RF Test Report

Product Name: Distributed Base Station Remote Radio Unit

Product Model: RRU3642

Report Number: SYBH(R)005122011EB-1

FCC ID: QISRRU3642

IC ID: 6369A-RRU3642

Reliability Laboratory of Huawei Technologies Co., Ltd.

Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China
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Notice

1. The laboratory has Passed the accreditation by China National Accreditation Service for Conformity Assessment (CNAS). The accreditation number is L0310.

2. The laboratory has Passed the accreditation by The American Association for Laboratory Accreditation (A2LA). The accreditation number is 2174.01.

3. The laboratory has been listed by the US Federal Communications Commission to perform electromagnetic emission measurements. The site recognition number is 97456.

4. The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The site recognition number is 6369A-1.

5. The laboratory has been listed by the VCCI to perform EMC measurements. The accreditation numbers are R2364, C2583, and T256.

6. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.

7. The test report is invalid if there is any evidence of erasure and/or falsification.

8. The test report is only valid for the test samples.

9. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

Applicant:	Huawei Technologies Co., Ltd.
Address:	Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China
Product Name:	Distributed Base Station Remote Radio Unit
Product Model:	RRU3642
Version:	CDMA:V400R008&LTE:V100R005

Date of Receipt Sample:	2011-12-09
Start Date of Test:	2011-12-10
End Date of Test:	2011-12-20

Test Result: Pass

Approved by Senior Engineer:	2011-12-21	Zhang Xinghai	Zhang Xing hai
	Date	Name	Signature

Prepared by:	2011-12-21	Liang changguan	Liang Changguan
	Date	Name	Signature

CONTENT

1 General Information

1.1 Applied Standard

Applied Rules:	47 CFR FCC Part 2, Subpart J (10-1-10 Edition)
	47 CFR FCC Part 24, Subpart E (10-1-10 Edition)
	IC RSS-Gen (Issue 3, December 2010)
	IC RSS-133 (Issue 5, February 2009)

1.2 Test Location

Test Location 1:	Reliability Laboratory of Huawei Technologies Co., Ltd.
Address:	Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China

1.3 Test Environment Condition

Ambient Temperature:	20 to 25 °C
Ambient Relative Humidity:	42 to 68 %
Atmospheric Pressure:	Not applicable

2 Test Summary

Test Case	FCC Part No.	Requirements	Result
PCS Band			
Transmitter Output Power	2.1046 & 24.232	Peak EIRP not exceed 1640 W	Pass
Modulation Characteristics	2.104	Digital modulation	Pass
Occupied Bandwidth	2.104	(Not specified)	Pass
Band Edges Compliance	2.1051 &24.238	Below -13 dBm/1%*EBW, in 1 MHz range	Pass
Spurious Emission at Antenna Terminals	2.1051 & 24.238	Below -13 dBm/1 kHz, 9 kHz to 150 kHz Below -13 dBm/10 kHz, 150 kHz to 30 MHz Below -13 dBm/1 MHz, 30 MHz to 10th harmonics	Pass
Field Strength of Spurious Radiation	2.1053 & 24.238	Below -13 dBm/1 MHz	Pass
Frequency Stability	2.1055 & 24.235	Stay within the authorized frequency block	Pass

Test Case	IC Standard No.	Requirements	Result
PCS Band			
Transmitter Output Power	RSS-Gen, §4.8; RSS-133, §6.4	Average EIRP not exceed 1640 Watts (EBW ≤1MHz) Average EIRP not exceed 1640 Watts/MHz (EBW > 1MHz) Output power not exceed 100 Watts Peak-to-average ratio not exceed 13 dB	Pass
Modulation Characteristics	RSS-133, §6.2	Digital modulation	Pass
Occupied Bandwidth	RSS-Gen, §4.6	(Not specified)	Pass
Band Edges Compliance	RSS-Gen, §4.9; RSS-133, §6.5	Below -13 dBm/1%*EBW, in 1 MHz range	Pass
Spurious Emission at Antenna Terminals	RSS-Gen, §4.9; RSS-133, §6.5	Below -13 dBm/1 kHz, 9 kHz to 150 kHz Below -13 dBm/10 kHz, 150 kHz to 30 MHz Below -13 dBm/1 MHz, 30 MHz to 5th harmonics	Pass
Field Strength of Spurious Radiation	RSS-Gen, §4.9; RSS-133, §6.5	Below -13 dBm/1 MHz	Pass
Frequency Stability	RSS-Gen, §4.7; RSS-133, §6.3	Maintained within the tolerances of ±1.0 ppm	Pass
Receiver Spurious Emissions (Conducted)	RSS-Gen, §4.10; RSS-Gen, §6; RSS-133, §6.6	Below 2 nW/4 kHz (-57 dBm/4 kHz), for 30 MHz - 1000 MHz Below 5 nW/MHz (-53 dBm/MHz), for above 1 GHz	Pass

3 Description of the Equipment under Test (EUT)

3.1 General Description

The RRU3642 is an outdoor remote radio unit. It is the radio frequency (RF) part of a distributed base station and can be located near antennas. The RRU3642 can modulate, demodulate, combine, and divide baseband and RF signals. It also processes baseband and RF signal data. With the Software Defined Radio (SDR) technology, the RRU3642 supports the dual-mode operation of any two modes of CDMA and LTE through software configuration modification.

3.2 EUT Identity

NOTE: Unless otherwise noted in the report, the functional boards installed in the units shall be selected from the below list, but not means all the functional boards listed below shall be installed in one unit.

3.2.1 Board

Board		
Board Name	Hardware Version	Description
WD5DJRXC20	VER.A	Multi-Mode Transceiver Unit
WD5DJRAC20	VER.B	Power Amplifier Board

3.2.2 Sub-Assembly

Sub-Assembly			
Sub-Assembly Name	Model	Manufacturer	Description
LMPT	---	Huawei	LTE baseband Processing Unit
LBBP	---	Huawei	LTE Main Processing & Transmission Unit
CMPT	---	Huawei	CDMA2000 baseband Processing Unit
HCPM	---	Huawei	CDMA2000 1X Main Processing & Transmission Unit
HECM	---	Huawei	CDMA2000 EVDO Main Processing & Transmission Unit

3.3 Technical Description

3.3.1 Supported Frequency Range

Characteristics	Description
Downlink	1930MHz to 1990MHz
Uplink	1850MHz to 1910MHz

3.3.2 Transmitter / Receiver Characteristics

Characteristics	Description
System Type	☐ GSM ☒ CDMA ☐ UMTS ☐ WiMAX ☒ LTE
TX and RX Antenna Ports	2T4R
TX Output Power (per Antenna Port)	Rated max. 60W
Channel Spacing(s) / Bandwidth(s)	CDMA system: 1.25MHz LTE system: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz
Designation of Emissions	CDMA system: 1M25F9W LTE system: 1M40D9W , 3M00D9W , 5M00D9W , 10M0D9W , 15M0D9W

3.3.3 Power Supply

Specification	Description
Power Supply Type	Directly Connected to DC /AC Power Supply
Input to EUT (DC power)	DC Voltage Nominal: ⎓ -48 V DC Voltage Range: ⎓ -36 V to -57 V

3.3.4 Environmental Requirements

Specification	Description
Minimum temperature:	-40 °C
Maximum temperature:	+55 °C
Relative Humidity:	5% to 100% RH

4 General Test Conditions / Configurations

4.1 Test Modes

Test Mode	Test Modes Description
TM 1	CDMA2000 1x RC3
TM 2	CDMA2000 1x EV-DO
E-TM 1.1	3GPP TS 36.141, clause 6.1.1, E-TM 1.1
E-TM 3.1	3GPP TS 36.141, clause 6.1.1, E-TM 3.1

4.2 RF Channels under Test

CDMA:

Operating Band(TX)	Multi-Carriers	Channels No.		
		Channel B	Channel M	Channel T
CDMA PCS band	1	No.25 1931.25MHz	No.600 1960MHz	No 1175 1988.75MHz
	4	No.25/50/75/100 1931.25/1932.5/ 1933.75/1935MHz	No.575/600/625/650 1958.75/1960/ 1961.25/1962.5/MHz	No 1175/1150/1125/1100 1988.75/1987.5/ 1986.25/1985MHz

LTE:

Operating Band (TX)	Multi-Carriers	Channels No.		
		Channel B	Channel M	Channel T
LTE PCS band (1.4MHz bandwidth)	1	No.607 1930.7MHz	No.900 1960MHz	No.1193 1989.3MHz
LTE PCS band (3MHz bandwidth)	1	No.615 1931.5MHz	No.900 1960MHz	No.1185 1988.5MHz
LTE PCS band (5MHz bandwidth)	1	No.625 1932.5MHz	No.900 1960MHz	No.1175 1987.5MHz
LTE PCS band (10MHz bandwidth)	1	No.650 1935MHz	No.900 1960MHz	No.1150 1985MHz

LTE PCS band (15MHz bandwidth)	1	No.675 1937.5MHz	No.900 1960MHz	No.1125 1982.5MHz
LTE PCS band (1.4MHz+1.4MHz bandwidth)	2	No.607/621 1930.7/1932.1MHz	No.893/907 1959.3/1960.7MHz	No.1179/1193 1987.9/1989.3MHz
LTE PCS band (3MHz+3MHz bandwidth)	2	No.615/645 1931.5/1934.5MHz	No.885/915 1958.5/1961.5MHz	No.1155/1185 1985.5/1988.5MHz
LTE PCS band (5MHz+5MHz bandwidth)	2	No.625/675 1932.5/1937.5MHz	No.875/925 1957.5/1962.5MHz	No.1125/1175 1982.5/1987.5MHz
LTE PCS band (10MHz+10MHz bandwidth)	2	No.650/750 1935/1945MHz	No.850/950 1955/1965MHz	No.1050/1150 1975/1985MHz
LTE PCS band (15MHz+15MHz bandwidth)	2	No.675/825 1937.5/1952.5MHz	NA	No.975/1125 1967.5/1982.5MHz

