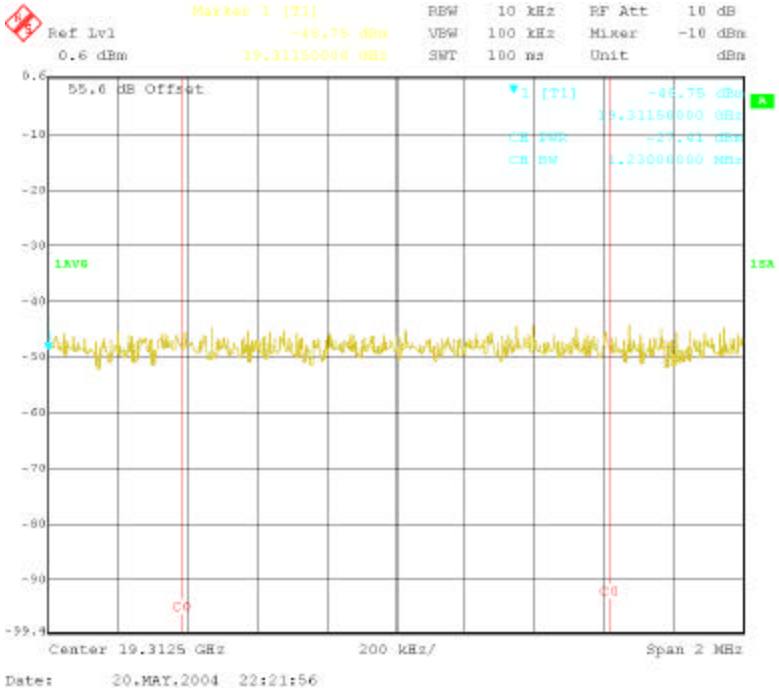


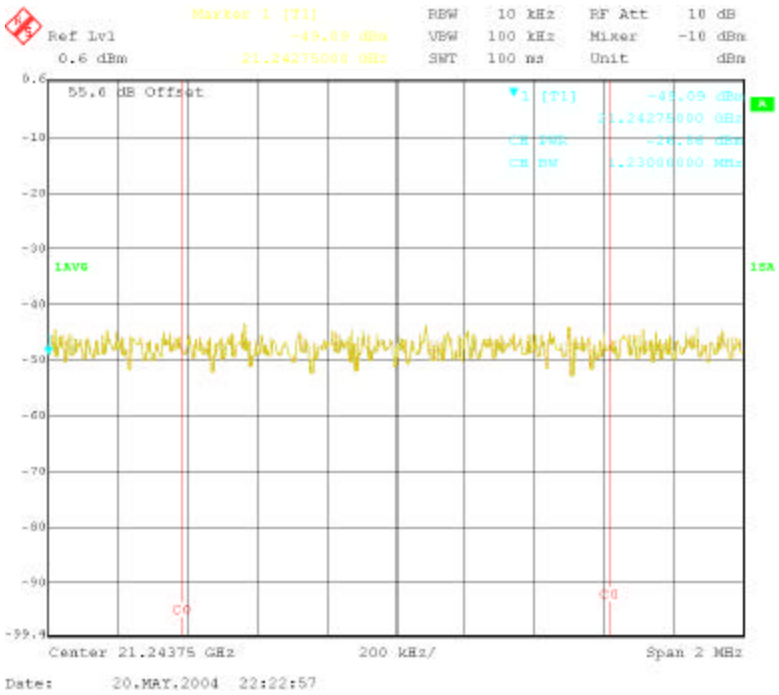
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com





Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

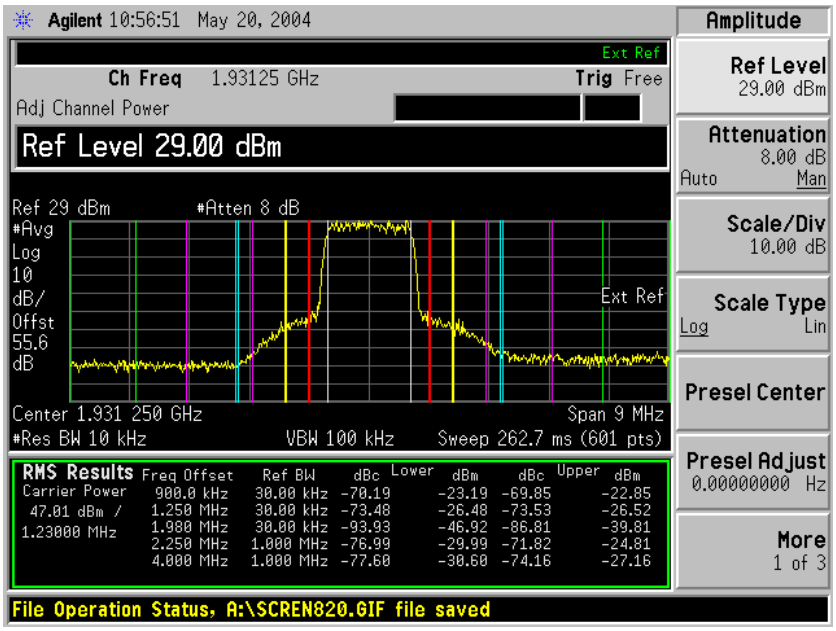




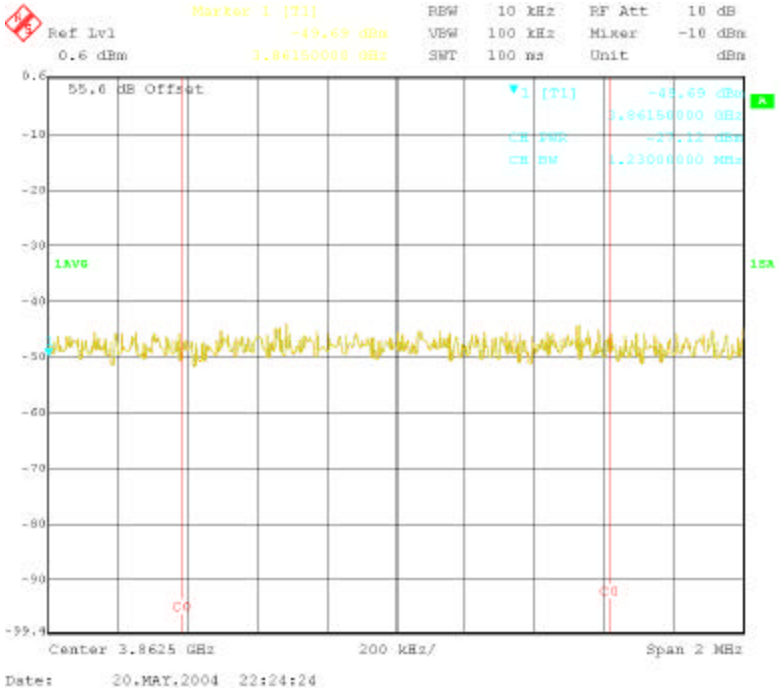
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

