



MOTOROLA

Cellular Networks

APPLICANT: MOTOROLA

FCC ID: IHET6HG1

Motorola Test Report

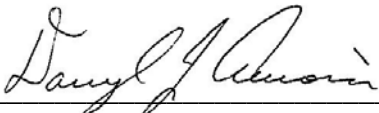
Applicant: Motorola
5555 N. Beach Street
Fort Worth, TX 76137
USA

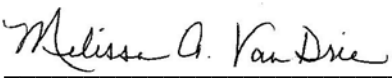
Equipment Under Test: UBS CDMA XMI Transceiver at 1.9GHz

In Accordance With: FCC PART 24(H)
Public Cellular Radio Telecommunications Service

Tested By: Motorola
5555 N. Beach Street
Fort Worth, TX 76137
USA

TESTED BY:

 DATE: 4 Sep 2007
Darryl Aucoin Principal Test Engineer

 DATE: 4 Sep 2007
Melissa Vandrie Lead Test Engineer

APPROVE BY:

 DATE: 4 Sep 2007
Jim Morrison Engineering Manager

Total Pages: 32



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Section 1 Summary of Test Results

Manufacturer: Motorola
Model No.: UBS CDMA 1.9GHz XMI Transceiver
Serial No.: 576G7J019P
General: All measurements are traceable to national standards

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 24,

New Submission Production Unit

Class II Permissive Change Pre-Production Unit

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE: NONE



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NAME OF TEST	PARA. NO.	SPEC. LIMIT	RESULTS
RF Power Output	2.1046	33 dBW + 10log(X/Y) dBW	Complies
Occupied Bandwidth	2.1049	Not Specified	Complies
Spurious Emissions at Antenna Terminals	2.1051	-13 dBm	Complies
Field Strength of Spurious Radiation	2.1053	-13 dBm	Complies
Frequency Stability	2.1055	Must remain within authorized bandwidth	Complies



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Section 2

General Equipment Specification

Power Supply: 27 VDC

Frequency Range: 1931.25-1993.75

Type(s) of Modulation: F3E (Voice) F1D F2D W7D F9W
____ _ _ _ _ X

Emissions Designator: 1M30F9W

Output Impedance: 50 ohms

RF Power Output: 42dBm Conducted

Selection of Operating Frequency: Selectable by operator

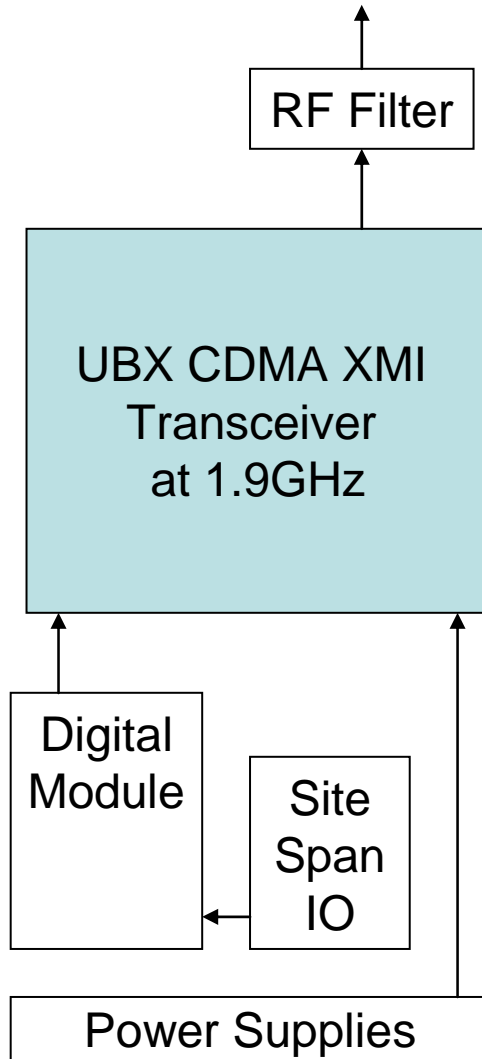
Power Output Adjustment Capability: 25dBm minimum power



Description of EUT

The UBS CDMA 1.9GHz XMI Transceiver is a Base Station transceiver.

System Diagram





Section 3 RF Power Output

NAME OF TEST: RF Power Output	PARA. NO.: 2.1046
TESTED BY: Darryl Aucoin, Principal Test Engineer	DATE: Aug 31, 2007

Test Result: Complies

Measurement Data: See Tables

Test Equipment: 13, 15, 16

MAX RF POWER OUTPUT

CDMA 1X QPSK		
Frequency (MHz)	RMS Power (dBm)	RMS Power (Watts)
25	44.39	27.5
1175	44.23	26.5
1275	44.23	26.5

CDMA EVDO QPSK		
Frequency (MHz)	RMS Power (dBm)	RMS Power (Watts)
25	44.07	25.5
1175	44.72	29.6
1275	44.1	25.7

CDMA EVDO 16QAM		
Frequency (MHz)	RMS Power (dBm)	RMS Power (Watts)
25	44.06	25.5
1175	44.71	29.6
1275	44.04	25.4



Section 4 Occupied Bandwidth

NAME OF TEST: Occupied Bandwidth	PARA. NO.: 2.1049
TESTED BY: Darryl Aucoin, Principal Test Engineer	DATE: Aug 31, 2007

Test Result: Complies

Measurement Data: See Attached Tables and Plots

Test Equipment: 13, 15, 16

OCCUPIED BANDWIDTH

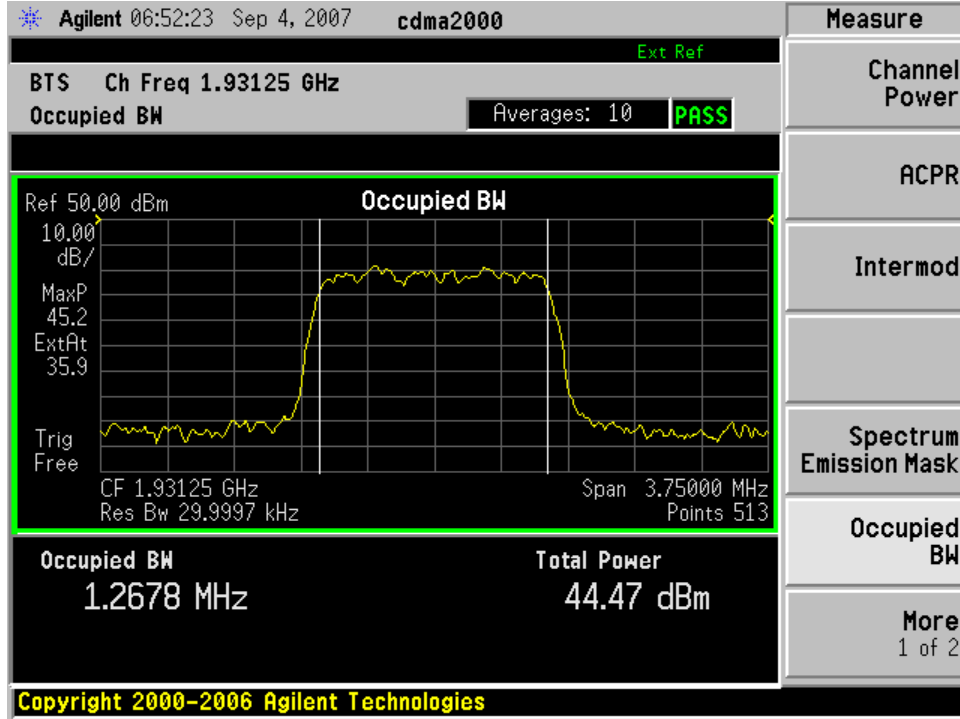
CDMA 1X QPSK		
Frequency (MHz)	Occupied BW (MHz)	Maximum Limit (MHz)
1931.25	1.2678	1.3
1988.75	1.2735	1.3
1993.75	1.2707	1.3

CDMA EVDO QPSK		
Frequency (MHz)	Occupied BW (MHz)	Maximum Limit (MHz)
1931.25	1.2668	1.3
1988.75	1.2651	1.3
1993.75	1.2826	1.3

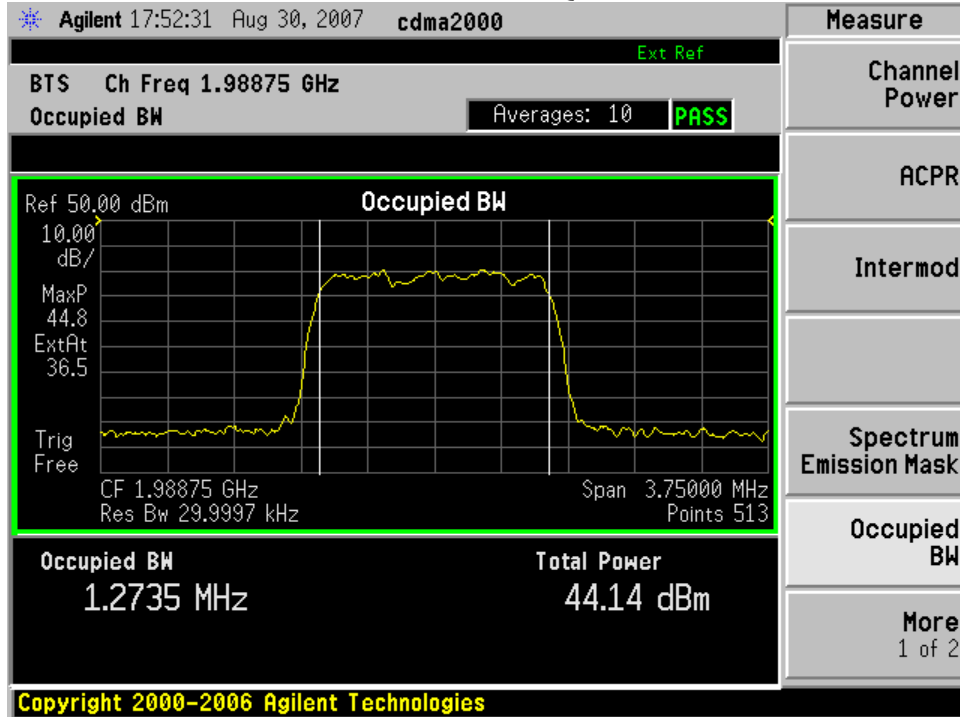
CDMA EVDO 16QAM		
Frequency (MHz)	Occupied BW (MHz)	Maximum Limit (MHz)
1931.25	1.2744	1.3
1988.75	1.2702	1.3
1993.75	1.2797	1.3