CDMA/LTE:

Operating Band	Multi-Carriers	Channels No.		
		Channel B	Channel M	Channel T
3C+1L_5M PCS band	Ant. A DO+1X+1L_5M	No.25/50+675 1931.25/1932.5 +1937.5MHz	No.575/600+950 1958.75/1960 +1965/MHz	No 1025/1050+1175 1981.25/1982.5 +1987.5MHz
	Ant. B DO+1L_5M	No.75+675 1933.75+1937.5MHz	No.625+950 1961.25+1965/MHz	No. 1075+1175 1983.75+1987.5MHz
6C+1L_5M PCS band	Ant. A&B DO+1X+DO+1L_5M	No.25/50/75+675 1931.25/1932.5/ 1933.75+1937.5MHz	No.575/600/625+950 1958.75/1960/ 1961.25+1965/MHz	No.1025/1050/1075+1175 1981.25/1982.5/ 1983.75+1987.5MHz

Operating Band (RX)	Multi-Carriers	Channels No.		
		Channel B	Channel M	Channel T
CDMA PCS band RX	1.25M	NA	No.600 1880MHz	NA
LTE PCS band RX	5M	NA	No.900 1880MHz	NA

4.3 Test Environments

Environment Parameter	Selected Values During Tests		
	Temperature	Voltage	Relative Humidity
Ambient Climate	Ambient	---	Ambient
Rated Voltage	---	48 VDC	---

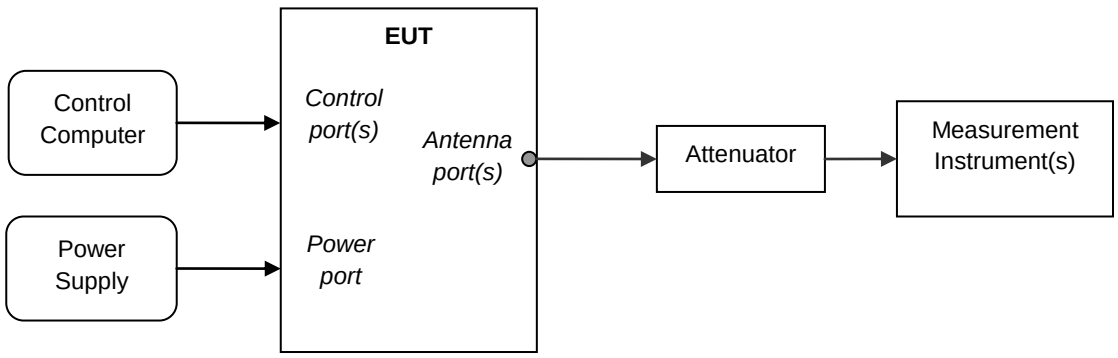
4.4 Test Setups

NOTE: See Appendix I for practical Test Setup Photos.

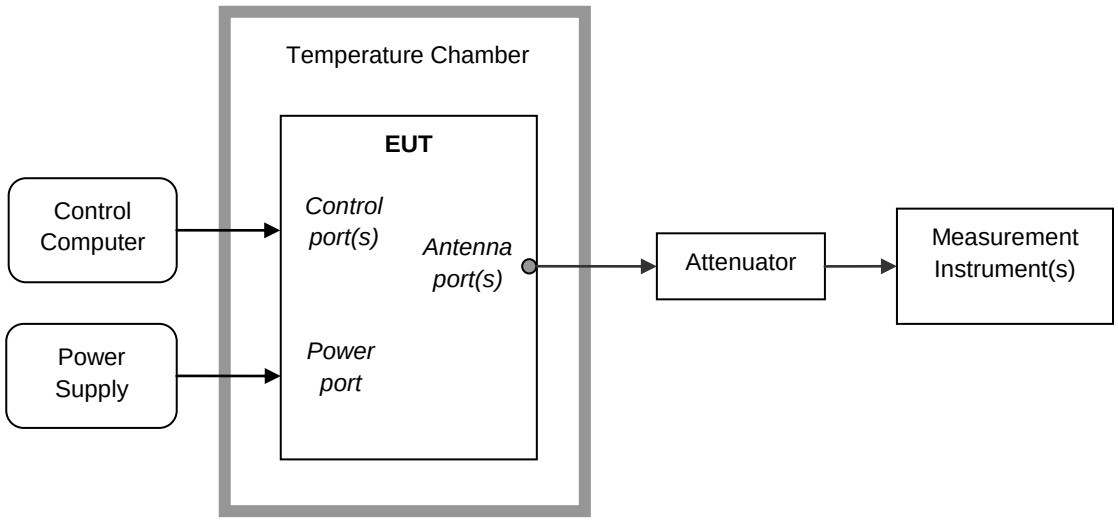
4.4.1 General Test Setup Configurations

Configuration	Description
Test Antenna Ports	Until otherwise declared, all TX tests are ONLY performed at the main Transmitter antenna port (e.g. TRXA, TXA and so on) of the EUT, and all RX tests are ONLY performed at the main Receiver antenna port (e.g. TRXA, RXA and so on) of the EUT.
Multiple RF Sources	Other than the tested RF source of the EUT, other RF source(s) are disabled or shutdown during measurements.

4.4.2 Test Setup 1



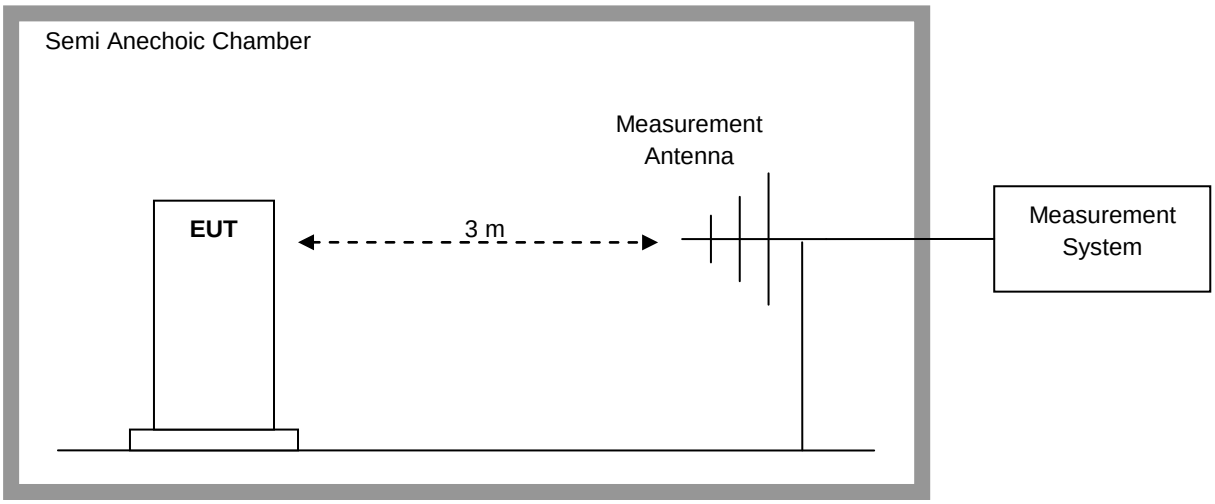
4.4.3 Test Setup 2



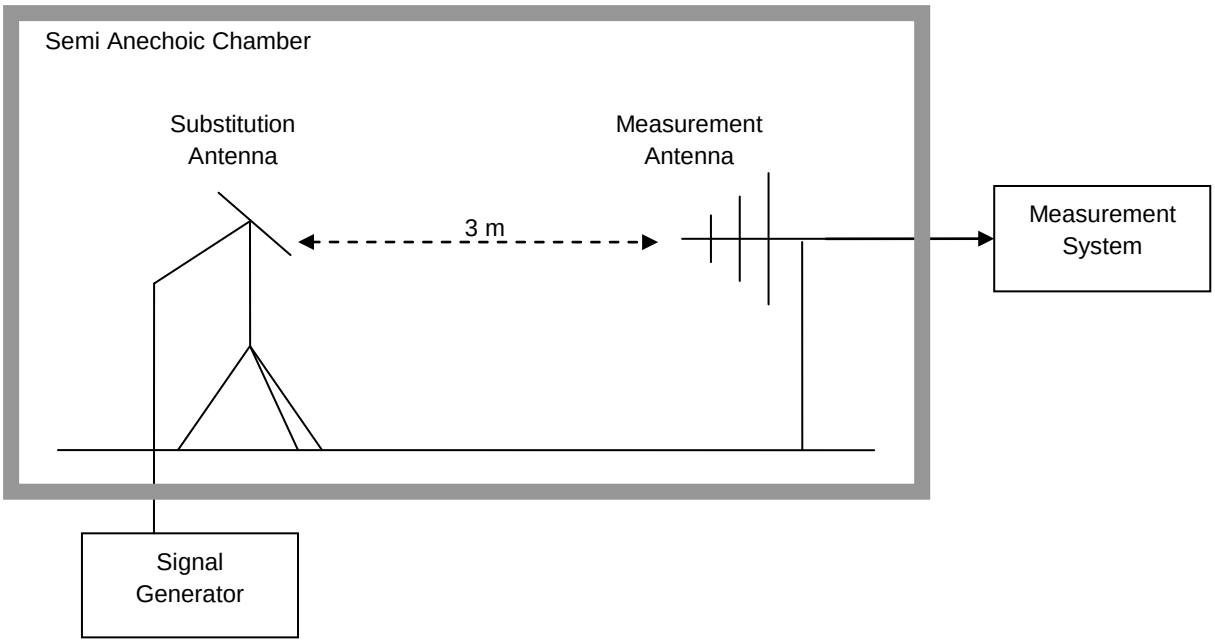
4.4.4 Test Setup 3

NOTE: Effective radiated power (ERP) refers to the radiation power output of the EUT, assuming all emissions are radiated from half-wave dipole antennas.