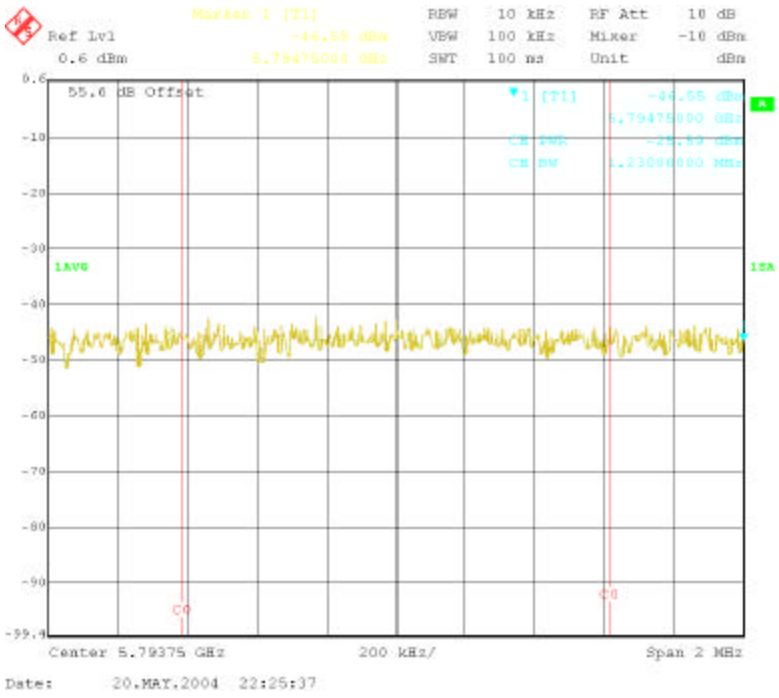
Spurious Emissions at Antenna Terminal – 45W

Channel 25 – 1.93325 GHz – 8PSK

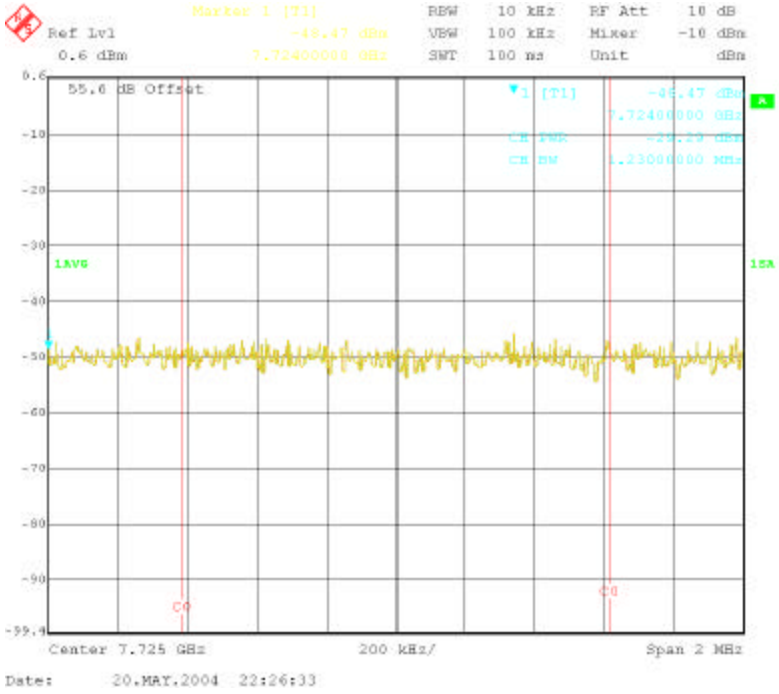


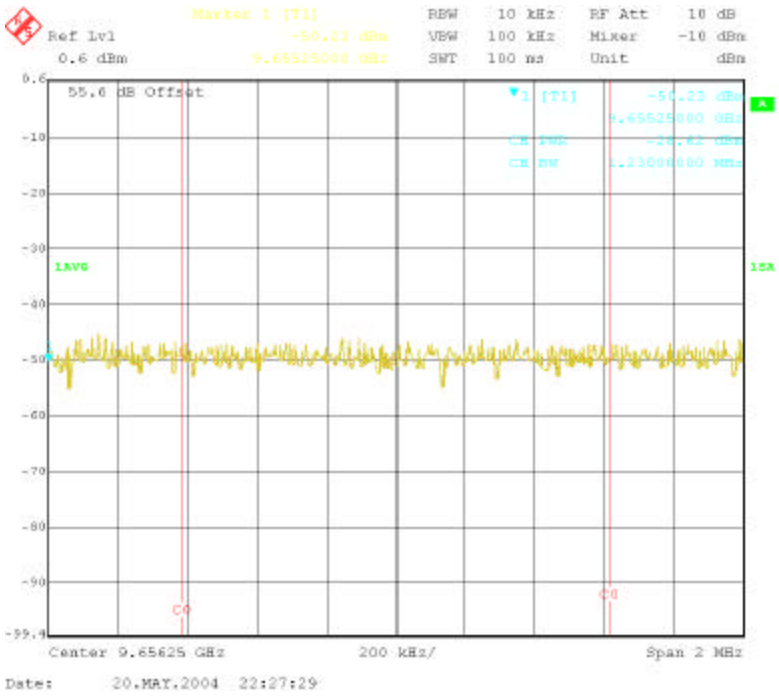
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



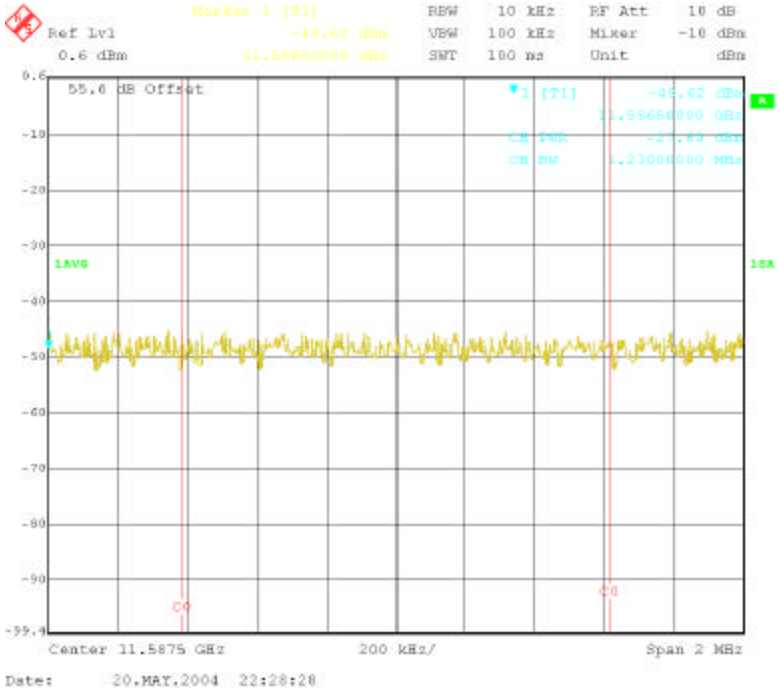


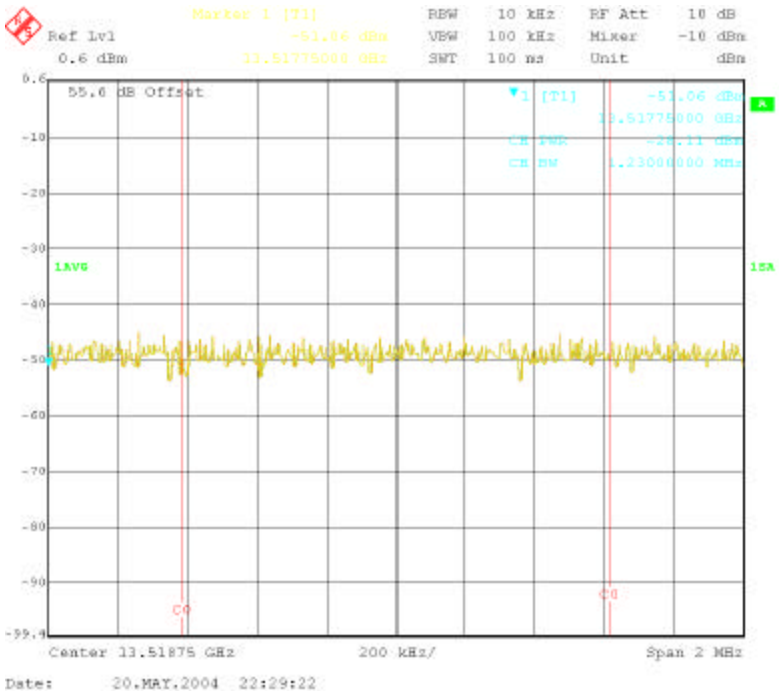
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