Occupied Bandwidth 1931.25MHz in CMDA 1X QPSK

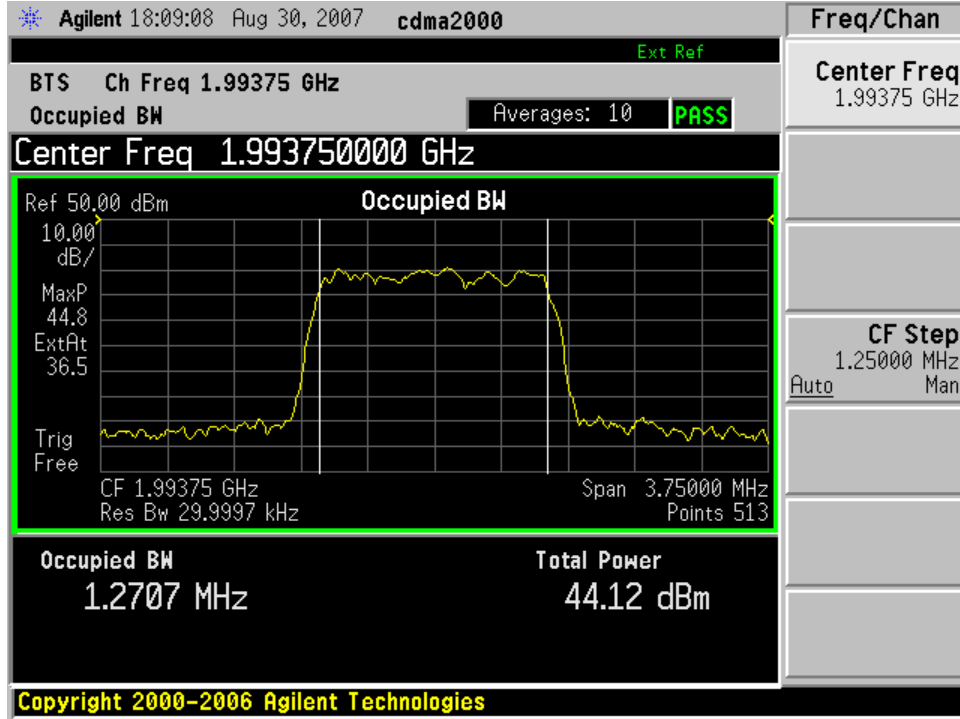


Occupied Bandwidth 1988.75MHz in CMDA 1X QPSK

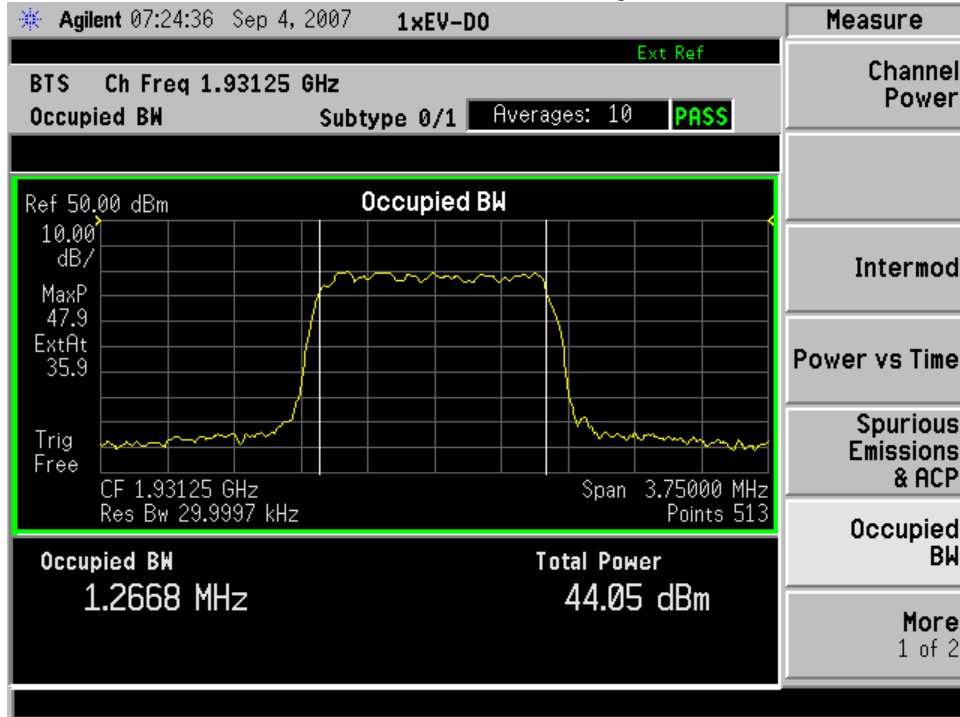




Occupied Bandwidth 1993.75MHz in CDMA 1X QPSK

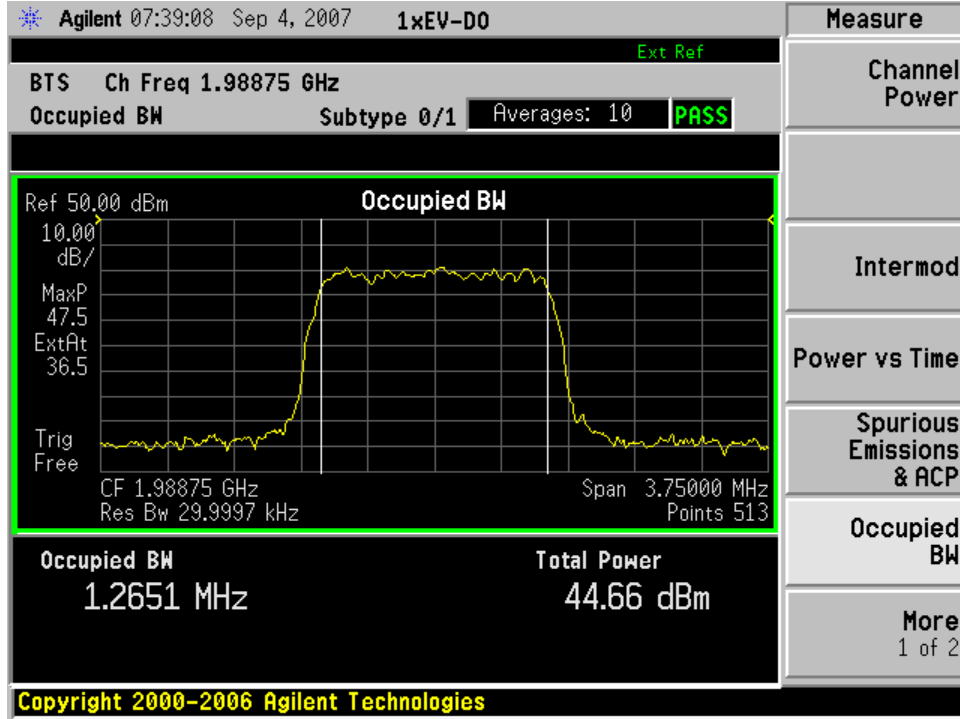


Occupied Bandwidth 1931.25MHz in CDMA EVDO QPSK

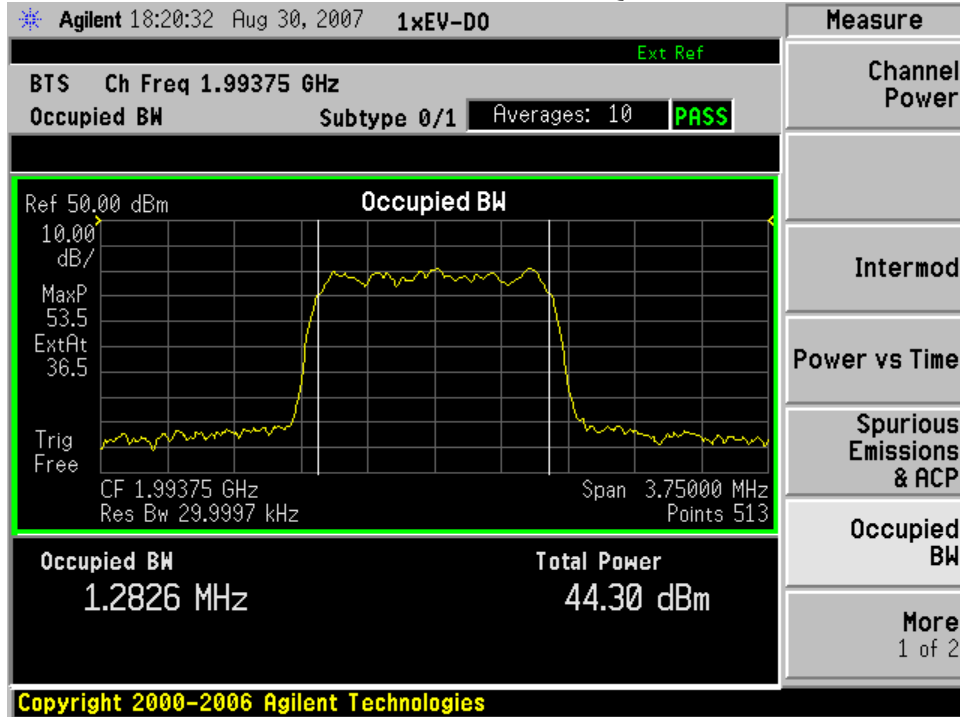




Occupied Bandwidth 1988.75MHz in CMDA EVDO QPSK

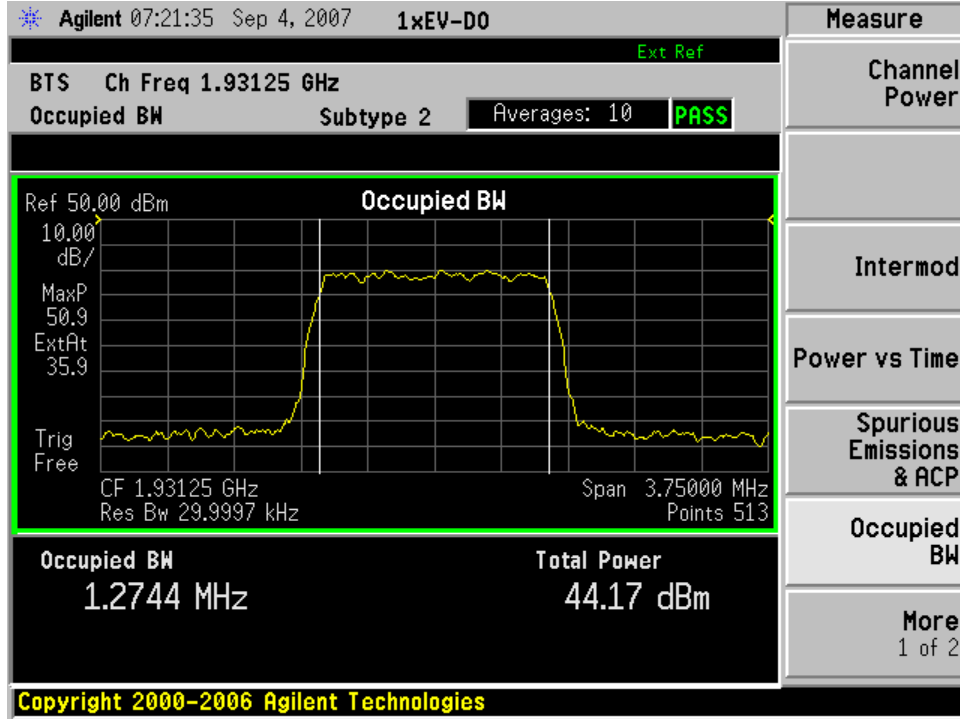


Occupied Bandwidth 1993.75MHz in CMDA EVDO QPSK

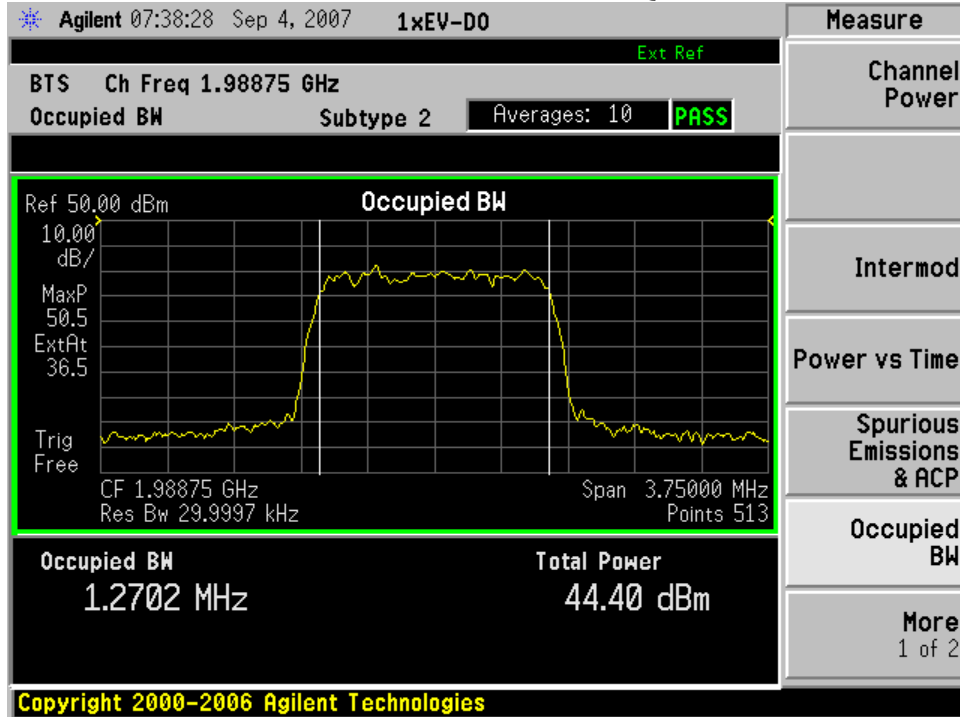




Occupied Bandwidth 1931.25MHz in CMDA EVDO 16QAM

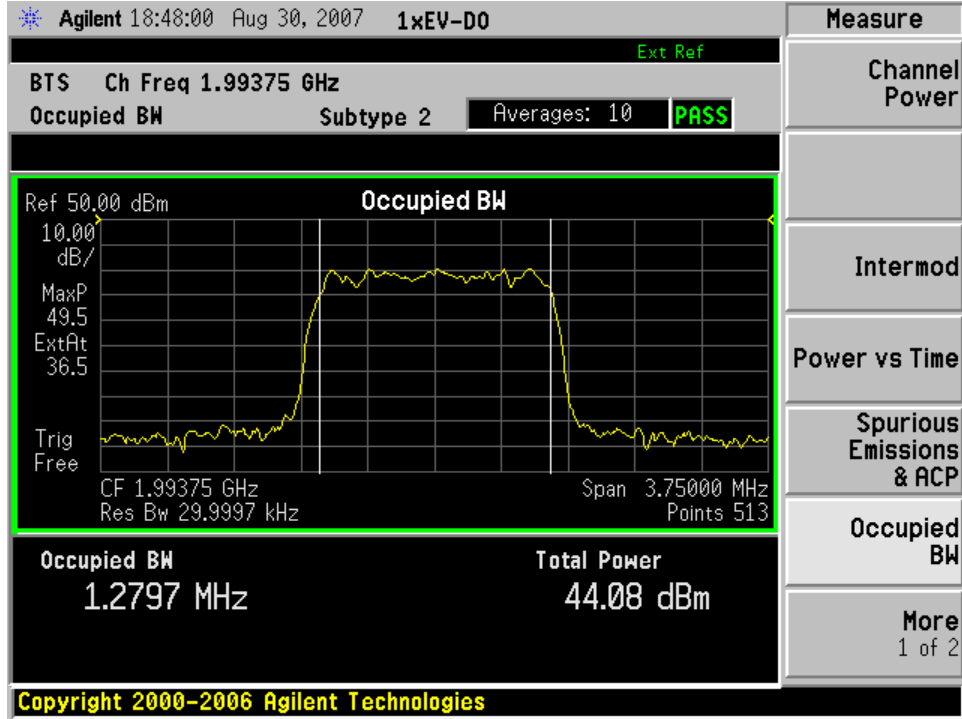