4.4.4.1 Step 1: Pre-test



4.4.4.2 Step 2: Substitution method to verify the maximum ERP



4.5 Test Conditions

CDMA

Test Case	Test Conditions	
Transmitter Output Power	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Carrier Conf.	1 and 4
	RF Channels (TX)	B, M, T
	Test Mode	TM1 and TM2
Modulation Characteristics	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Carrier Conf.	1
	RF Channels (TX)	M
	Test Mode	TM2
Occupied Bandwidth	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Carrier Conf.	1
	RF Channels (TX)	B, M, T
	Test Mode	TM1 and TM2
Band Edges Compliance	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Carrier Conf.	1 and 4
	RF Channels (TX)	B, T
	Test Mode	TM1 and TM2
Spurious Emission at Antenna Terminals	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Carrier Conf.	1 and 4
	RF Channels (TX)	B, M and T
	Test Mode	TM1 and TM2
Field Strength of Spurious Radiation	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 3
	Carrier Conf.	1
	RF Channels (TX)	M
	Test Mode	TM1
Frequency Stability	Test Configuration	(1) -30 °C to +50 °C with step 10 °C at Rated Voltage; (2) 85%, 100% and 115% of Rated Voltage at Ambient Climate.
	Test Setup	Test Seup 2
	Carrier Conf.	1
	RF Channels (TX)	M
	Test Mode	TM1
Receiver Spurious Emissions (Conducted) (Only for	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Carrier Conf.	1

Test Case	Test Conditions	
IC requirement)	RF Channels (TX/RX)	M
	Test Mode	TM2

LTE

Test Case	Test Conditions	
Transmitter Output Power	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Channel band	1.4M,3M,5M,10M and 15M
	Carrier Conf.	1 to 2
	RF Channels (TX)	B, M, T
	Test Mode	TM1 .1
Modulation Characteristics	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Channel band	10M
	Carrier Conf.	1
	RF Channels (TX)	M
	Test Mode	TM3.1
Occupied Bandwidth	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Channel band	1.4M,3M,5M,10M and 15M
	Carrier Conf.	1
	RF Channels (TX)	B, M, T
	Test Mode	TM1.1
Band Edges Compliance	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Channel band	1.4M and 15M
	Carrier Conf.	1 and 2
	RF Channels (TX)	B, T
	Test Mode	TM1.1
Spurious Emission at Antenna Terminals	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Channel band	1.4M and 15M
	Carrier Conf.	1 and 2
	RF Channels (TX)	B, M and T
	Test Mode	TM1.1
Field Strength of Spurious Radiation	NA	NOTE: An arbitrary test mode is selected as a representative since the un-modulation carrier configuration is required by the standards/rules.
Frequency Stability	NA	NOTE: An arbitrary test mode is selected as a representative since the un-modulation carrier configuration is required by the standards/rules.
Receiver Spurious Emissions (Conducted) (Only for	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Carrier Conf.	1

Test Case	Test Conditions	
IC requirement)	RF Channels (TX/RX)	M
	Test Mode	TM1.1

CDMA&LTE

Test Case	Test Conditions	
Transmitter Output Power	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Carrier Conf.	3C+1L and 6C+1L
	RF Channels (TX)	B, M, T
	Test Mode	TM2&TM1 .1
Band Edges Compliance	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Carrier Conf.	3C+1L and 6C+1L
	RF Channels (TX)	B, T
	Test Mode	TM2&TM1 .1
Spurious Emission at Antenna Terminals	Test Configuration	Ambient Climate & Rated Voltage
	Test Setup	Test Seup 1
	Carrier Conf.	3C+1L and 6C+1L
	RF Channels (TX)	B, M and T
	Test Mode	TM1.1

5 Test Results

No.	Test Item	Test Result
1	Transmitter Output Power	Appendix A
2	Modulation Characteristics	Appendix B
3	Occupied Bandwidth	Appendix C
4	Band Edges Compliance	Appendix D
5	Spurious Emission at Antenna Terminals	Appendix E
6	Field Strength of Spurious Radiation	Appendix F
7	Frequency Stability	Appendix G
8	Receiver Spurious Emissions (Conducted) (Only for IC requirement)	Appendix H

6 Main Test Instruments

Equipment Name	Manufacturer	Model	Serial Number	Cal. Due
Test Setup 1 & 2				
Spectrum Analyzer	R&S	FSQ40	100025	2012-10-20
Spectrum Analyzer	Agilent	N9030A	MY49431033	2012-04-16
Temperature Chamber	Envirotronics	WPH700-2-30-WC	01066463	2012-10-08
Test Setup 3				
3m Semi Anechoic Chamber	S+M	---	---	------
EMI Test receiver	R&S	ESU	100144	2012-05-12
Broadband Antenna	TESEQ	CBL6112D	25221	2012-04-08
Horn Antenna	R&S	HF906	359287/005	2012-05-07

7 Measurement Uncertainty

For a 95% confidence level (k=2), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

Test Item		Extended Uncertainty
Transmitter Output Power	Power (dBm)	U =0.39 dB
Occupied Bandwidth	Magnitude (%)	U=0.2%
Band Edge Compliance	Disturbance Power (dBm)	U=2.0 dB
Conducted Spurious Emissions	Disturbance Power (dBm)	U=2.0 dB
Field Strength of Spurious Radiation	ERP (dBm)	U=4.6 dB (30 MHz – 1GHz) U=3.0 dB (above 1 GHz)
Frequency Stability	Frequency Accuracy (ppm)	U=0.21 ppm

END

Appendix A: Transmitter Output Power

1 Average Power (Total)

CDMA2000 1X

Test Mode	Carrier Conf.	RF Ch.	Average Power [dBm]	Average Power [W]	Average Power [W/MHz]	Verdict
TM1	1(60W)	B	47.74	59.43	---	Pass
		M	47.52	56.49	---	Pass
		T	47.58	57.28	---	Pass
TM1	4(4*15W)	B	47.46	55.72	---	Pass
		M	47.52	56.49	---	Pass
		T	47.52	56.49	---	Pass

CDMA2000 EVDO

Test Mode	Carrier Conf.	RF Ch.	Average Power [dBm]	Average Power [W]	Average Power [W/MHz]	Verdict
TM2	1(60W)	B	47.62	57.81	---	Pass
		M	47.65	58.21	---	Pass
		T	47.74	59.43	---	Pass
TM2	4(4*15W)	B	47.83	60.67	---	Pass
		M	47.65	58.21	---	Pass
		T	47.85	60.95	---	Pass

LTE

Test Mode	Carrier Conf.	RF Ch.	Average Power [dBm]	Average Power [W]	Average Power [W/MHz]	Verdict
TM1.1	1.4M(60W)	B	47.75	59.57	---	Pass
		M	47.89	61.52	---	Pass
		T	47.93	62.09	---	Pass
TM1.1	3M(60W)	B	47.85	60.95	---	Pass
		M	47.83	60.67	---	Pass
		T	47.95	62.37	---	Pass
TM1.1	5M(60W)	B	47.46	55.72	---	Pass
		M	47.60	57.54	---	Pass
		T	47.68	58.61	---	Pass
TM1.1	10M(60W)	B	47.76	59.70	---	Pass
		M	47.44	55.46	---	Pass
		T	47.65	58.21	---	Pass
TM1.1	15M(60W)	B	48.00	63.10	---	Pass
		M	47.76	59.70	---	Pass
		T	47.67	58.48	---	Pass
TM1.1	1.4M(30W)+1.4M(30W)	B	47.69	58.75	---	Pass

Test Mode	Carrier Conf.	RF Ch.	Average Power [dBm]	Average Power [W]	Average Power [W/MHz]	Verdict
		M	47.86	61.09	---	Pass
		T	47.88	61.38	---	Pass
TM1.1	3M(30W)+3M(30W)	B	47.97	62.66	---	Pass
		M	47.89	61.52	---	Pass
		T	47.82	60.53	---	Pass
TM1.1	5M(30W)+5M(30W)	B	48.08	64.27	---	Pass
		M	47.99	62.95	---	Pass
		T	47.93	62.09	---	Pass
TM1.1	10M(30W)+10M(30W)	B	48.10	64.57	---	Pass
		M	48.06	63.97	---	Pass
		T	48.04	63.68	---	Pass
TM1.1	15M(30W)+15M(30W)	B	48.22	66.37	---	Pass
		T	48.00	63.10	---	Pass

CDMA&LTE

Test Mode	Carrier Conf.	RF Ch.	Average Power [dBm]	Average Power [W]	Average Power [W/MHz]	Verdict
3C+ 1L_5M	Ant. A DO+1X+1L_5M	B	48.00	63.10	---	Pass
		M	47.95	62.37	---	Pass
		T	48.14	65.16	---	Pass
	Ant. B DO+1L_5M	B	45.93	39.17	---	Pass
		M	45.84	38.37	---	Pass
		T	46.06	40.36	---	Pass
6C+ 1L_5M	Ant. A&B DO+1X+DO+1L_5M	B	47.91	61.80	---	Pass
		M	47.85	60.95	---	Pass
		T	48.20	66.07	---	Pass