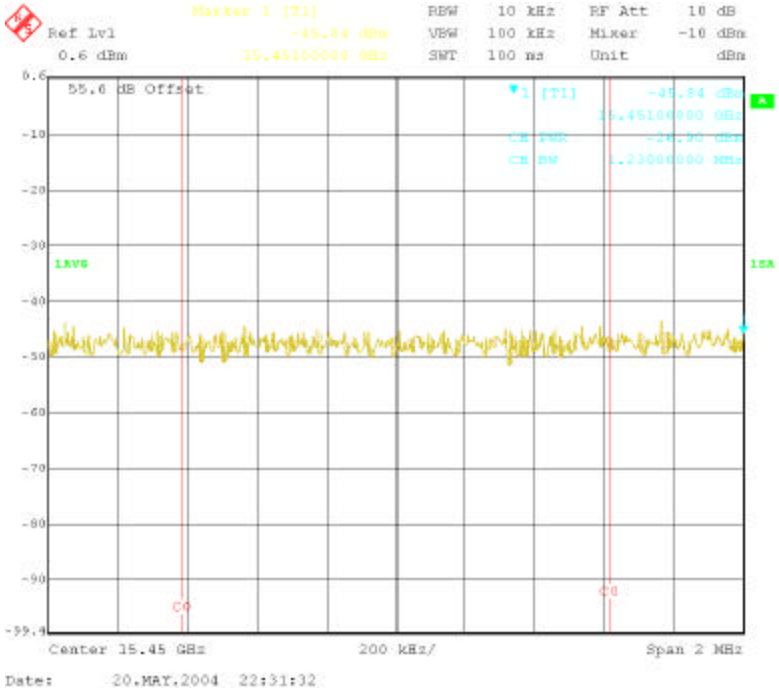


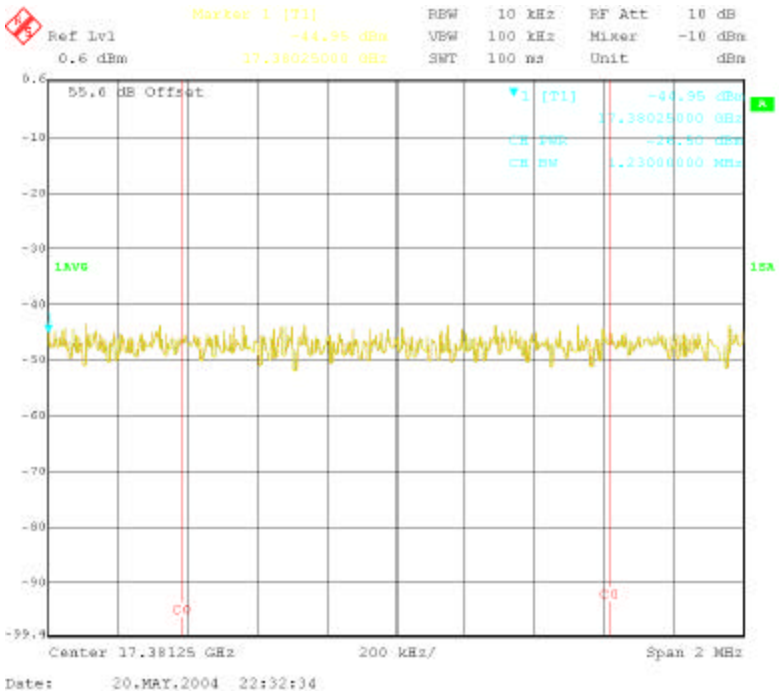
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



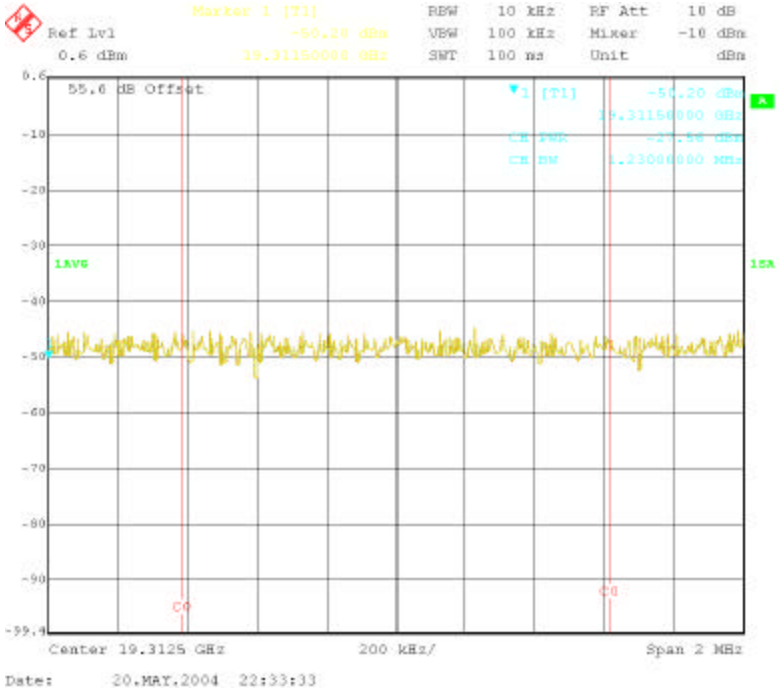


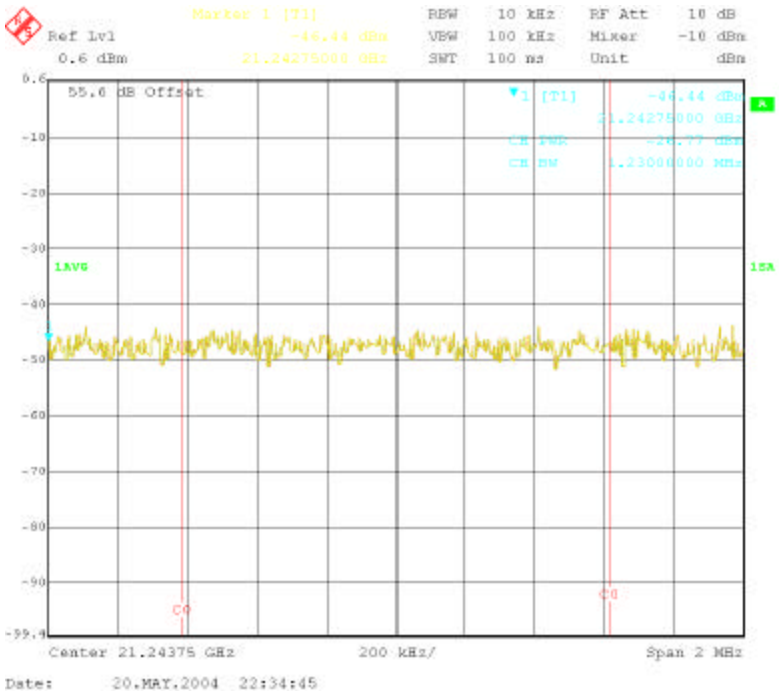
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com





Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

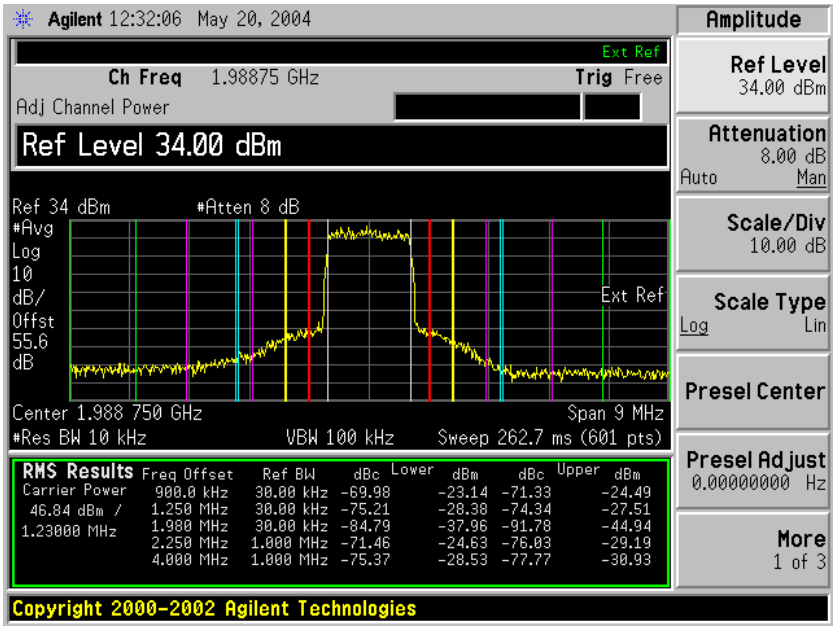




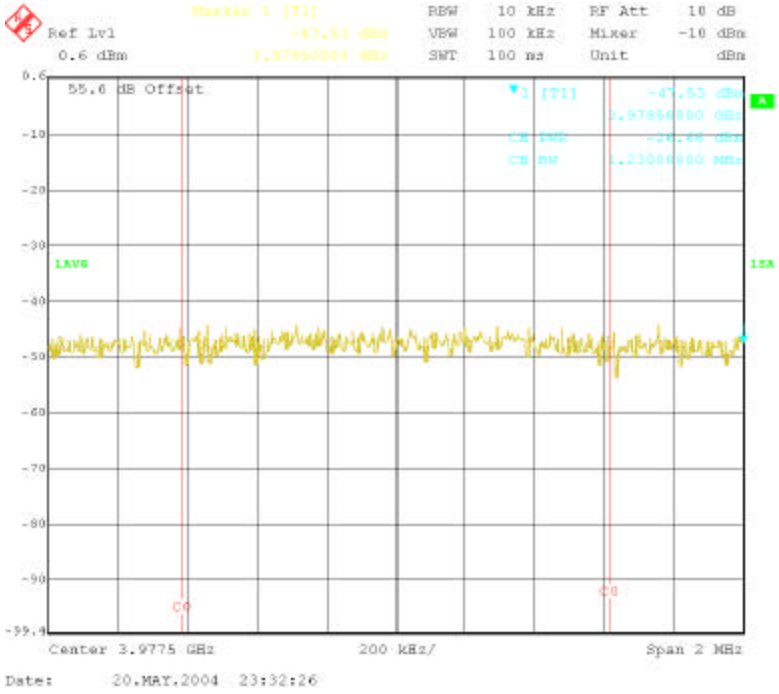
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

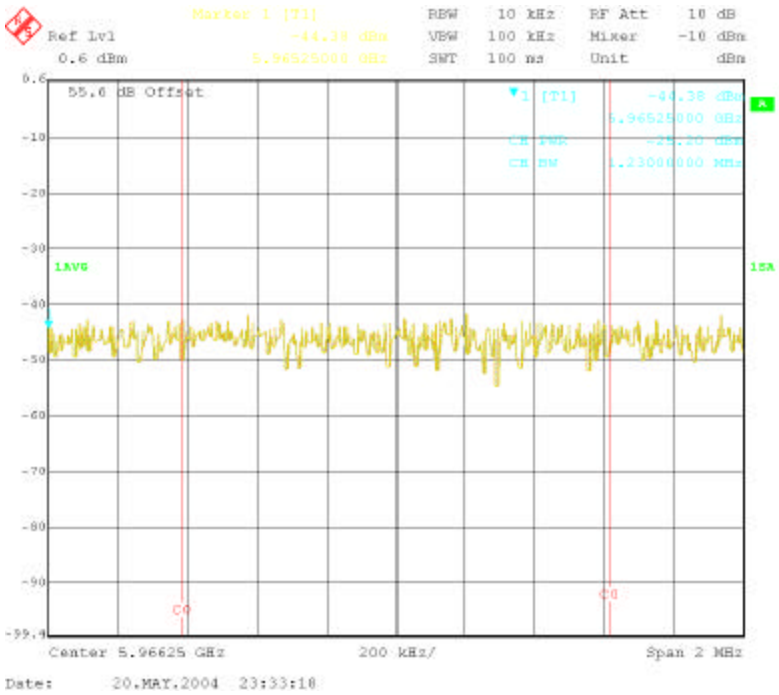
Spurious Emissions at Antenna Terminal – 45W

Channel 1175 – 1.98875 GHz – QPSK

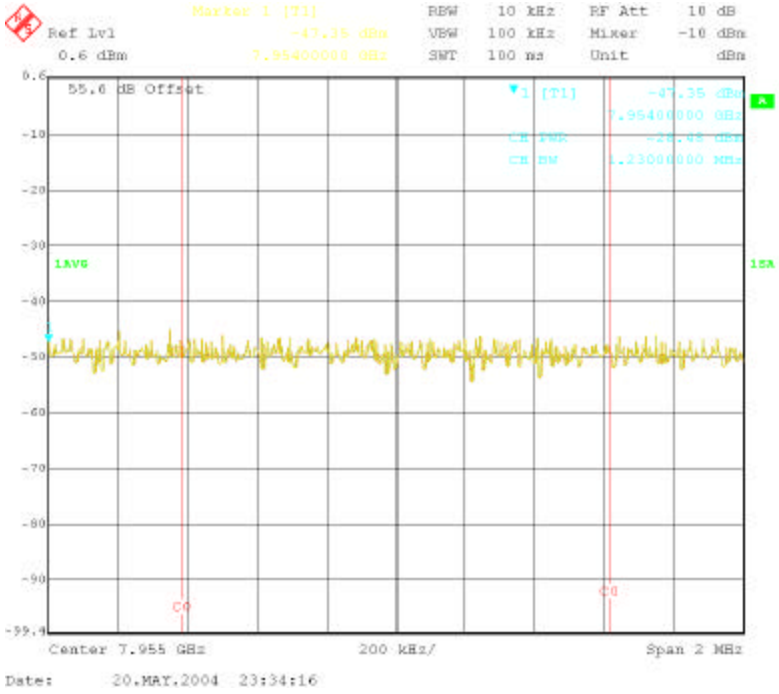


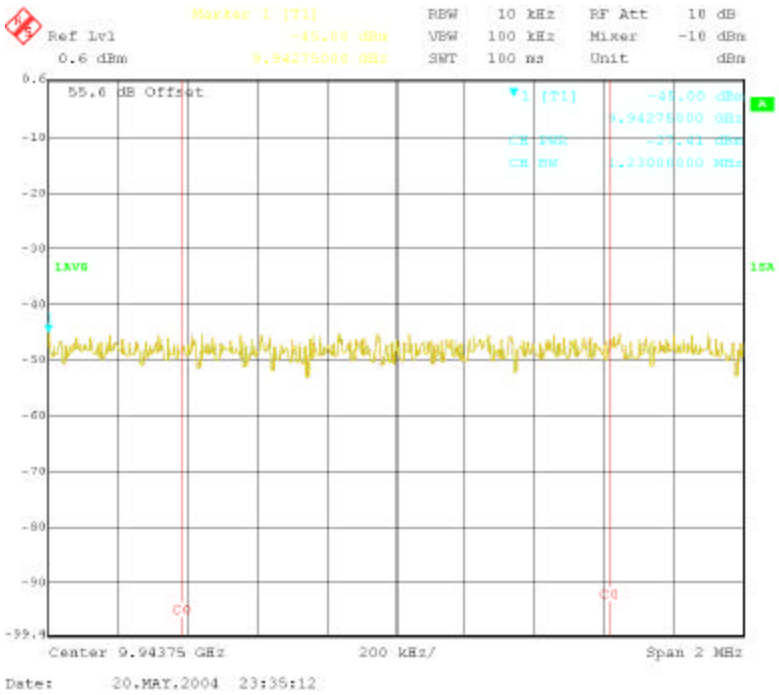
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