Occupied Bandwidth 1988.75MHz in CMDA EVDO 16QAM





Occupied Bandwidth 1993.75MHz in CMDA EVDO 16QAM





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FCC ID: IHET6HG1

Section 5 Spurious Emissions at Antenna Terminals

NAME OF TEST: Spurious Emissions at Antenna Terminals PARA. NO.: 2.1051

TESTED BY: Darryl Aucoin, Principal Test Engineer DATE: Aug 31, 2007

Test Result: Complies

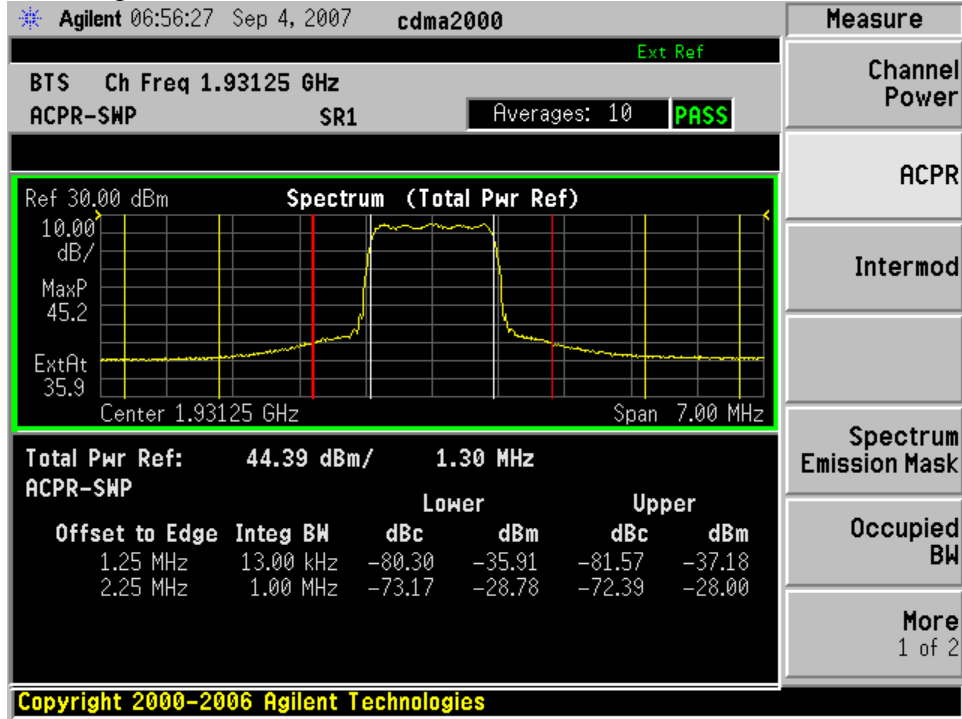
Measurement Data: See Attached Plots

Test Equipment: 13, 15, 16, 17

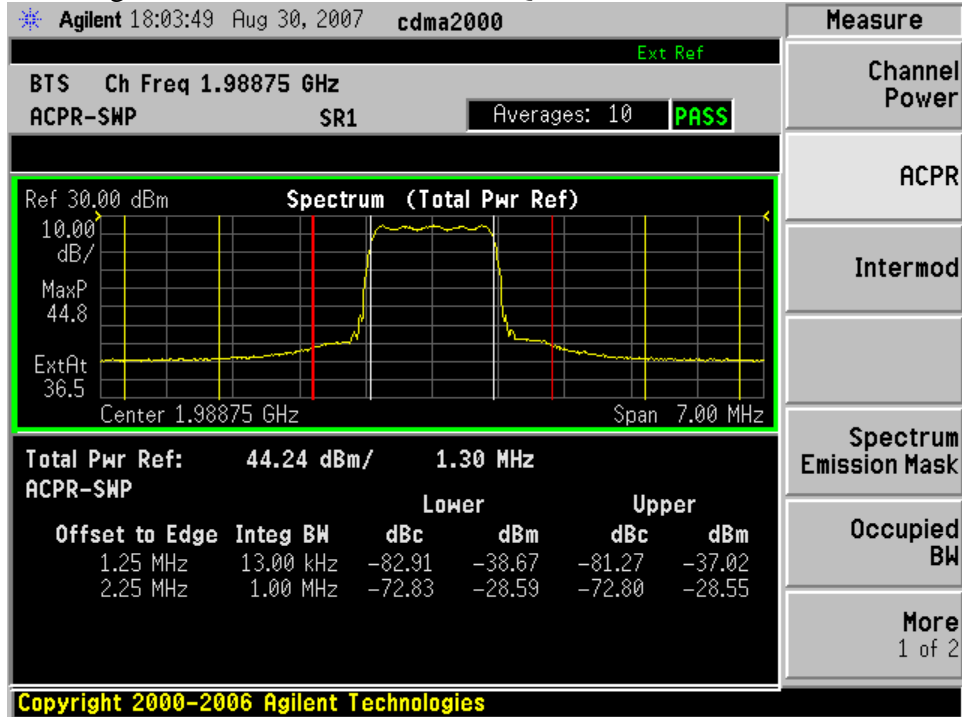
SPURIOUS EMISSIONS AT ANTENNA TERMINALS