2 Peak-to-Average Ratio

Test Mode	Carrier Conf.	RF Ch.	Peak-to-Average Ratio [dB]	Verdict
CDMA2000-TM1	1.25M(60W)	B	6.22	Pass
		M	6.33	Pass
		T	6.19	Pass
LTE-TM1.1	15M(60W)	B	7.54	Pass
		M	7.20	Pass
		T	7.55	Pass

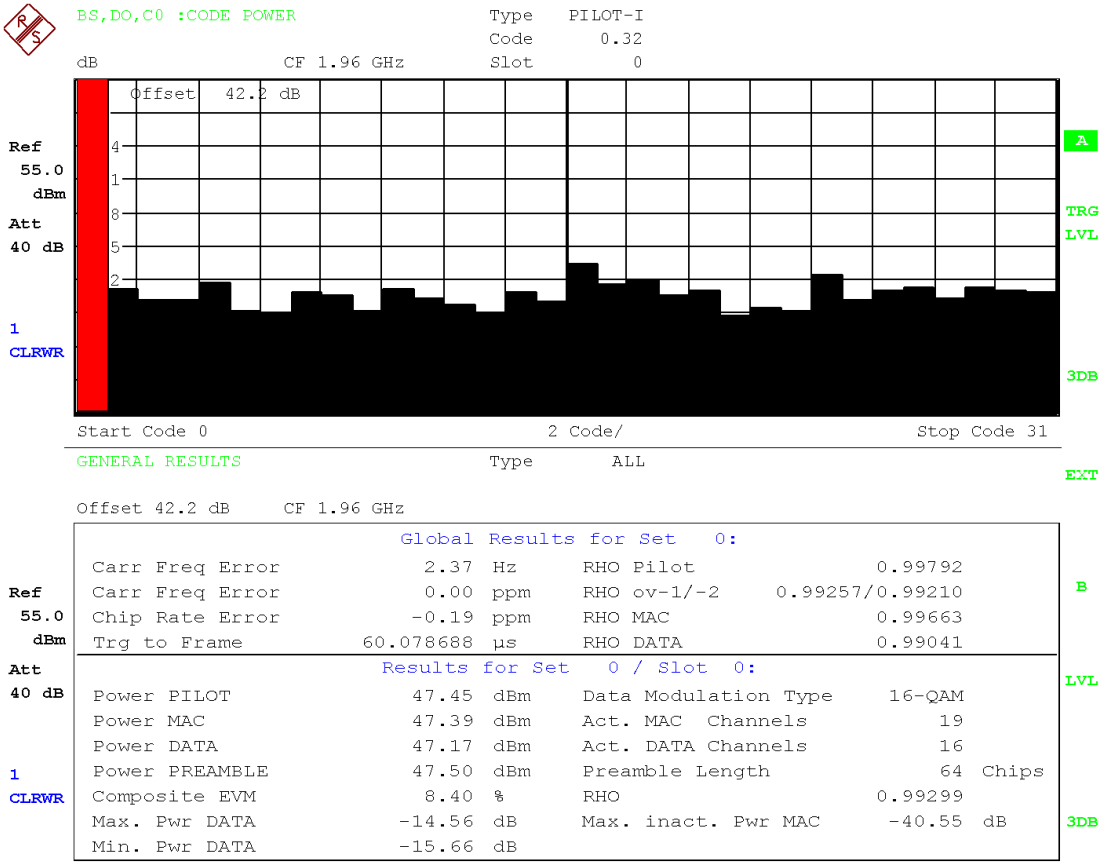
Appendix B: Modulation Characteristics

1 Result Table

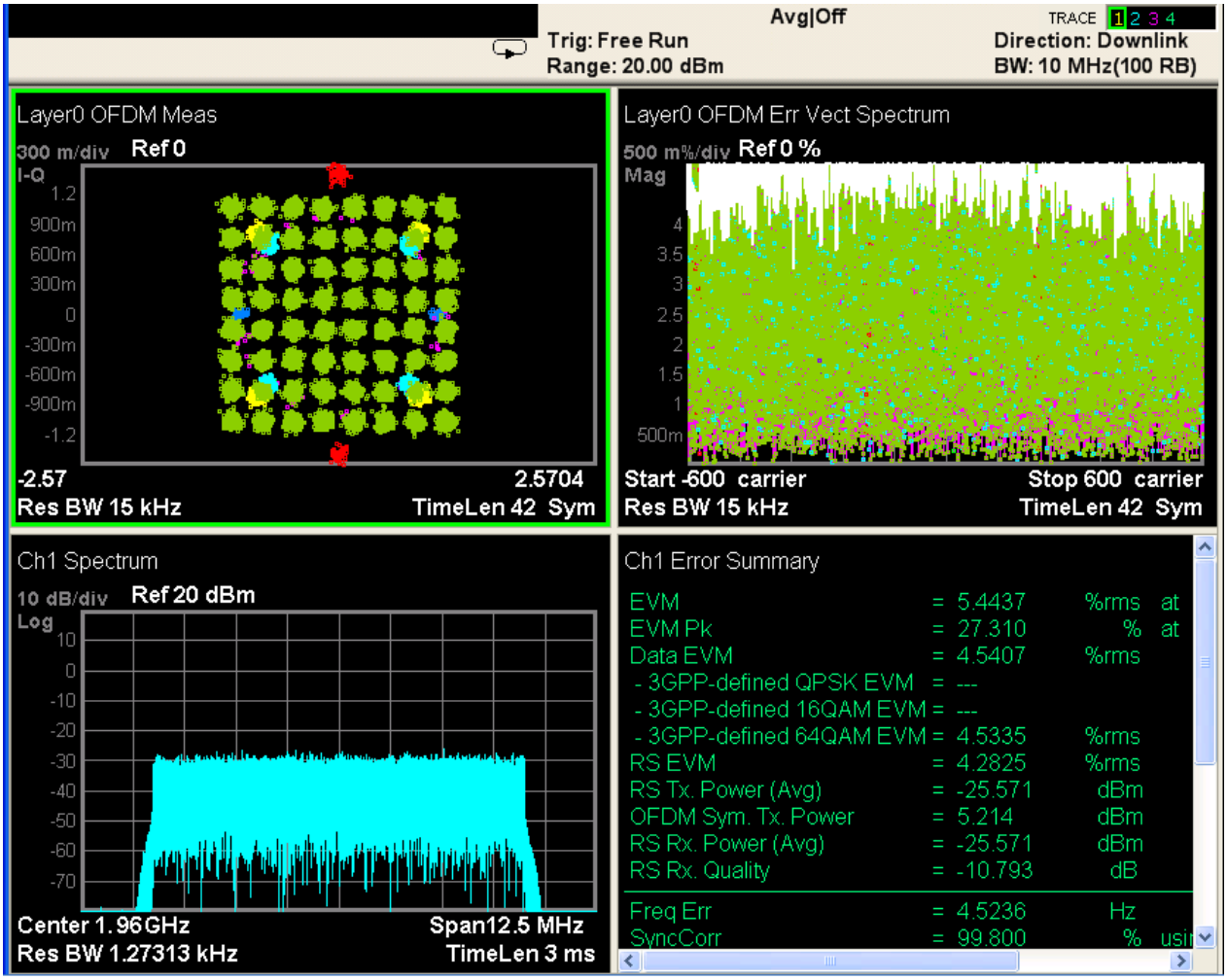
Test Mode	Digital modulation?	Verdict
CDMA2000 TM2	Yes	Pass
LTE TM3.1	Yes	Pass

2 Test Plot

2.1 Test Mode = TM2 for CDMA2000 EVDO



2.2 Test Mode = TM3.1 for LTE



Appendix C: Occupied Bandwidth

1 Result Table

Test Mode	Carrier Conf.	RF Ch.	Occupied Bandwidth [MHz]	Verdict
CDMA2000 1X	1.25M	B	1.247	Pass
		M	1.249	Pass
		T	1.249	Pass
CDMA2000 EVDO	1.25M	B	1.248	Pass
		M	1.250	Pass
		T	1.249	Pass
LTE	1.4M	B	1.090	Pass
		M	1.093	Pass
		T	1.091	Pass
LTE	3M	B	2.696	Pass
		M	2.691	Pass
		T	2.694	Pass
LTE	5M	B	4.481	Pass
		M	4.490	Pass
		T	4.492	Pass
LTE	10M	B	8.932	Pass
		M	8.950	Pass
		T	8.919	Pass
LTE	15M	B	13.40	Pass
		M	13.43	Pass
		T	13.39	Pass