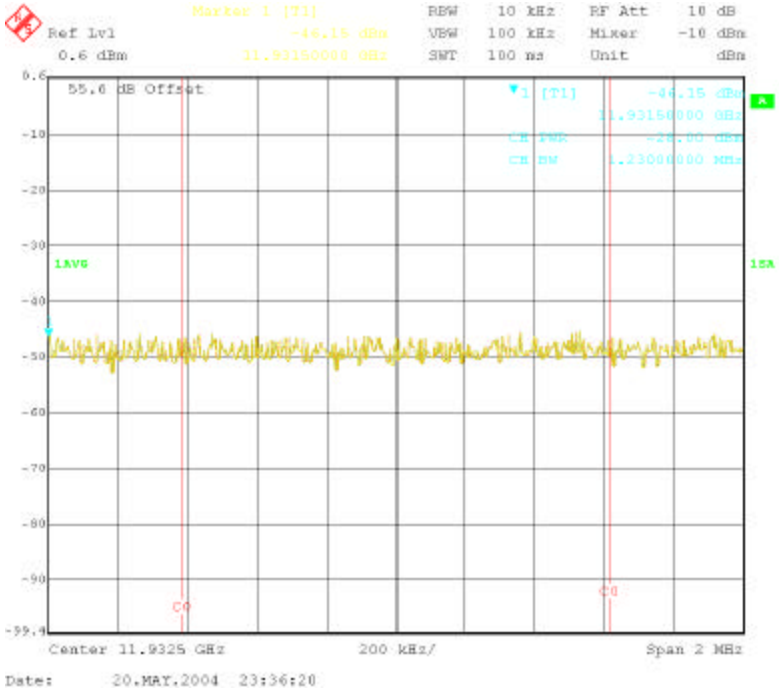


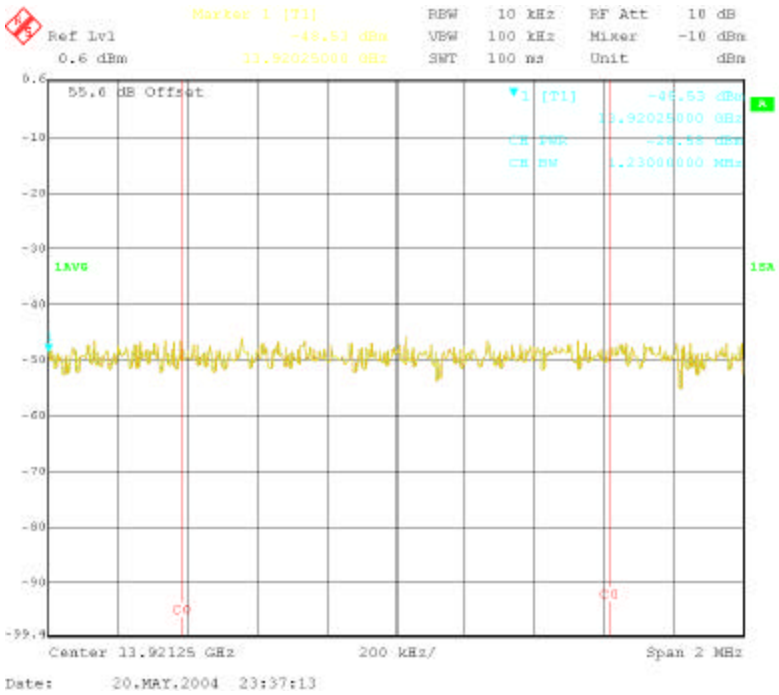
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



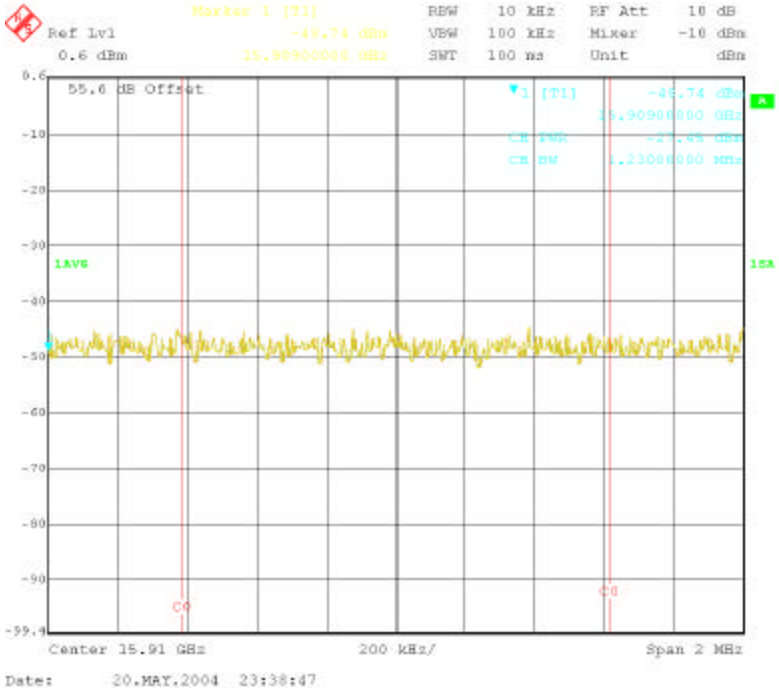


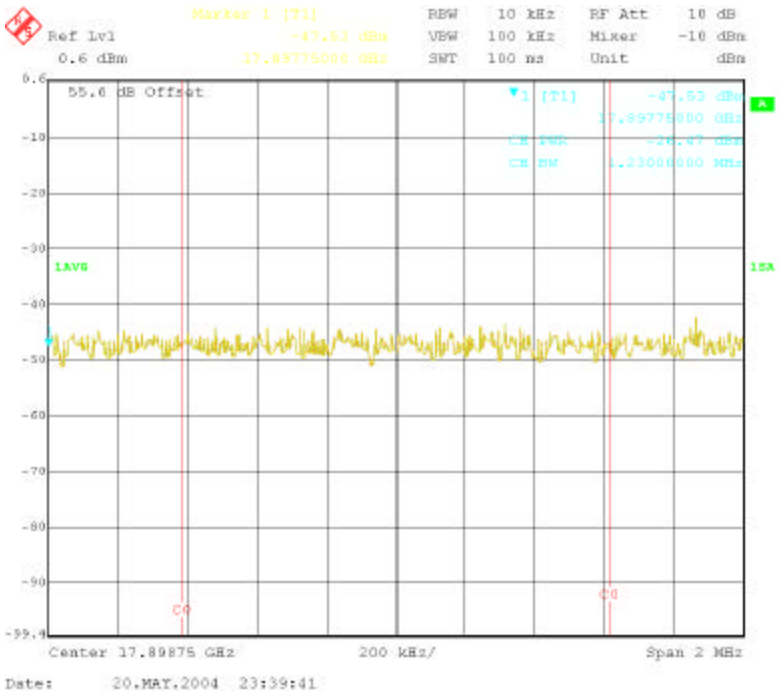
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