Lower Band Edge 1931.25MHz in CDMA 1X QPSK

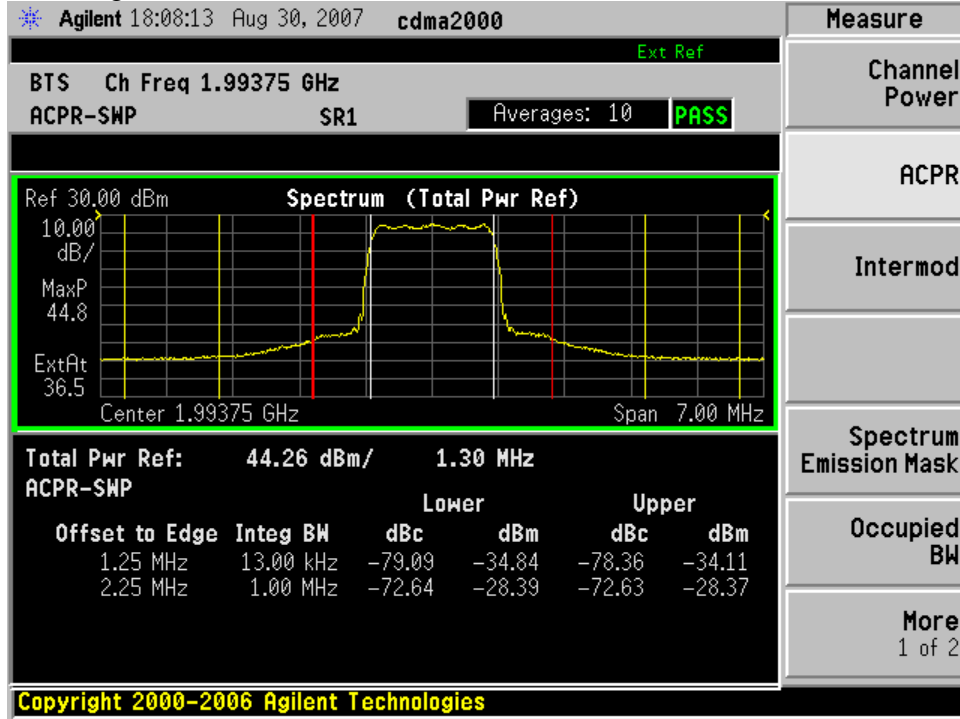


Upper Band Edge 1988.75MHz in CDMA 1X QPSK

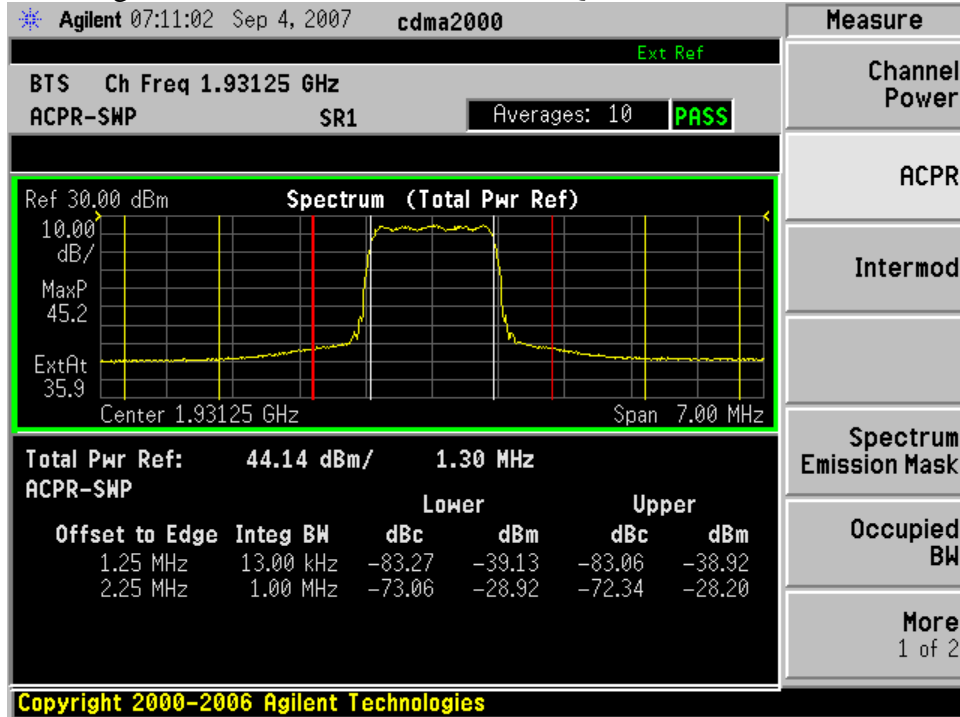




Upper Band Edge 1993.75MHz in CDMA 1X QPSK

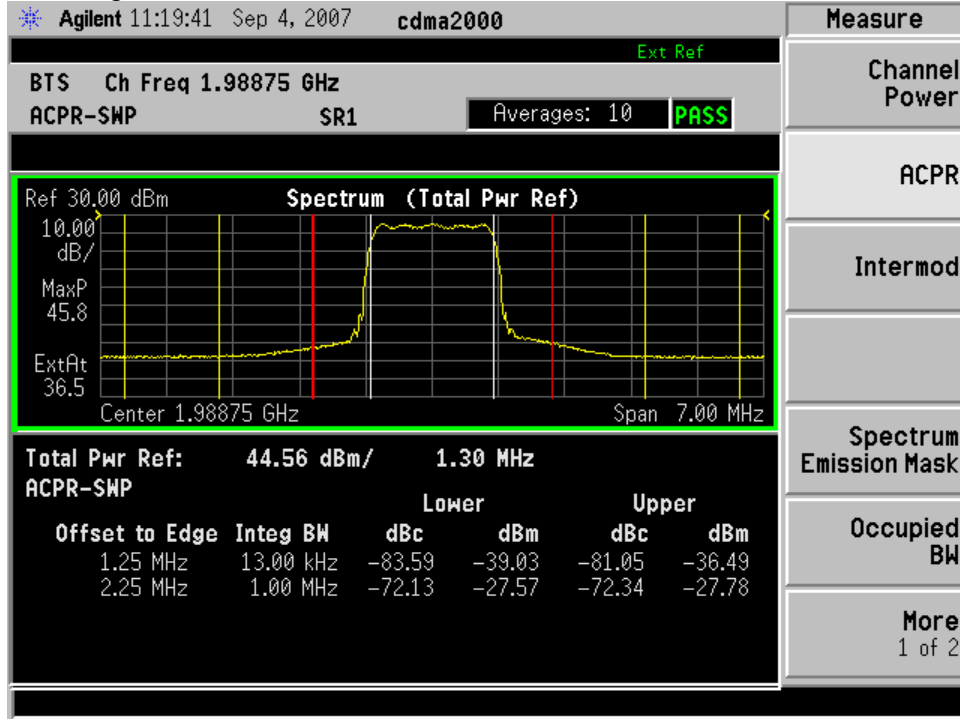


Lower Band Edge 1931.25MHz in CDMA EVDO QPSK

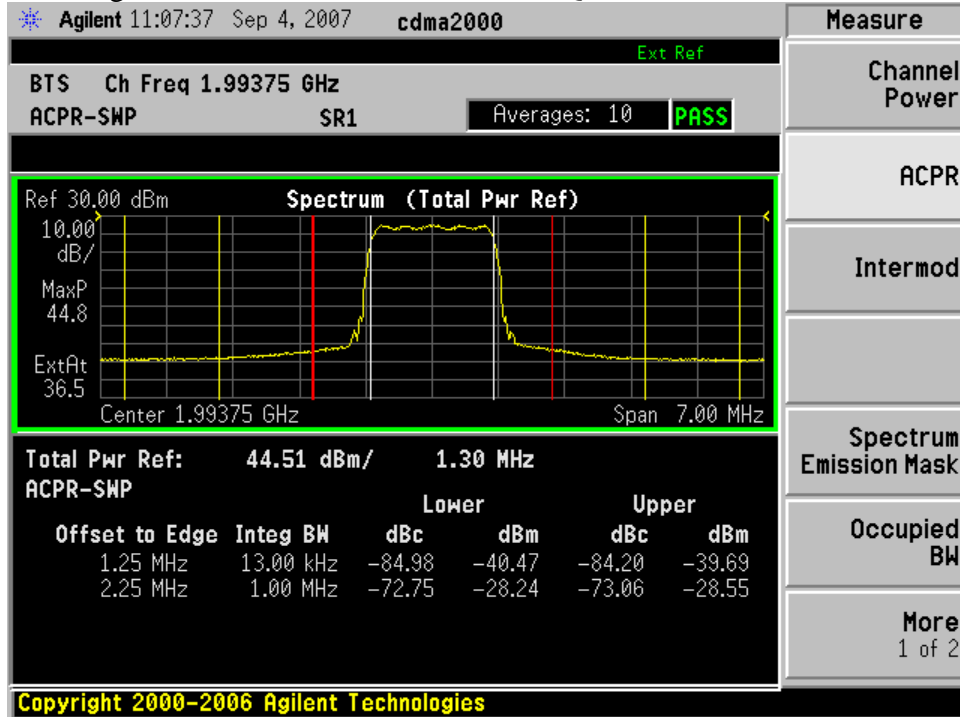




Upper Band Edge 1988.75MHz in CDMA EVDO QPSK

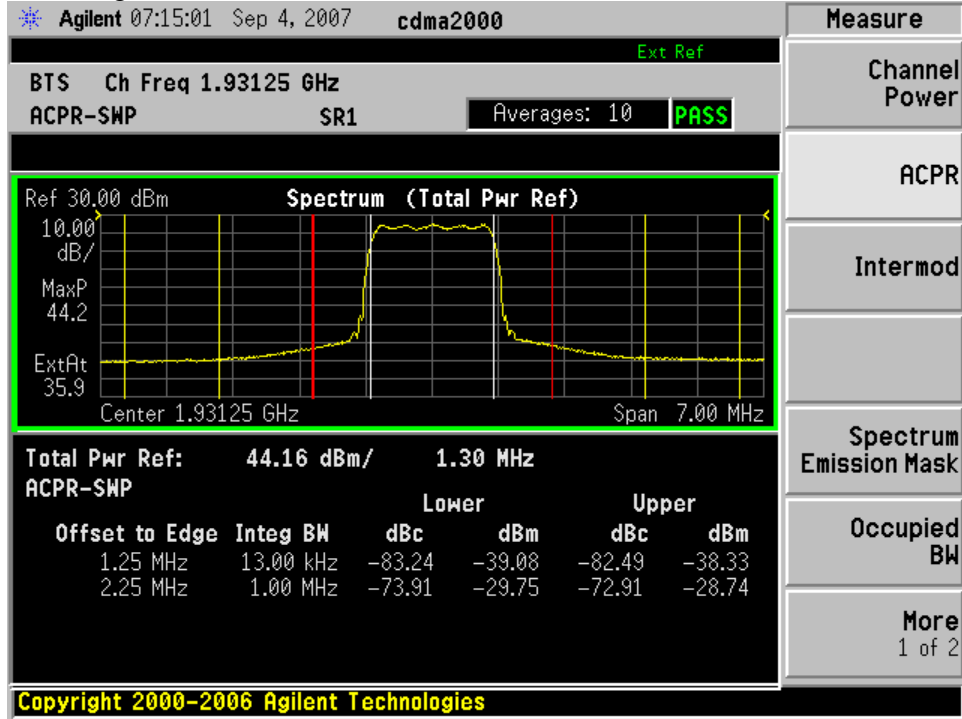


Upper Band Edge 1993.75MHz in CDMA EVDO QPSK

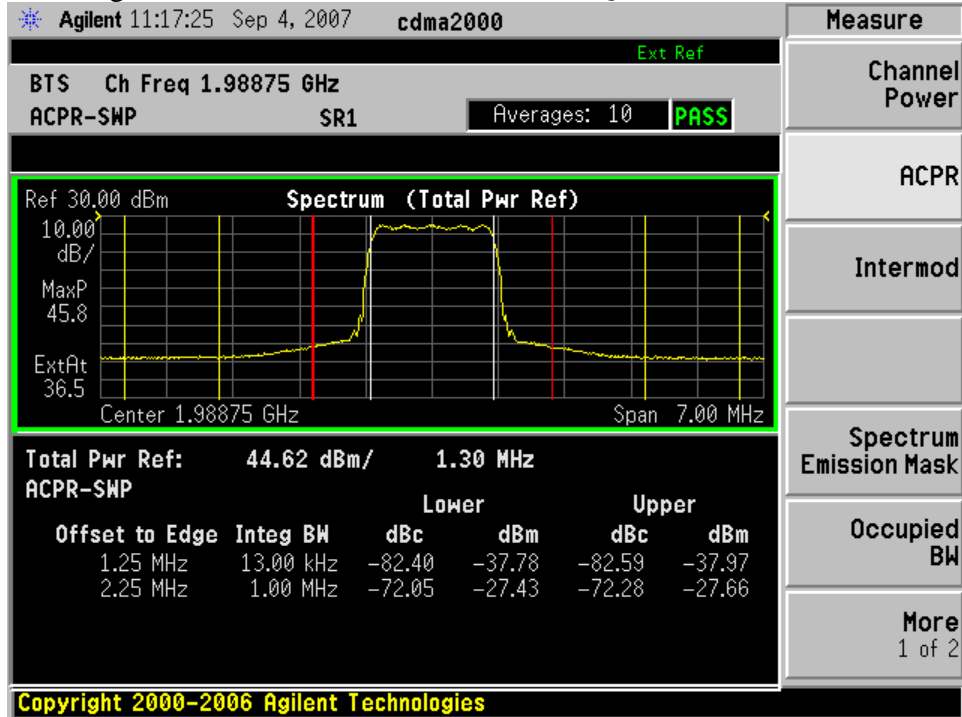




Lower Band Edge 1931.25MHz in CDMA EVDO 16QAM

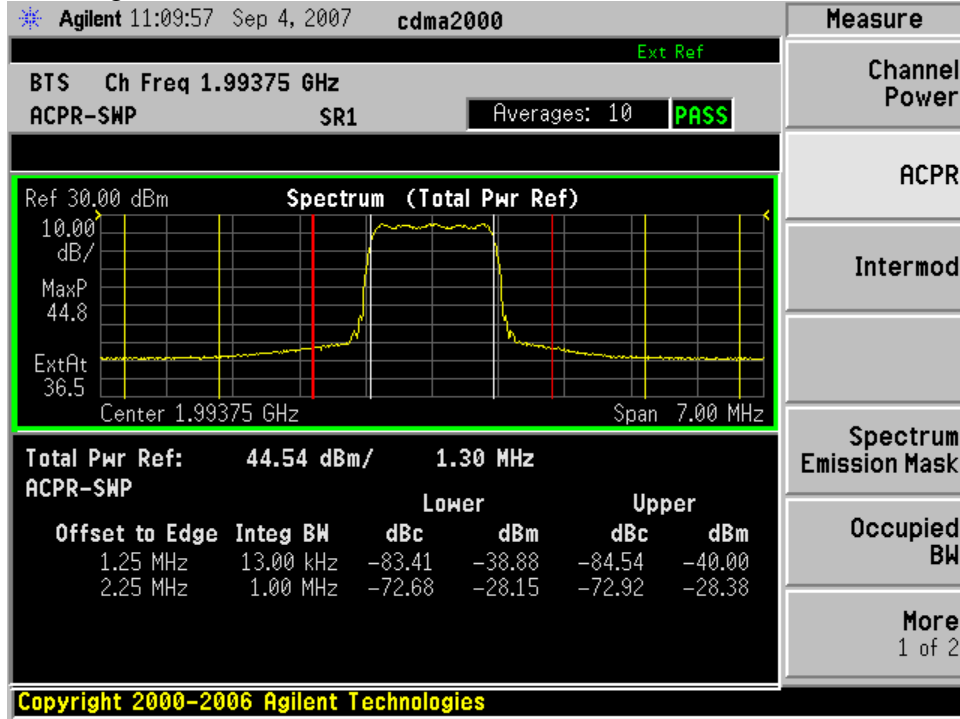