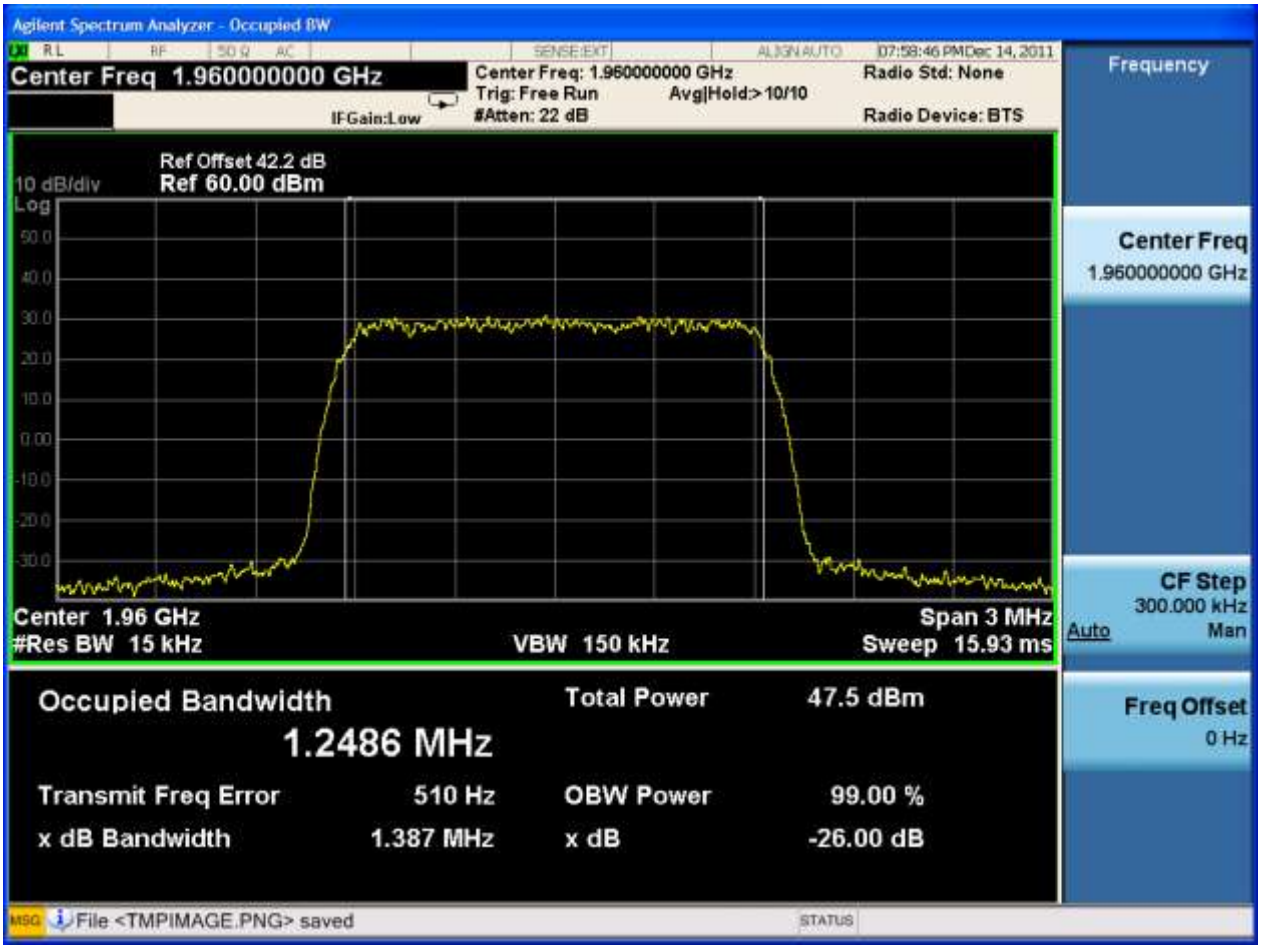
2 Test Plot

2.1 Test Mode = CDMA2000 1X

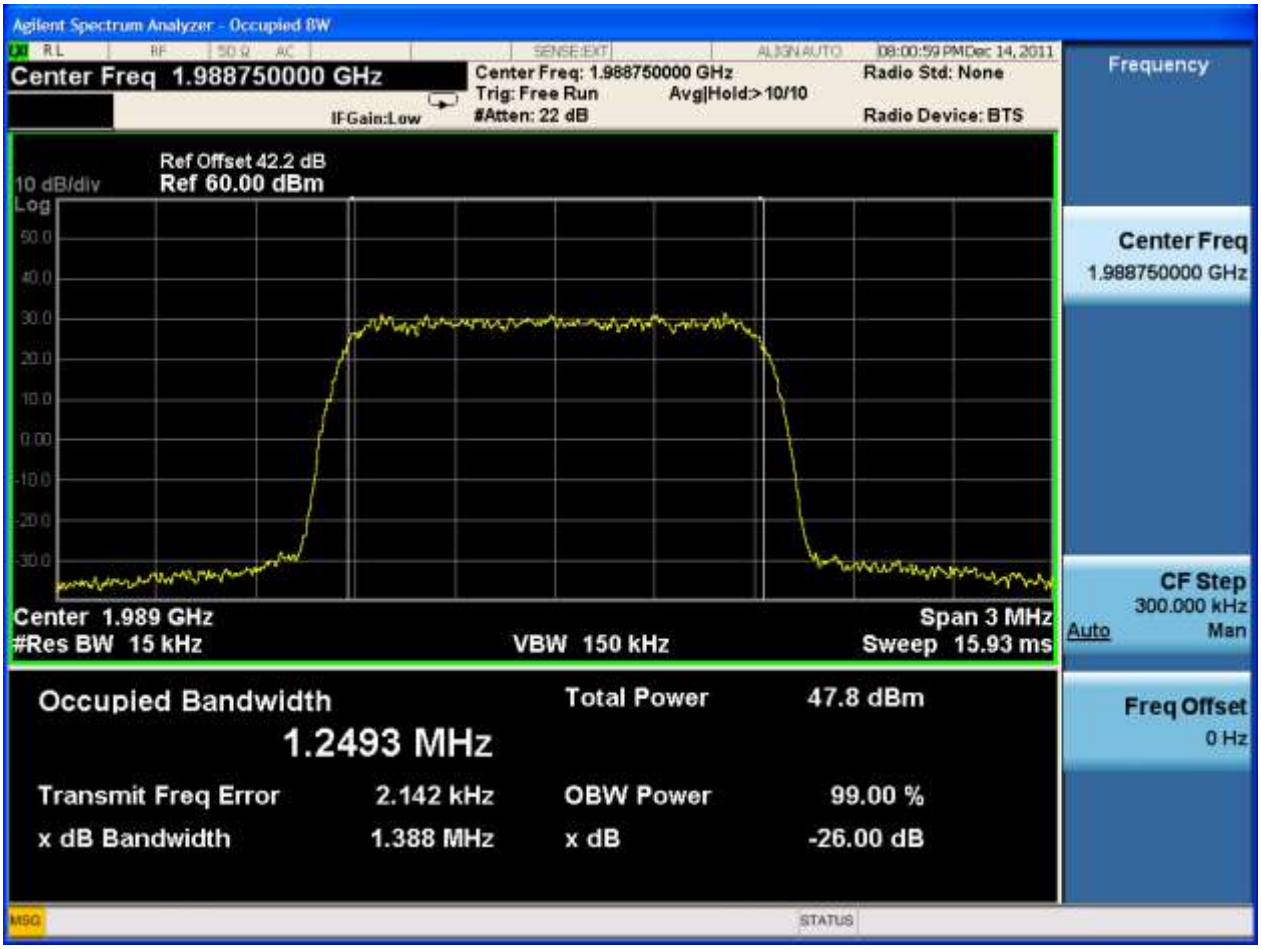
2.1.1 Carrier Conf. = 1.25M

2.1.1.1 Ch. B

2.1.1.2 Ch. M