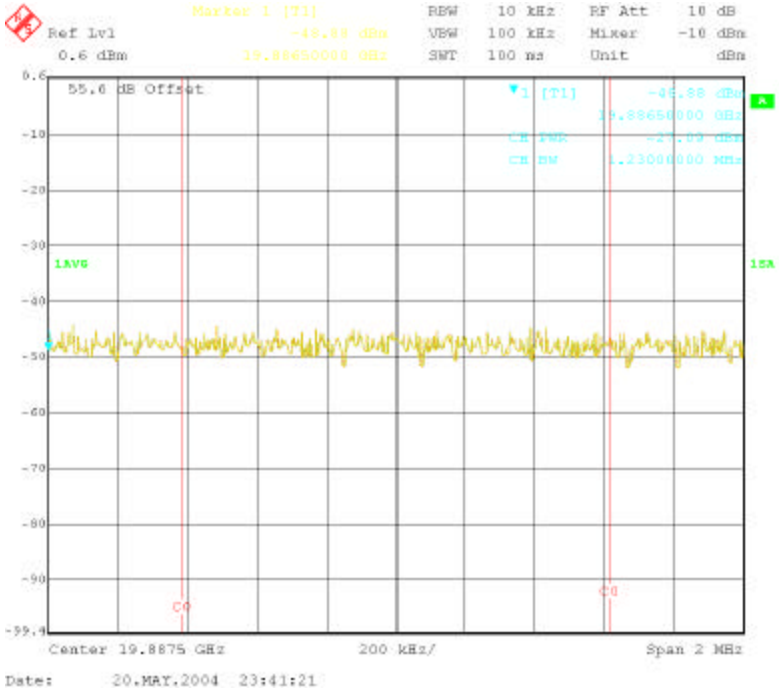


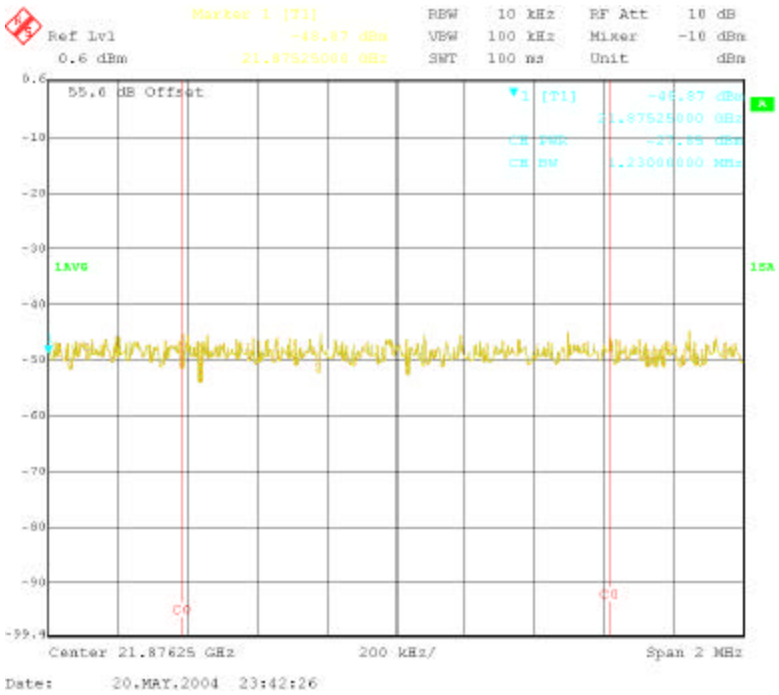
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com





Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

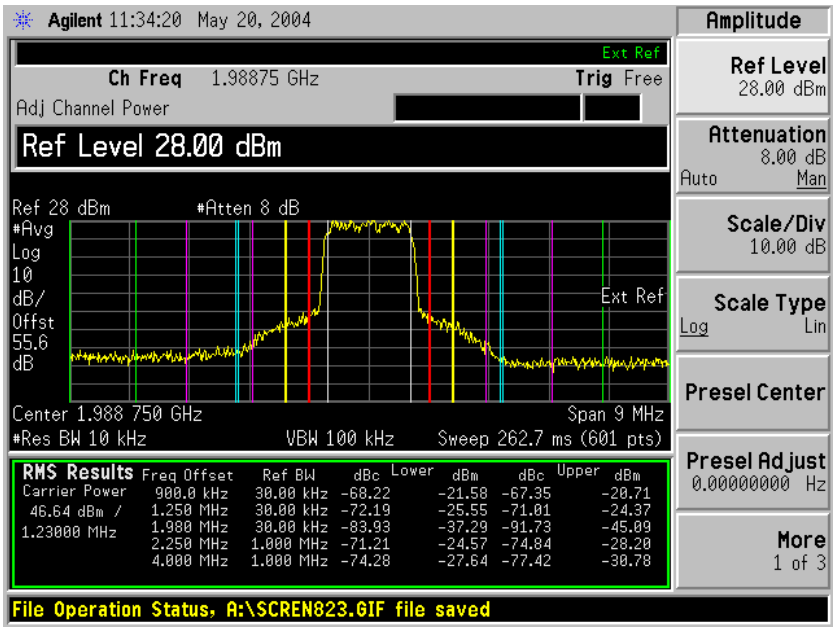




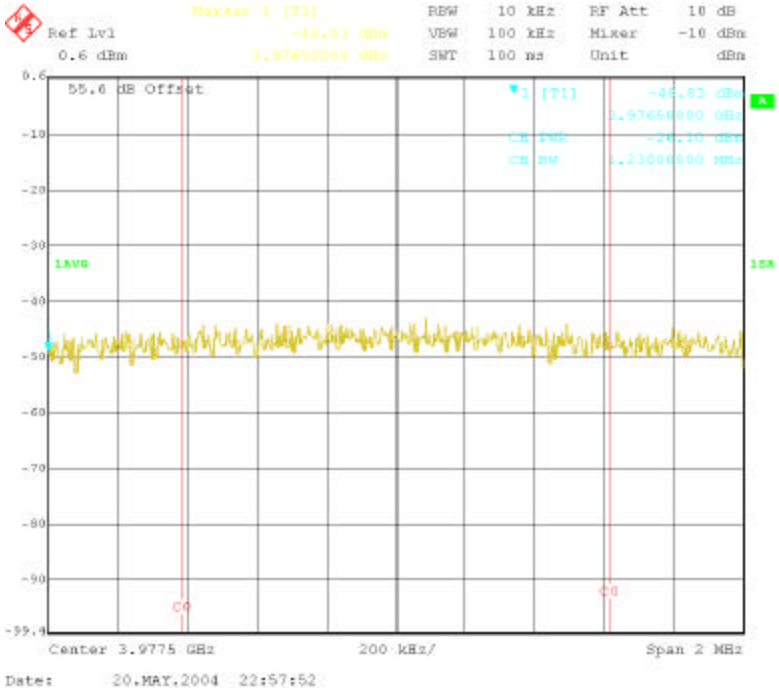
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com