Upper Band Edge 1988.75MHz in CDMA EVDO 16QAM

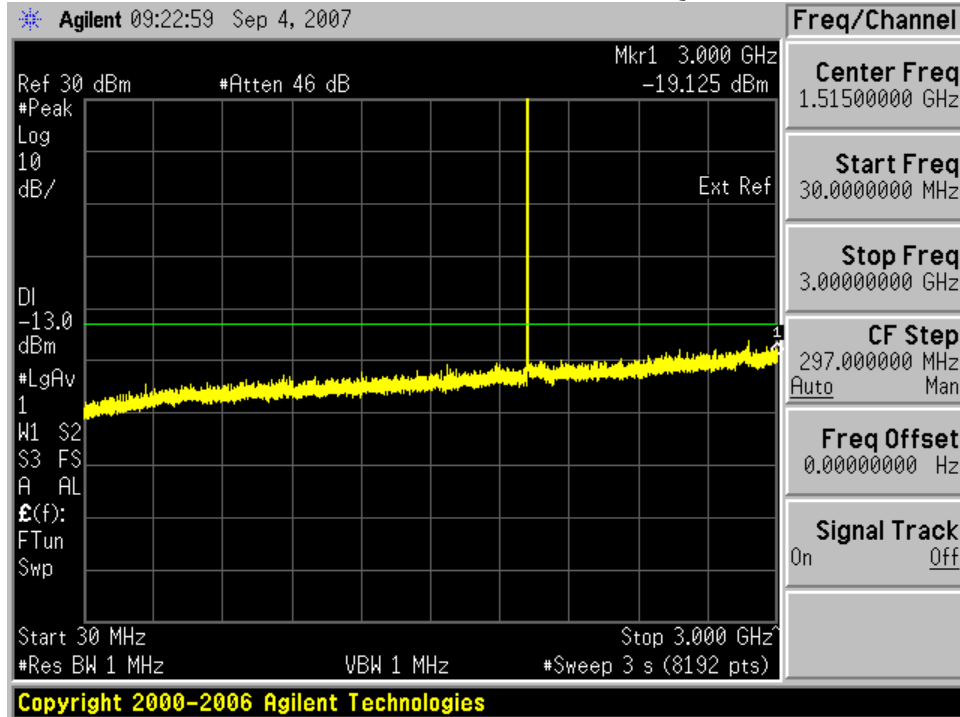




Upper Band Edge 1993.75MHz in CDMA EVDO 16QAM



Spurious 30MHz to 3GHz for 1931.25MHz in CDMA 1X QPSK





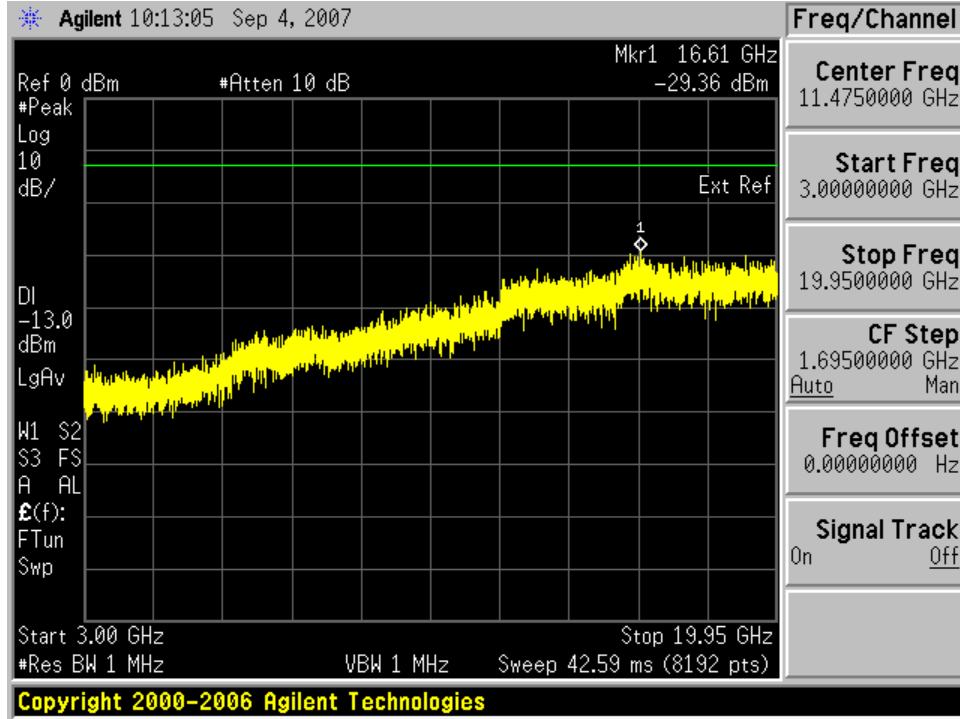
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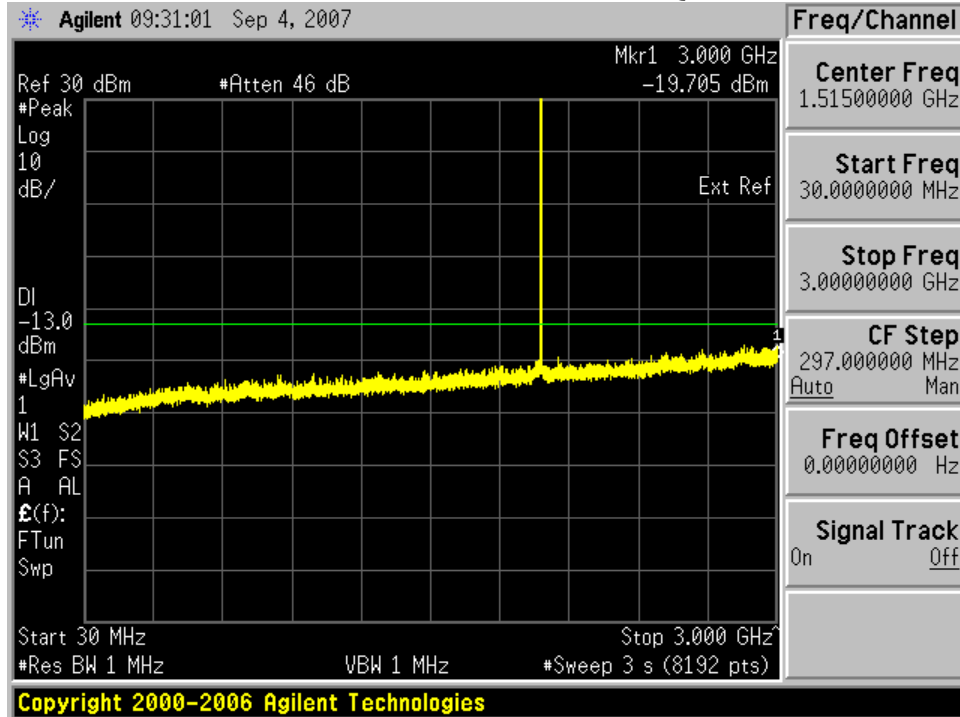
APPLICANT: MOTOROLA

FCC ID: IHET6HG1

Spurious 3GHz to 19.95GHz for 1931.25MHz in CDMA 1X QPSK



Spurious 30MHz to 3GHz for 1988.75MHz in CDMA 1X QPSK





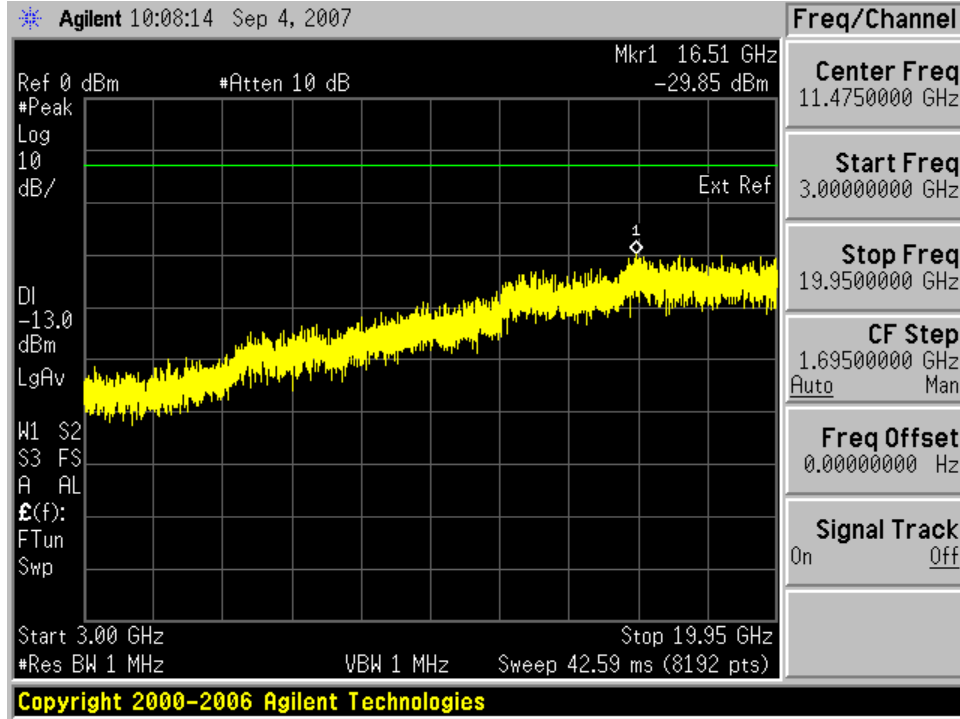
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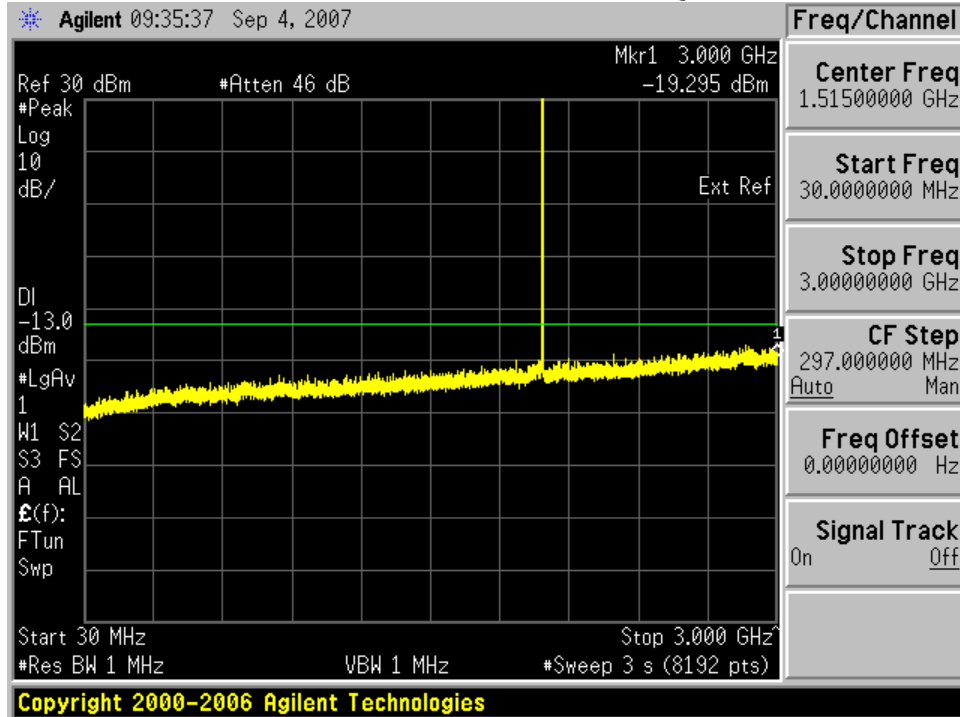
APPLICANT: MOTOROLA