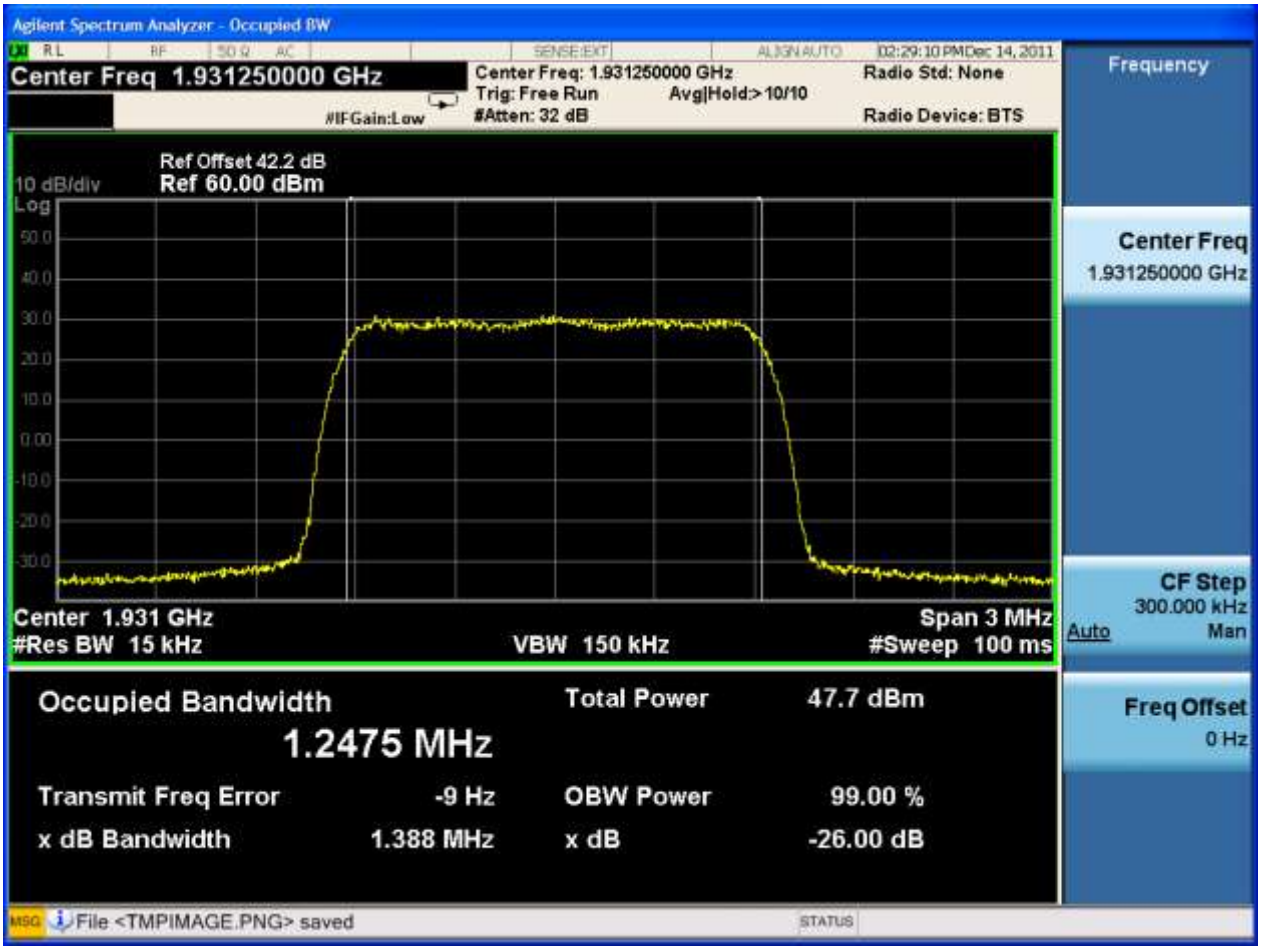
2.1.1.3 Ch. T



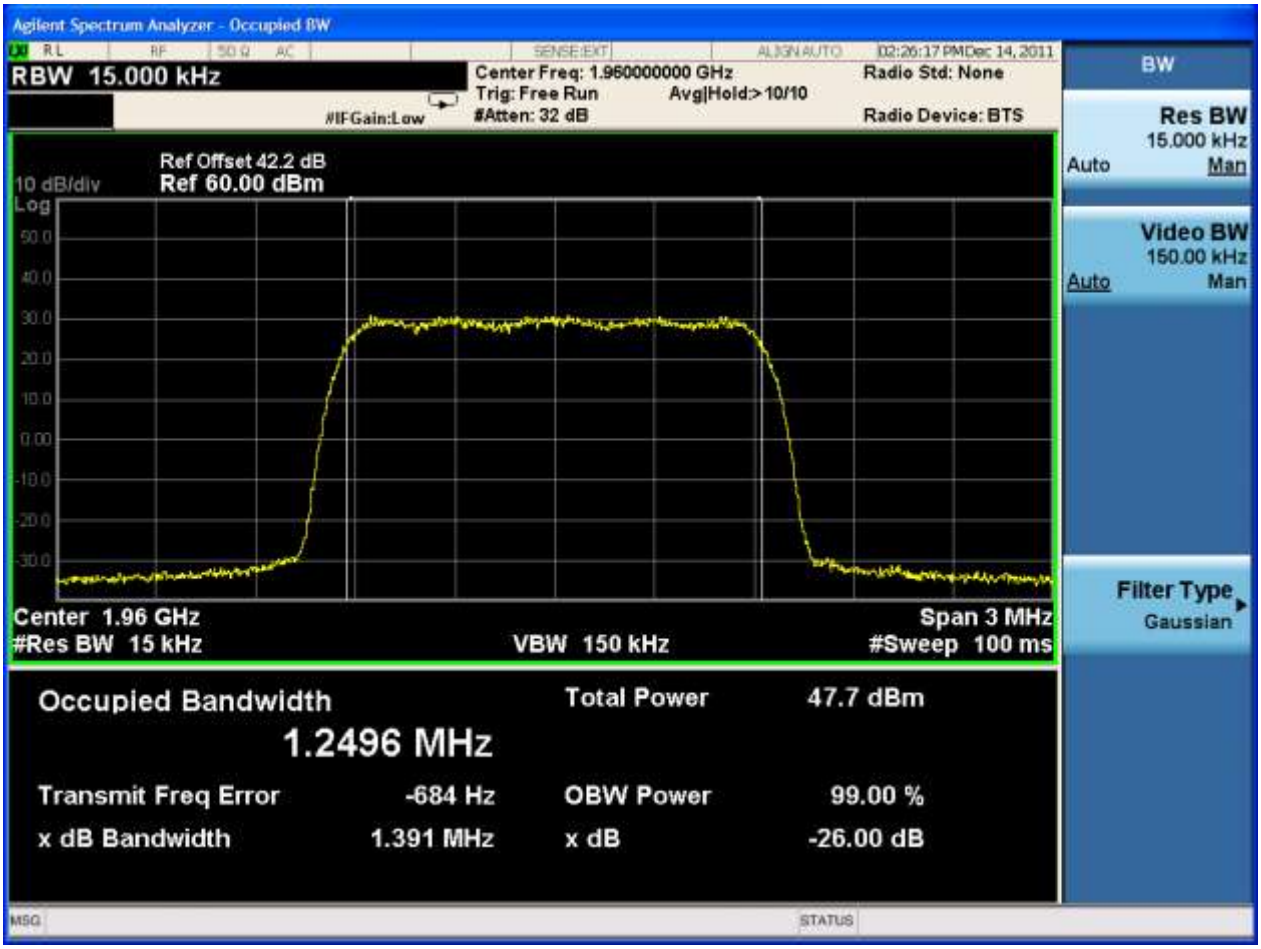
2.2 Test Mode = CDMA2000 EVDO

2.2.1 Carrier Conf. = 1.25M

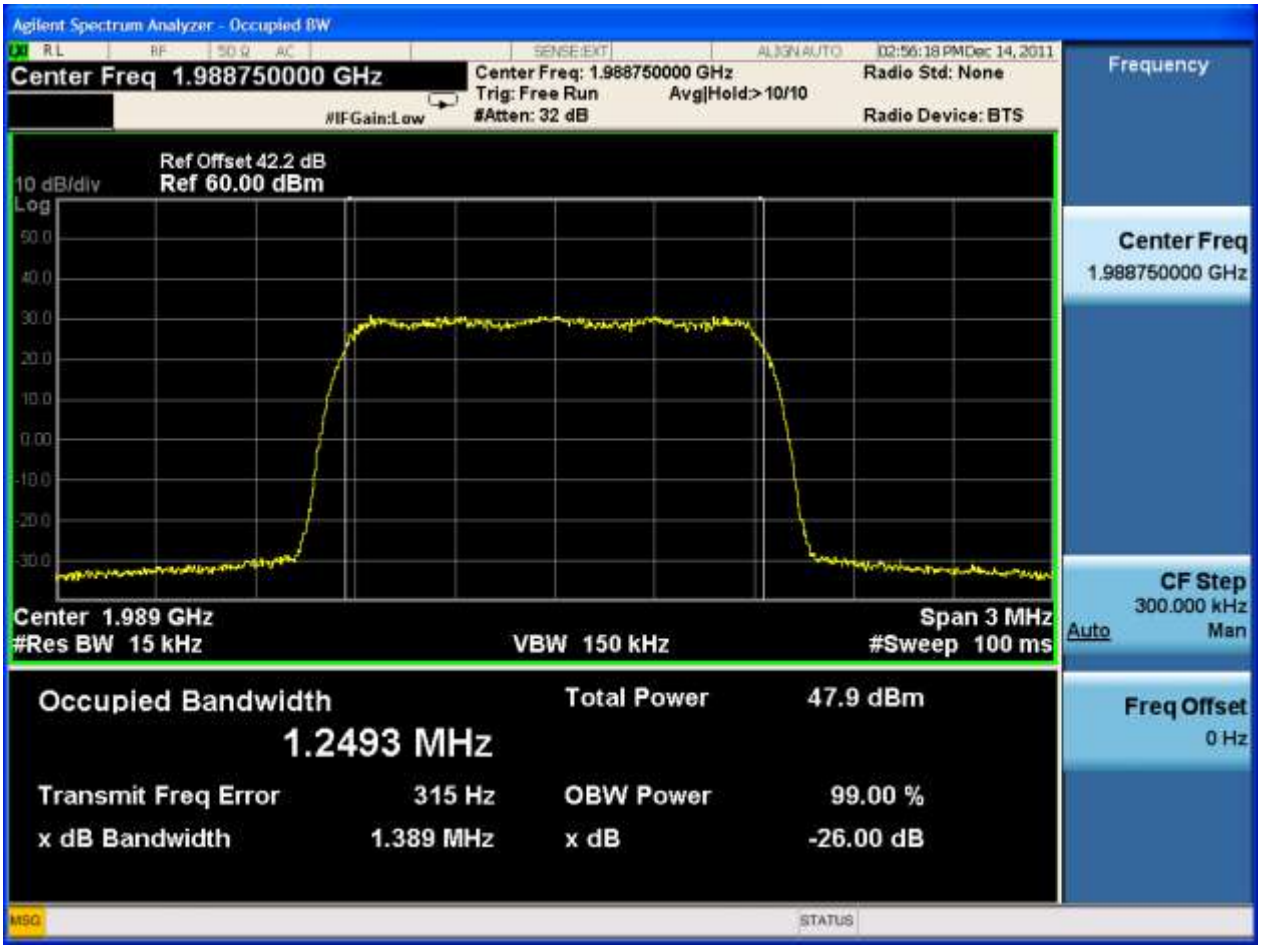
2.2.1.1 Ch. B