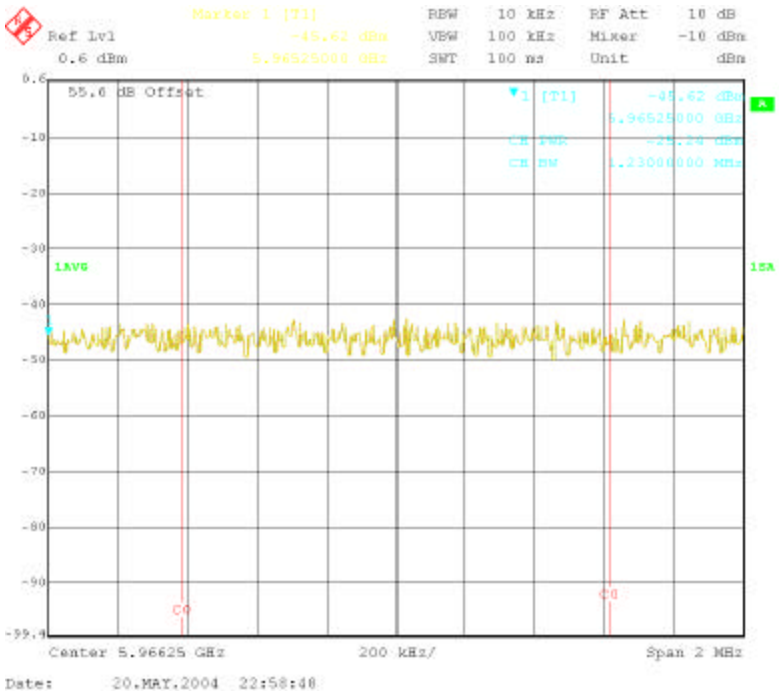
Spurious Emissions at Antenna Terminal – 45W

Channel 1175 – 1.98875 GHz – 16QAM

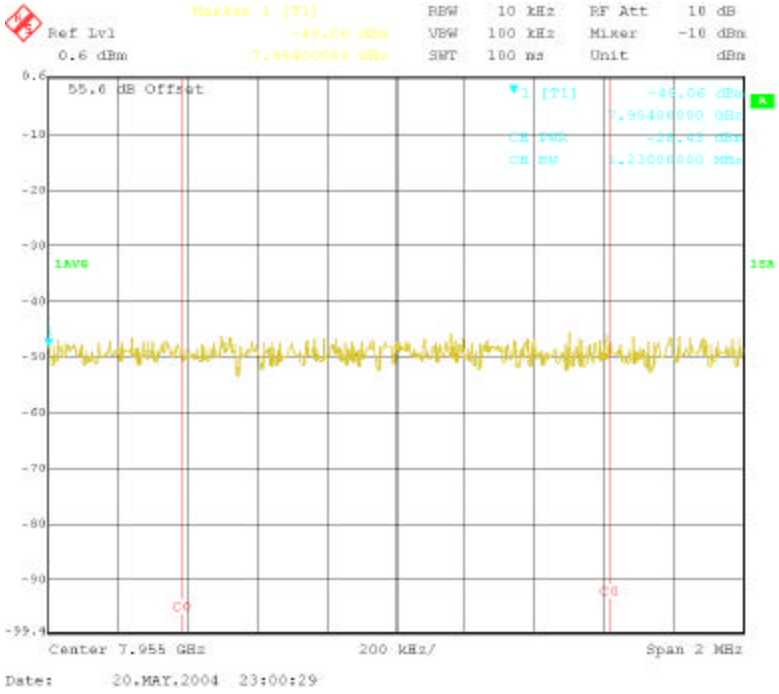


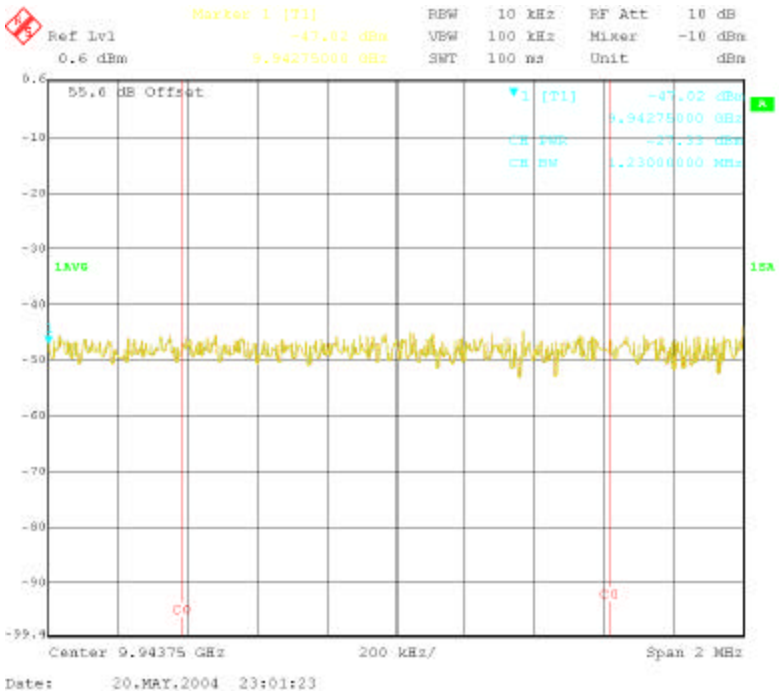
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



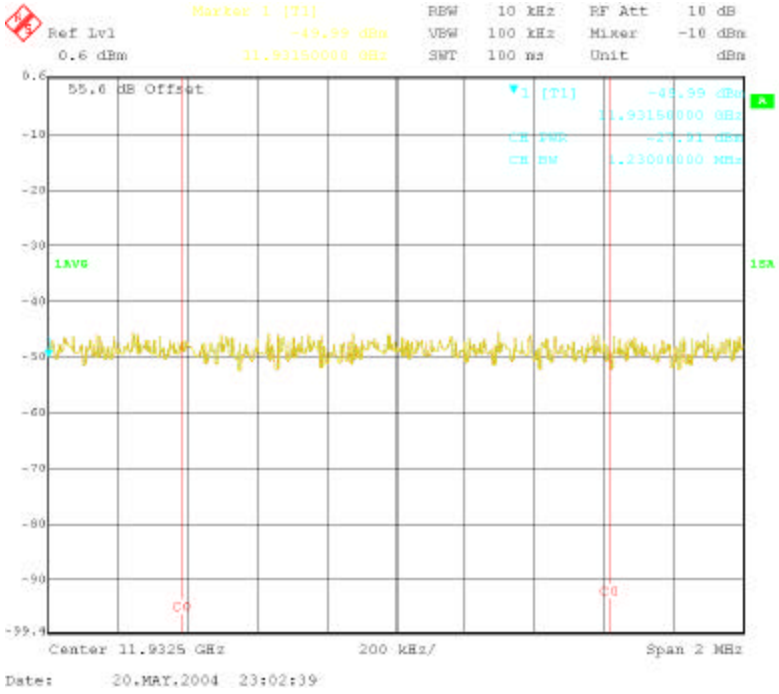


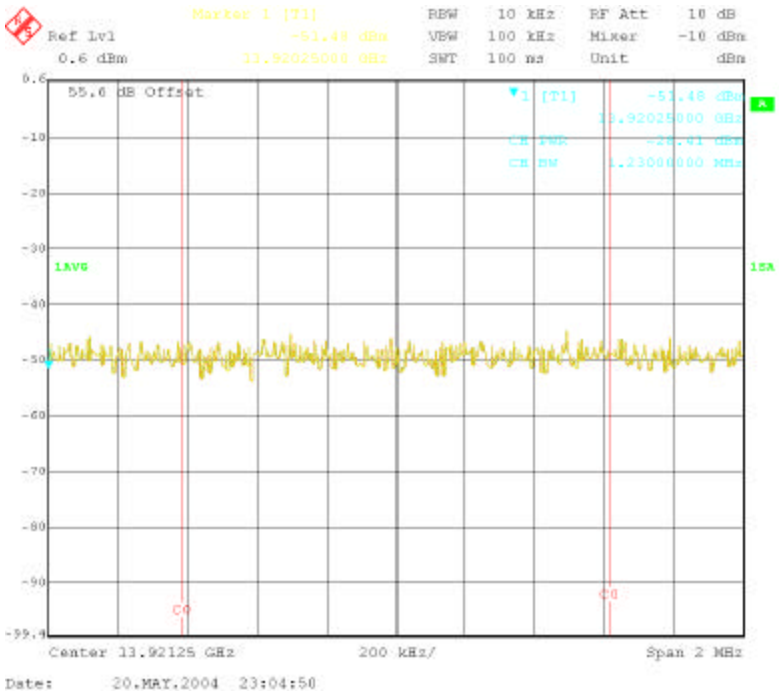
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