FCC ID: IHET6HG1

Spurious 3GHz to 19.95GHz for 1988.75MHz in CDMA 1X QPSK



Spurious 30MHz to 3GHz for 1993.75MHz in CDMA 1X QPSK





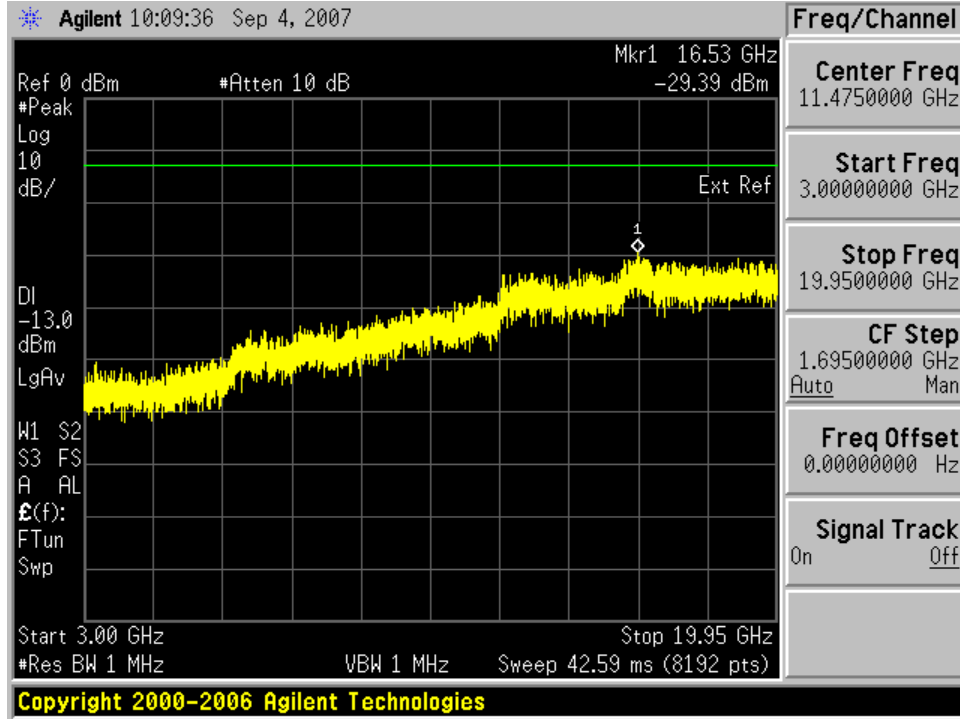
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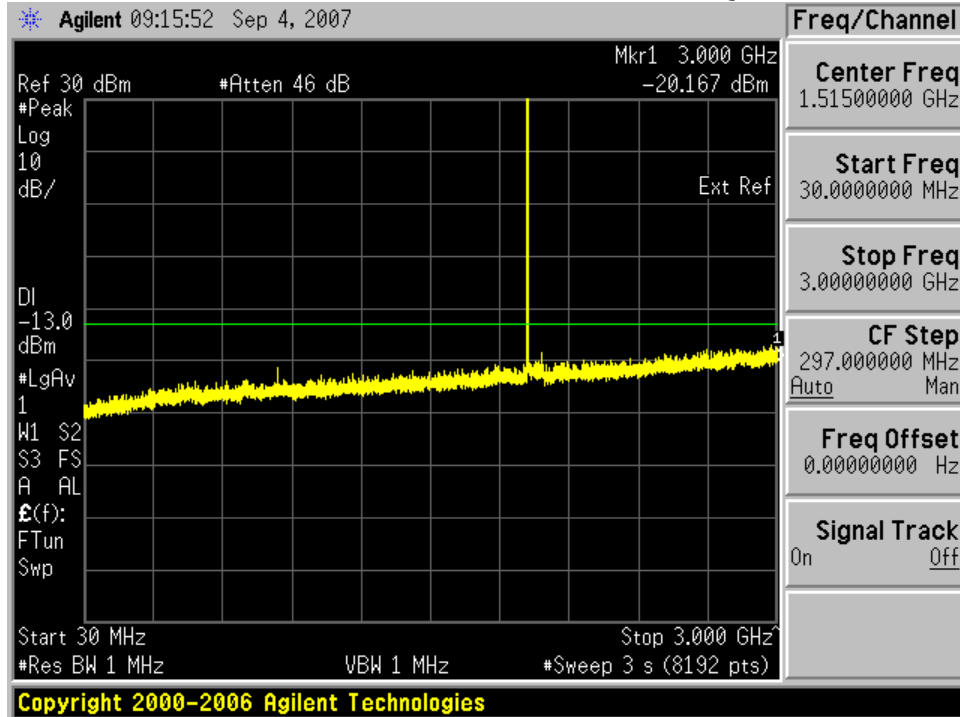
APPLICANT: MOTOROLA

FCC ID: IHET6HG1

Spurious 3GHz to 19.95GHz for 1993.75MHz in CDMA 1X QPSK



Spurious 30MHz to 3GHz for 1931.25MHz in CDMA EVDO QPSK





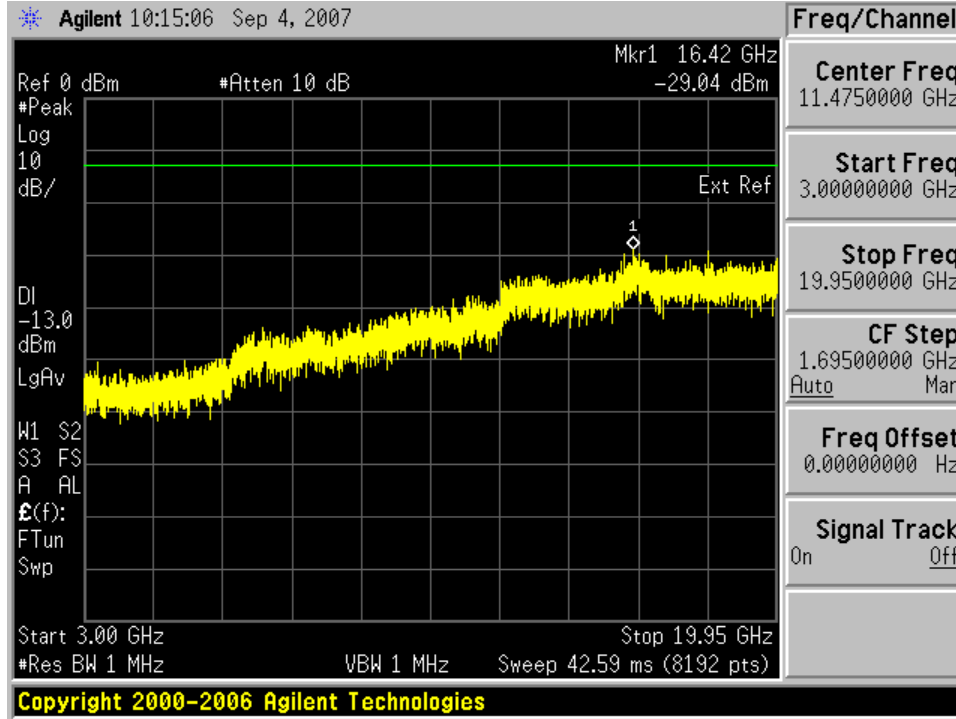
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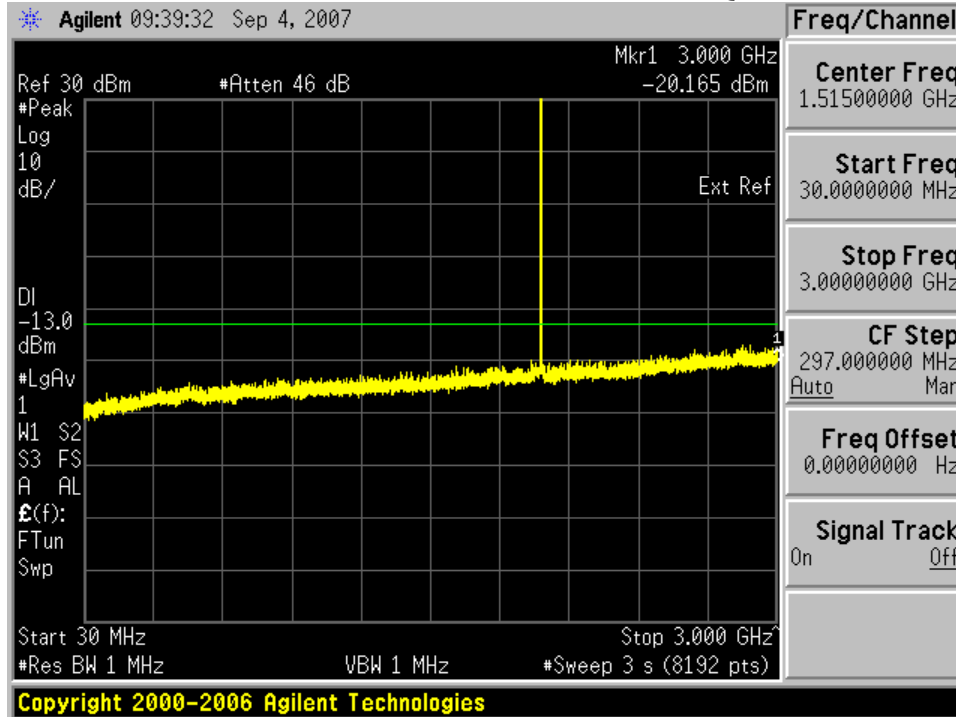
APPLICANT: MOTOROLA

FCC ID: IHET6HG1

Spurious 3GHz to 19.95GHz for 1931.25MHz in CDMA EVDO QPSK



Spurious 30MHz to 3GHz for 1988.75MHz in CDMA EVDO QPSK





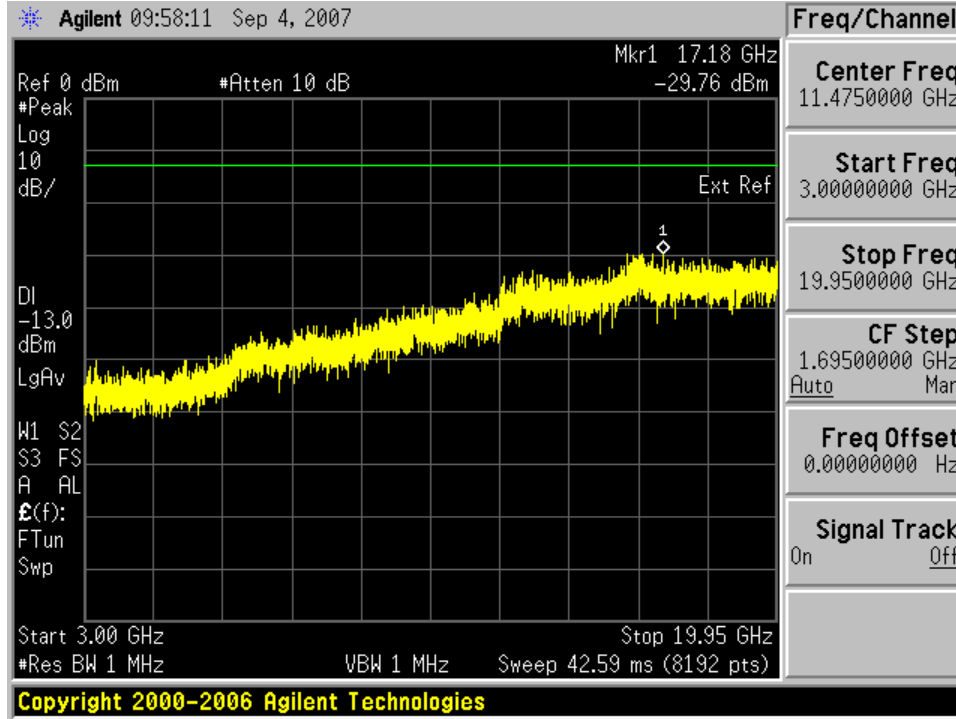
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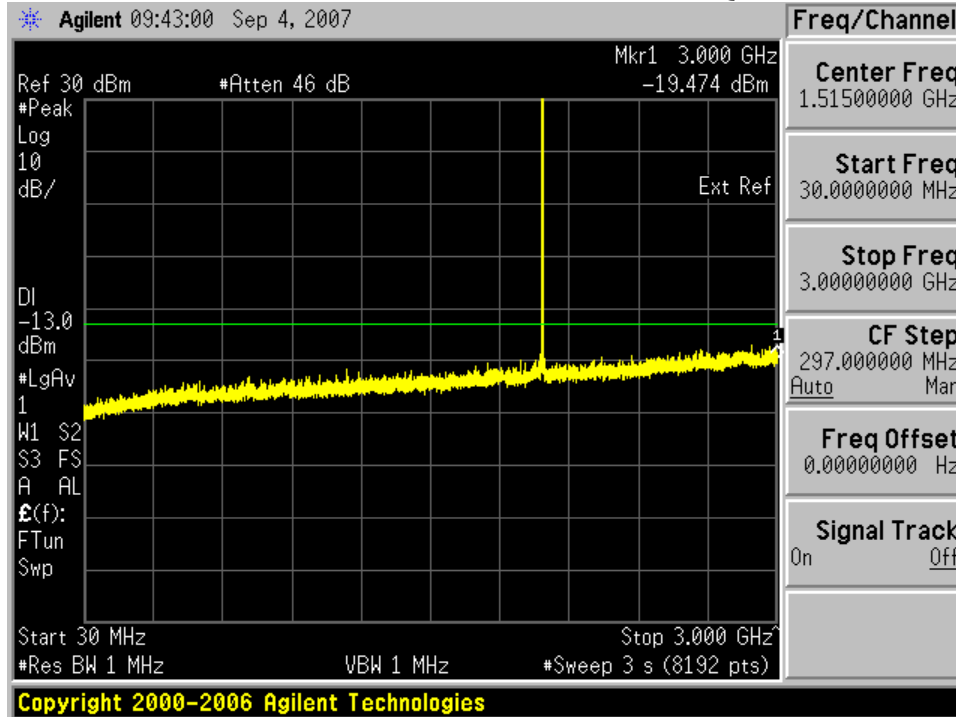
APPLICANT: MOTOROLA