2.2.1.2 Ch. M



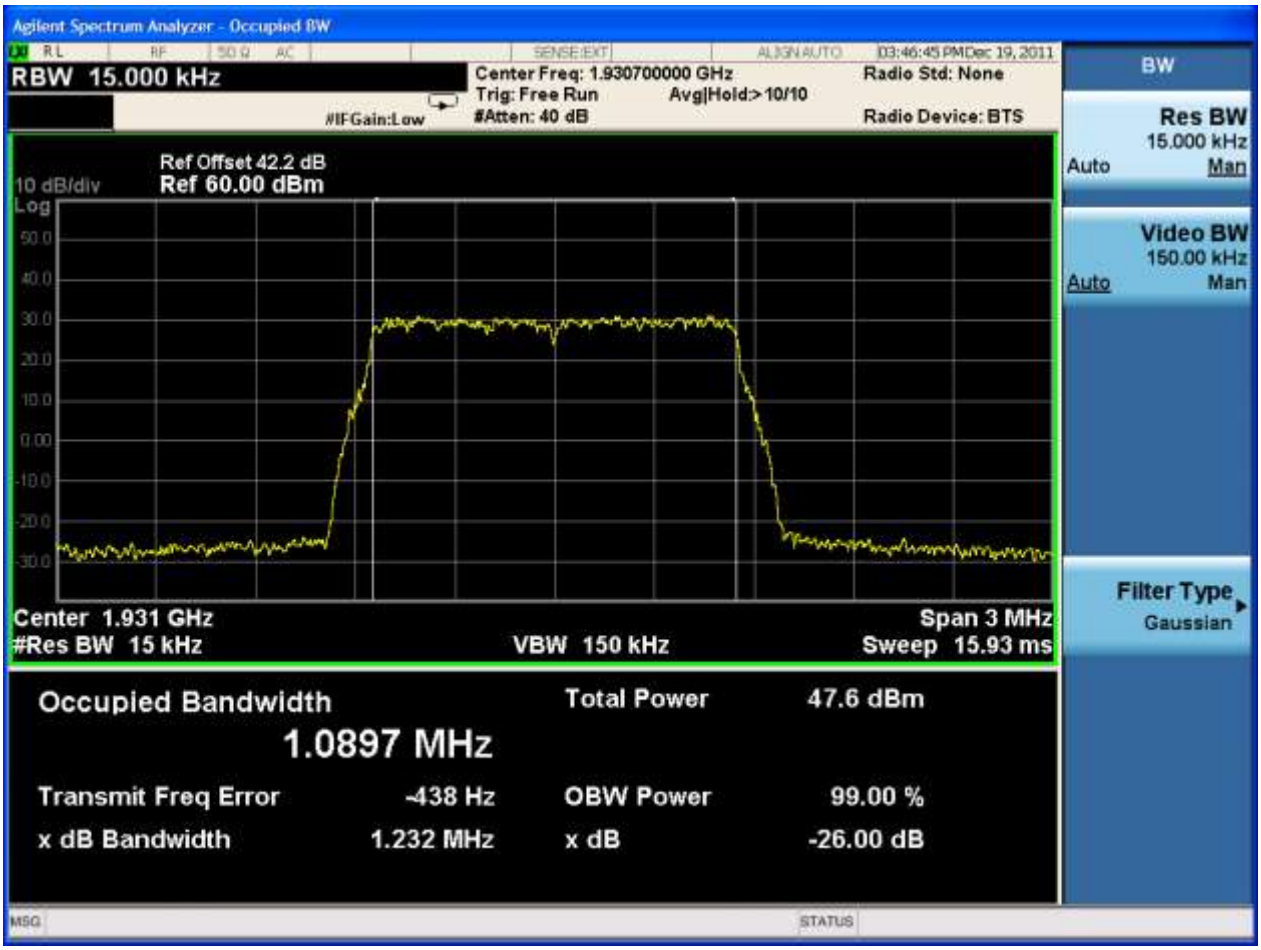
2.2.1.3 Ch. T



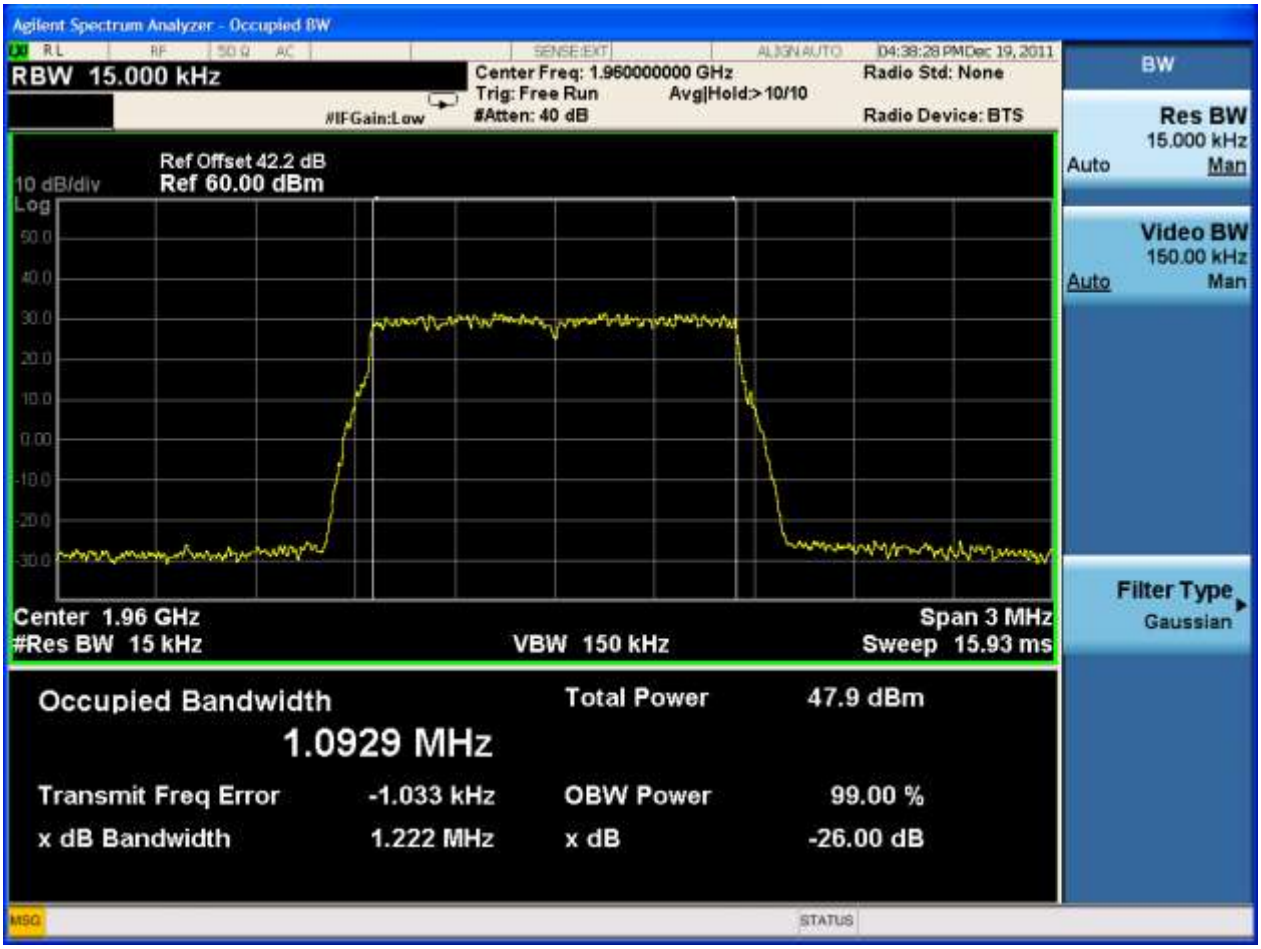
2.3 Test Mode = LTE

2.3.1 Carrier Conf. = 1.4M

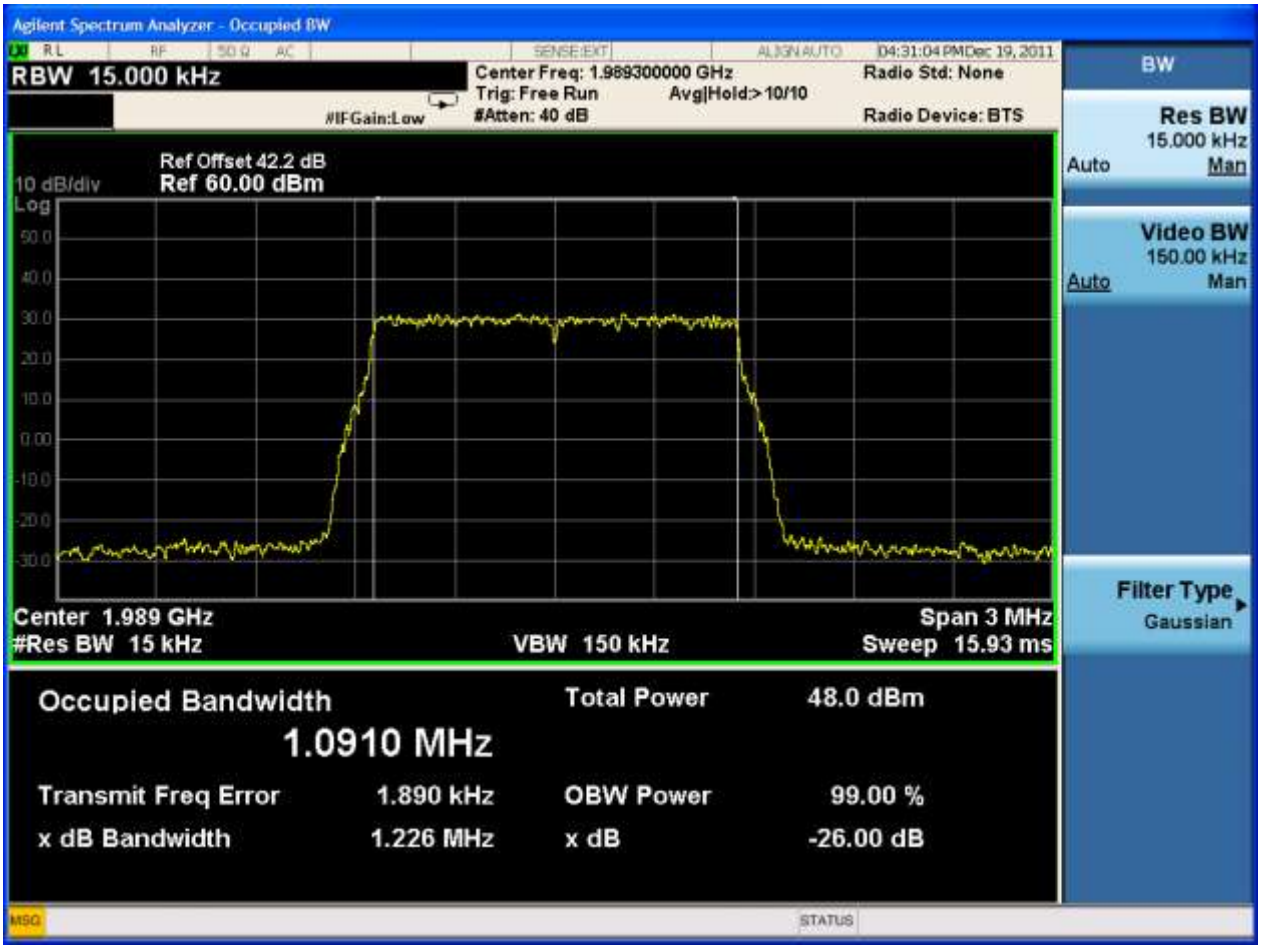