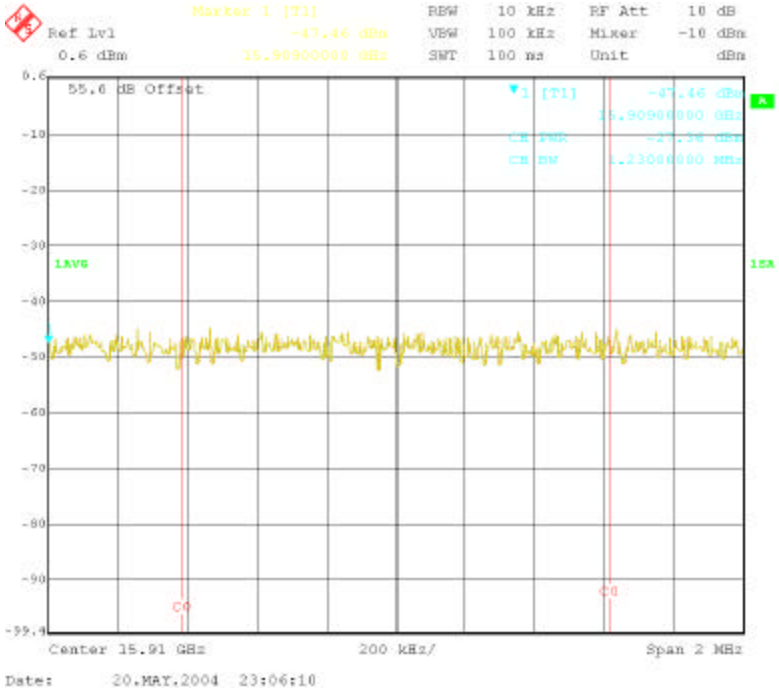


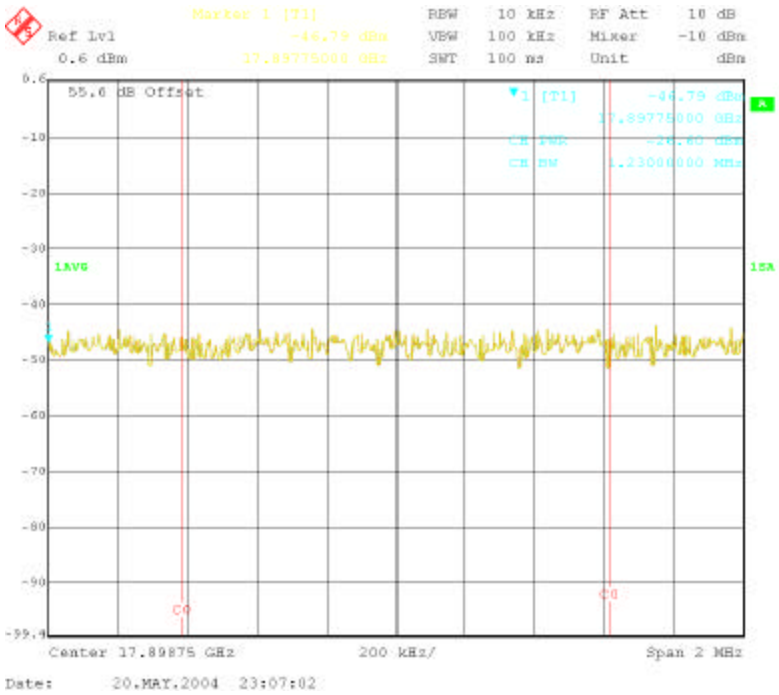
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com



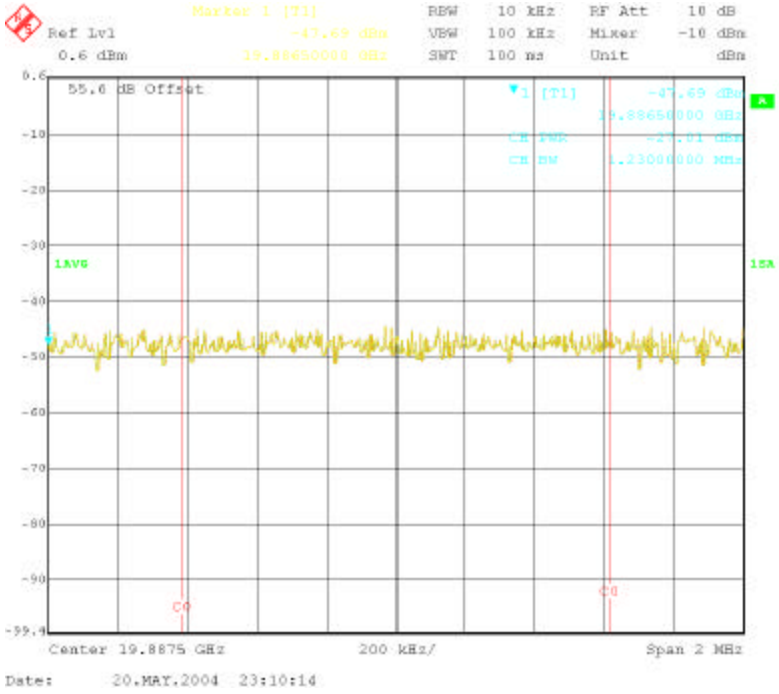


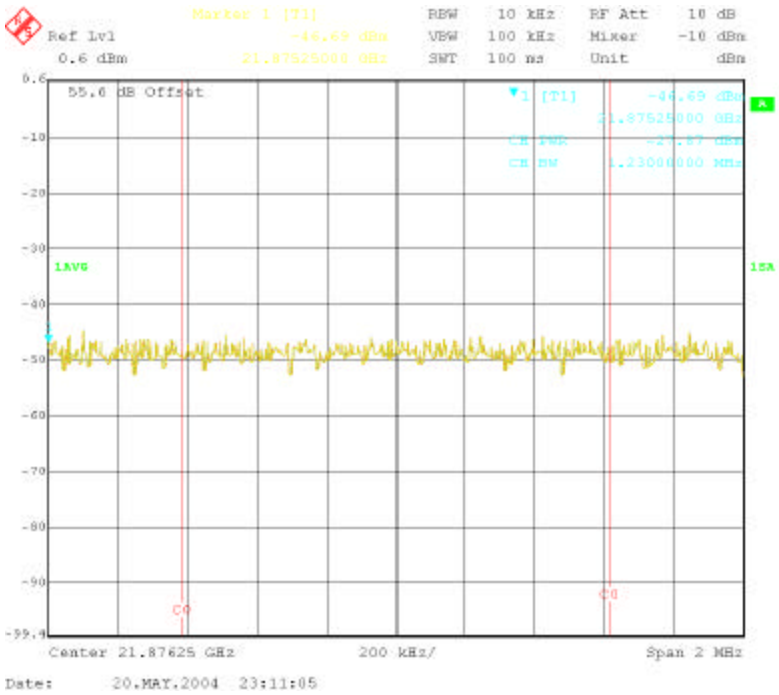
Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com





Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com





Global Telecom Solutions Sector, 5555 North Beach Street TX14-7C, Fort Worth, Texas
Telephone (817) 245-6039, Fax (817) 245-6248, Email wlmv00@email.mot.com