FCC ID: IHET6HG1

Spurious 3GHz to 19.95GHz for 1988.75MHz in CDMA EVDO QPSK



Spurious 30MHz to 3GHz for 1993.75MHz in CDMA EVDO QPSK





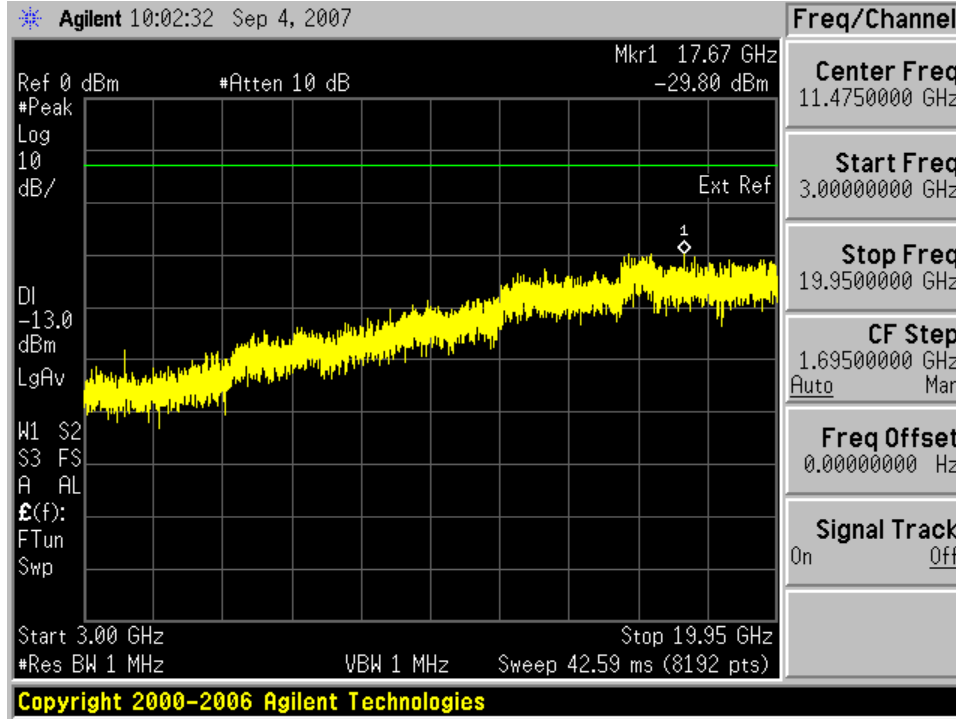
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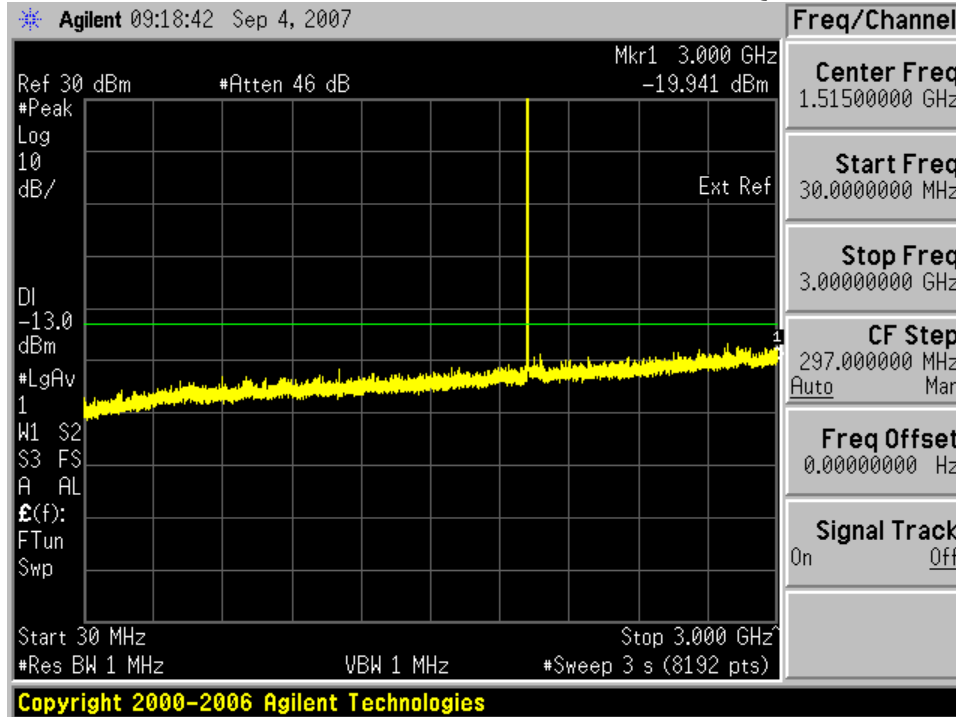
APPLICANT: MOTOROLA

FCC ID: IHET6HG1

Spurious 3GHz to 19.95GHz for 1993.75MHz in CDMA EVDO QPSK



Spurious 30MHz to 3GHz for 1931.25MHz in CDMA EVDO 16QAM





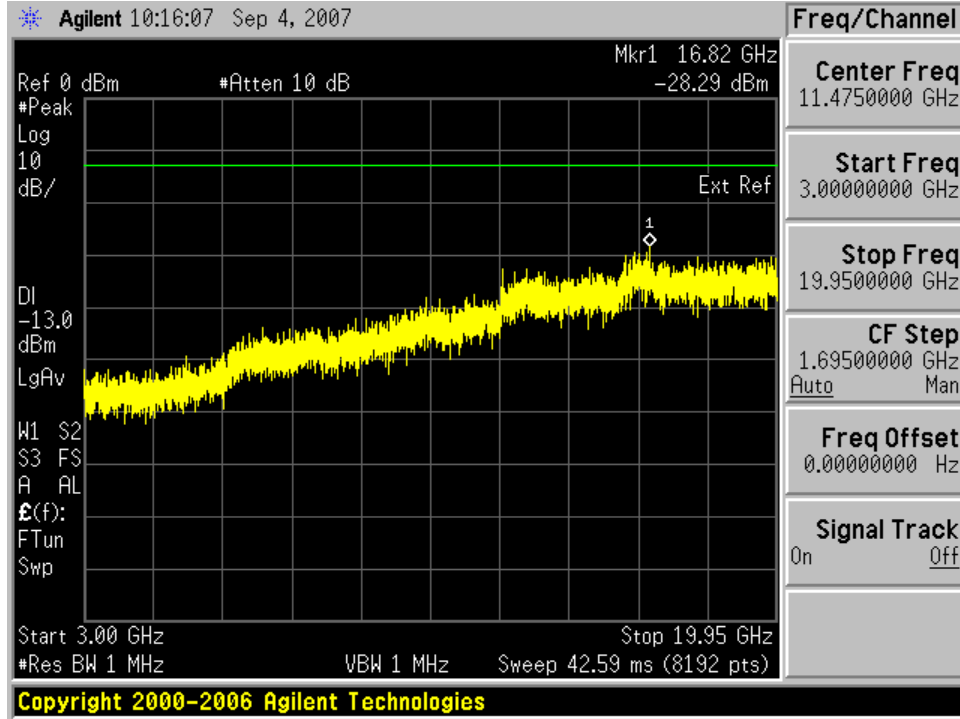
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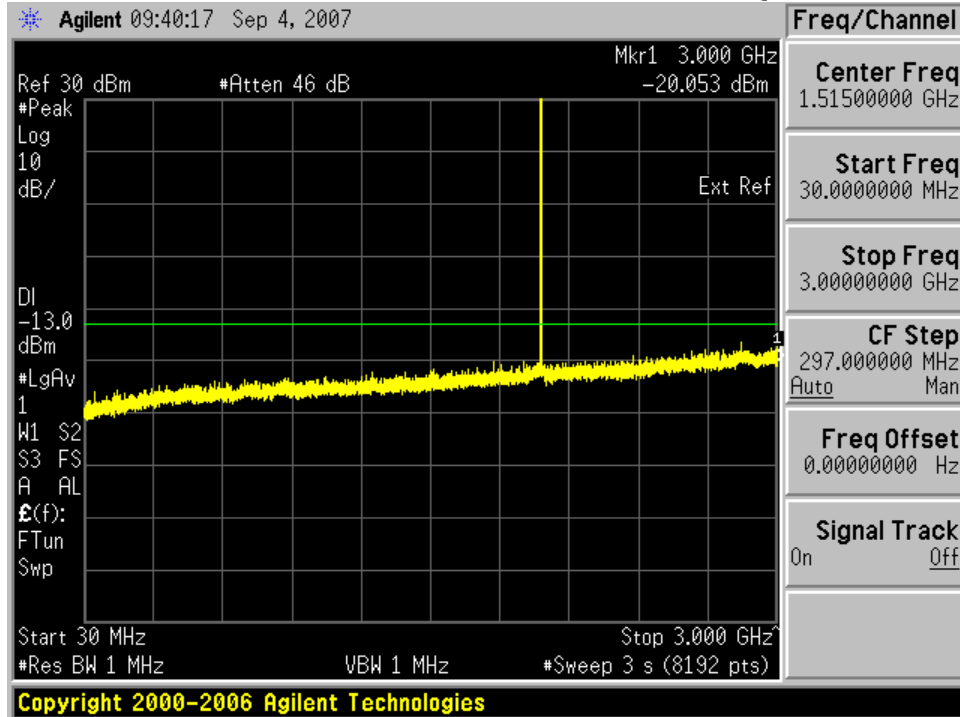
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Spurious 3GHz to 19.95GHz for 1931.25MHz in CDMA EVDO 16QAM



Spurious 30MHz to 3GHz for 1988.75MHz in CDMA EVDO 16QAM





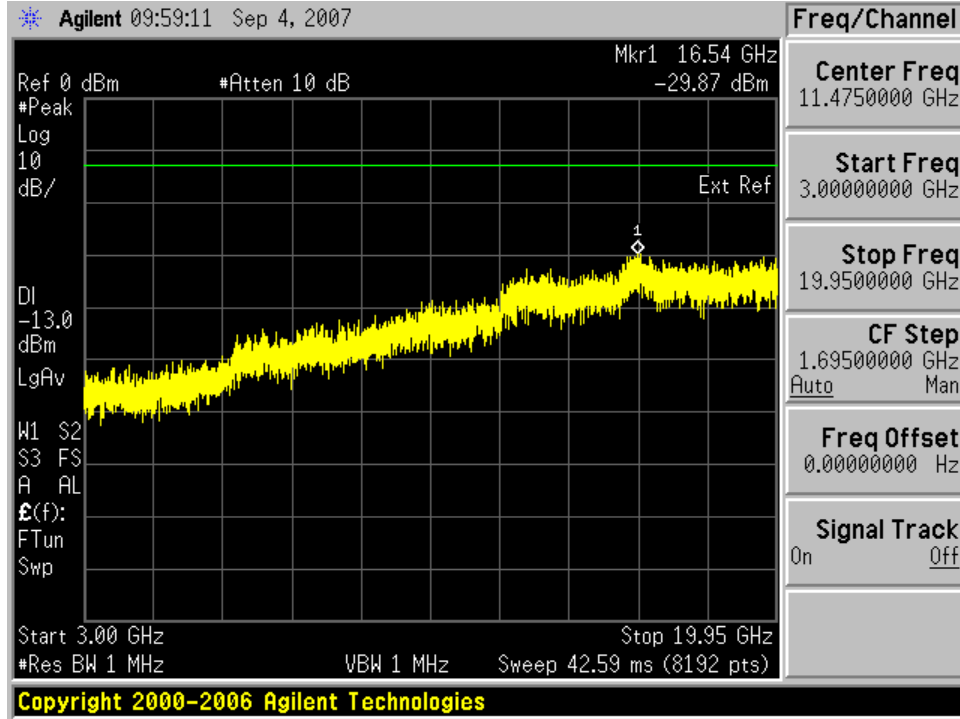
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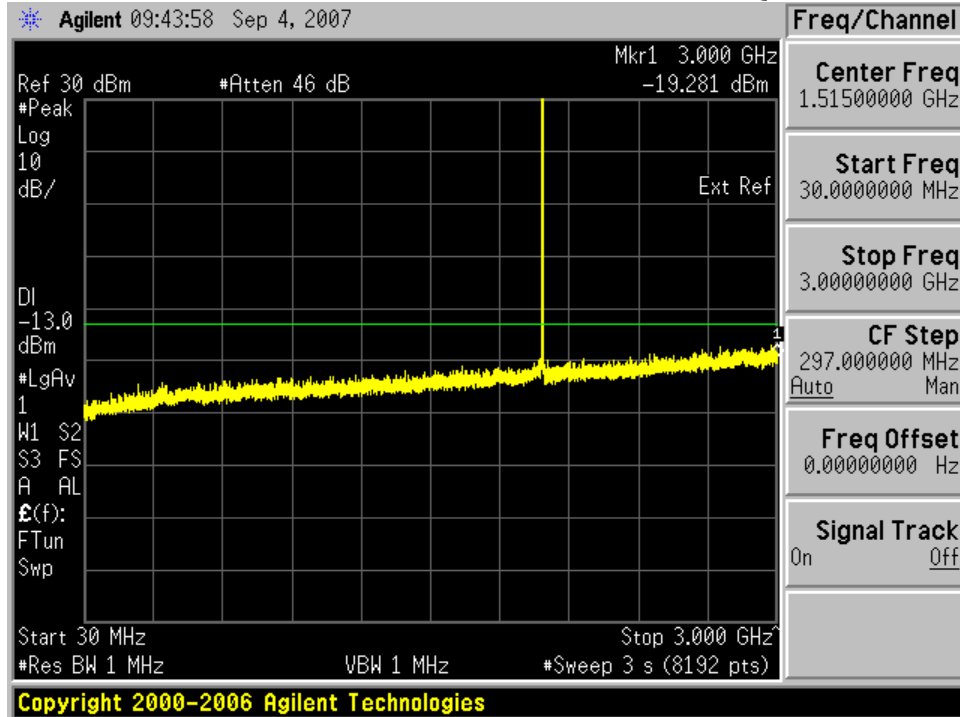
APPLICANT: MOTOROLA

FCC ID: IHET6HG1

Spurious 3GHz to 19.95GHz for 1988.75MHz in CDMA EVDO 16QAM



Spurious 30MHz to 3GHz for 1993.75MHz in CDMA EVDO 16QAM





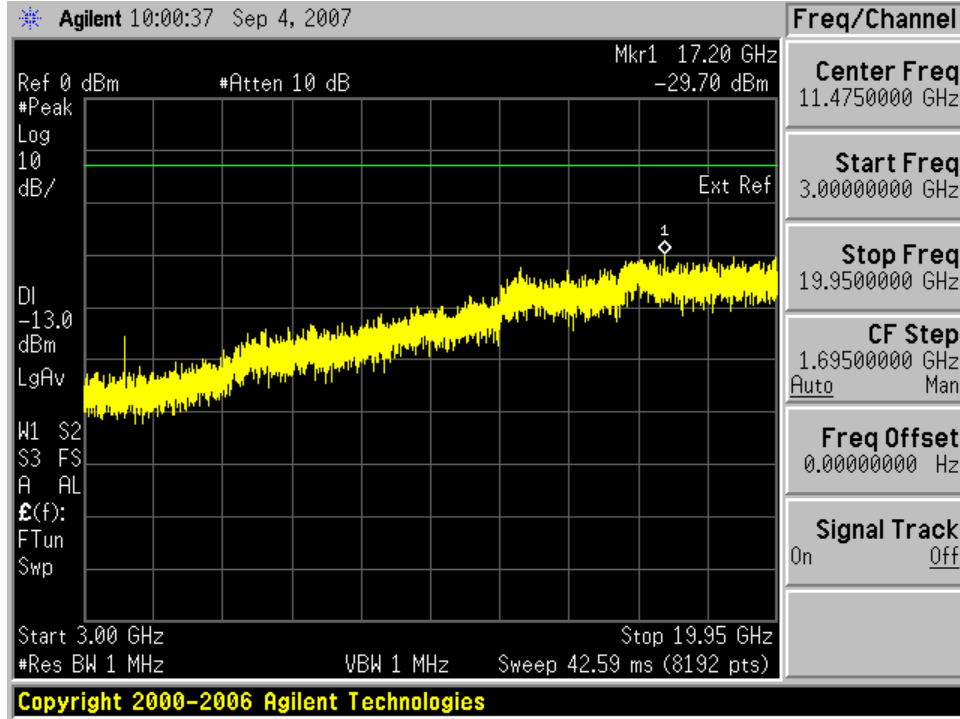
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APPLICANT: MOTOROLA

FCC ID: IHET6HG1

Spurious 3GHz to 19.95GHz for 1993.75MHz in CDMA EVDO 16QAM





Section 6 Field Strength of Spurious

NAME OF TEST: Field Strength of Spurious	PARA. NO.: 2.1053
TESTED BY: Don Ahrens, Test Technician	DATE: Aug 29, 2007

Test Result: Complies

Measurement Data: See Attached Table

Test Equipment: 1,2,3,4,5,6,7,8,9,10,11,12,14

FIELD STRENGTH OF SPURIOUS

The spectrum was searched from 30MHz to the 10th harmonic of the carrier

SPUR FREQUENCY (GHz)	DISTANCE MEASURED (meters)	WORST CASE SPUR LEVEL MEASURED (dBuV/meter)	WORST CASE SPUR LEVEL MEASURED (dBm)	FCC MAX LIMIT (dBm)
9.626	3	63	-32	-13



Section 7 Frequency Stability

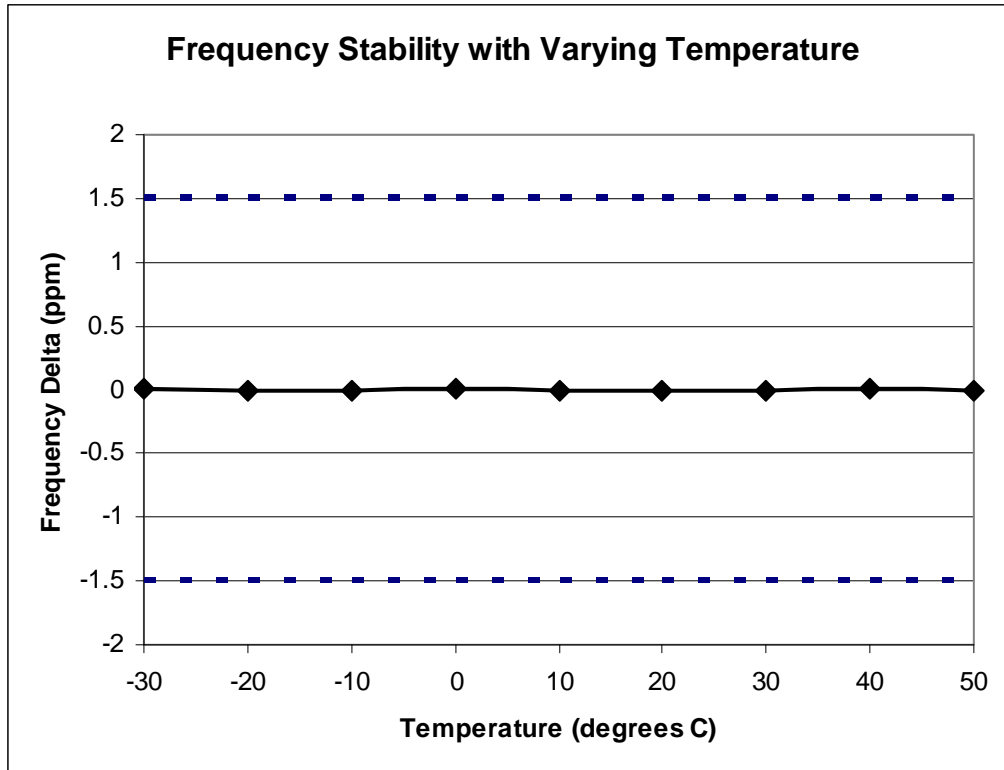
NAME OF TEST: Frequency Stability	PARA. NO.: 2.1055
TESTED BY: Melissa Vandrie, Lead Test Engineer	DATE: Aug 29, 2007

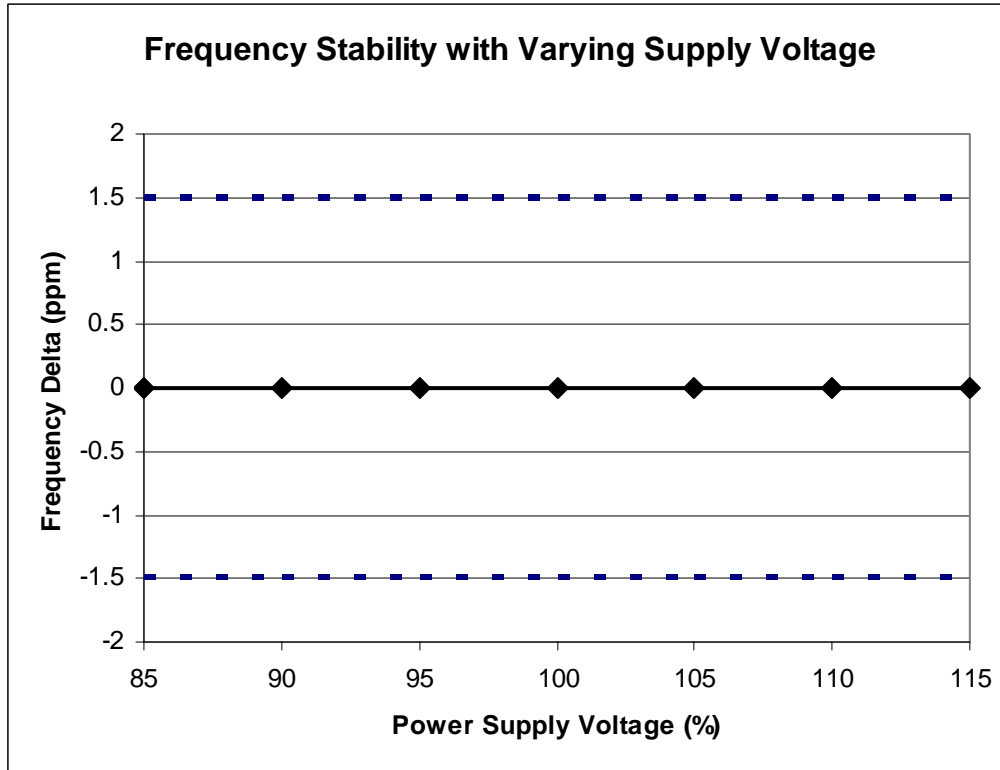
Test Result: Complies

Measurement Data: See Plots

Test Equipment: 13, 15, 16

FREQUENCY STABILITY







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APPLICANT: MOTOROLA

FCC ID: IHET6HG1

Section 8 Test Equipment List

Item #	Motorola ID	Description	Model	Serial No.	Cal Date	Cal Due Date
1	118938	Pre-Amp	HP83006A	3950M00136	N/A	N/A
2	118937	Pre-Amp	HP83006A	3950M00135	N/A	N/A
3	505082	Antenna, Log Periodic	EMCO 3146	9303-3597	10/26/2006	5/21/2008
4	500301	Antenna, Biconnical	EMCO 3104C	8905-3974	10/26/2006	5/1/2008
5	502512	Antenna, Double Ridged Guide	EMCO 3115	2021	10/26/2006	5/21/2008
6	112019	Spectrum Analyzer	HP8593EM	3628A00164	4/3/2007	4/3/2008
7	508768	Power Meter	HP438A	3513U03967	3/29/2007	3/29/2008
8	116232	Power Sensor	HP8481A	2702A61832	3/30/2007	3/30/2008
9	509002	Signal Generator	HP83712A	3429A00422	3/27/2006	4/2/2008
10	N/A	Cable, Heliax 1/2" - 100 feet	Andrew	N/A	N/A	N/A
11	N/A	Cable, Coax - 6 feet	Microcoax	N/A	N/A	N/A
12	N/A	Cable, Coax - 6 feet	Microcoax	N/A	N/A	N/A
13	N/A	Cable, Coax - 6 feet	Microcoax	N/A	N/A	N/A
14	N/A	Cable, Reel - 20 feet	Emco	N/A	N/A	N/A
15	123503	Spectrum Analyzer	E4440A	MY4430375 6	4/19/2007	4/19/2008
16	N/A	Attenuator, 20dB	Wienschel	N/A	N/A	N/A
17	N/A	Low Pass Filter	Teledyne	N/A	N/A	N/A