2.3.1.1 Ch. B



2.3.1.2 Ch. M



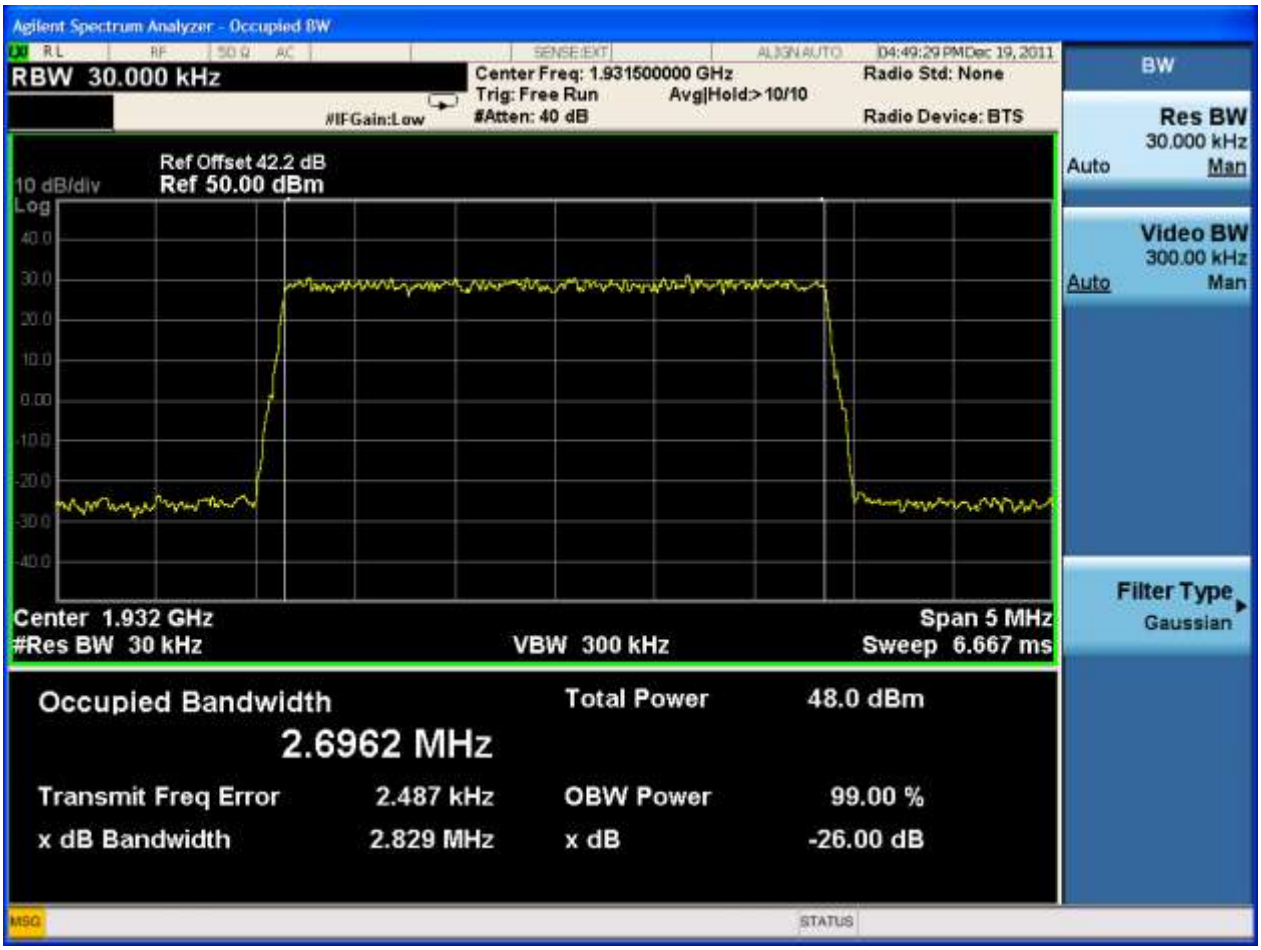
2.3.1.3 Ch. T



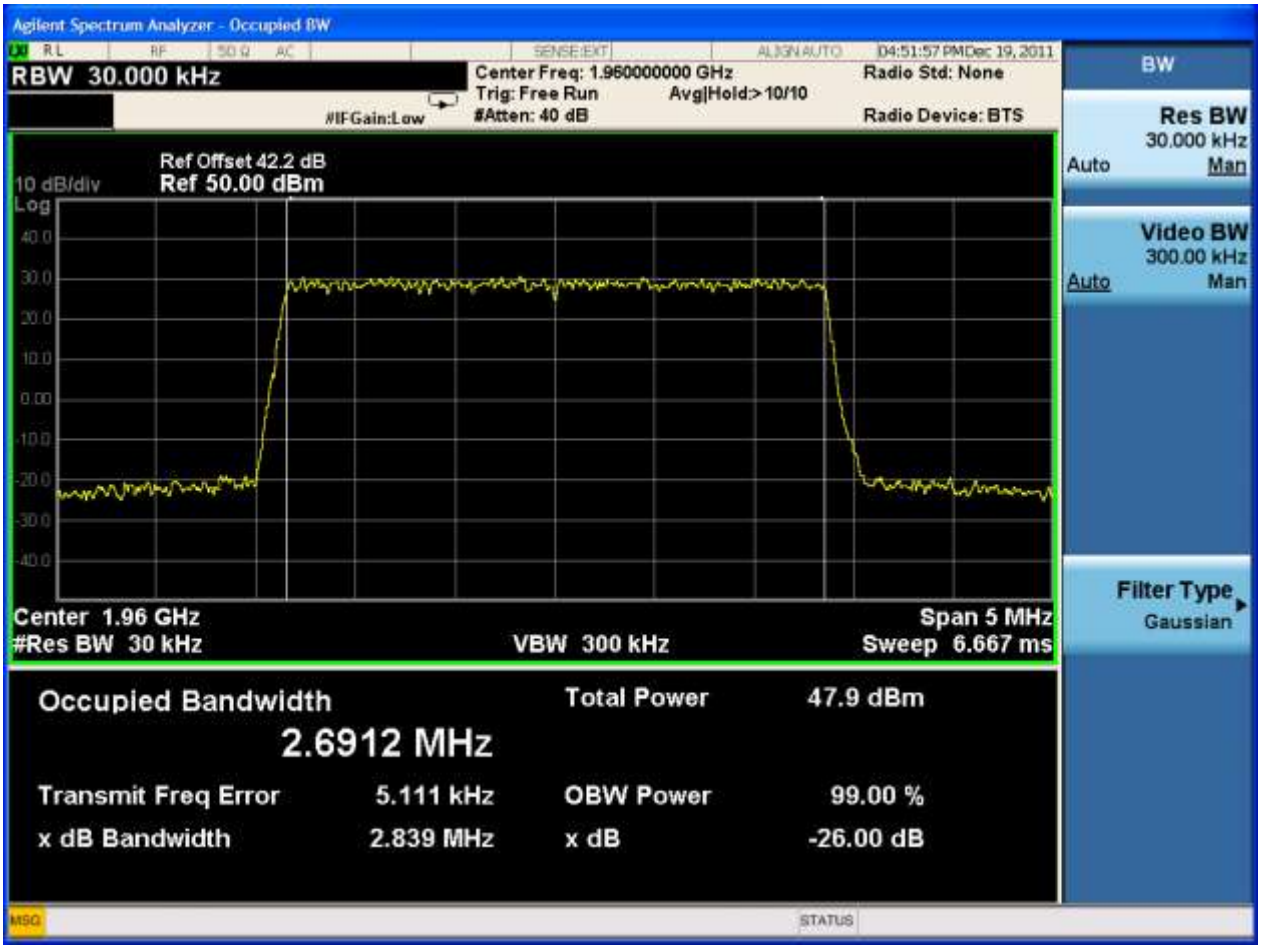
2.4 Test Mode = LTE

2.4.1 Carrier Conf. = 3M

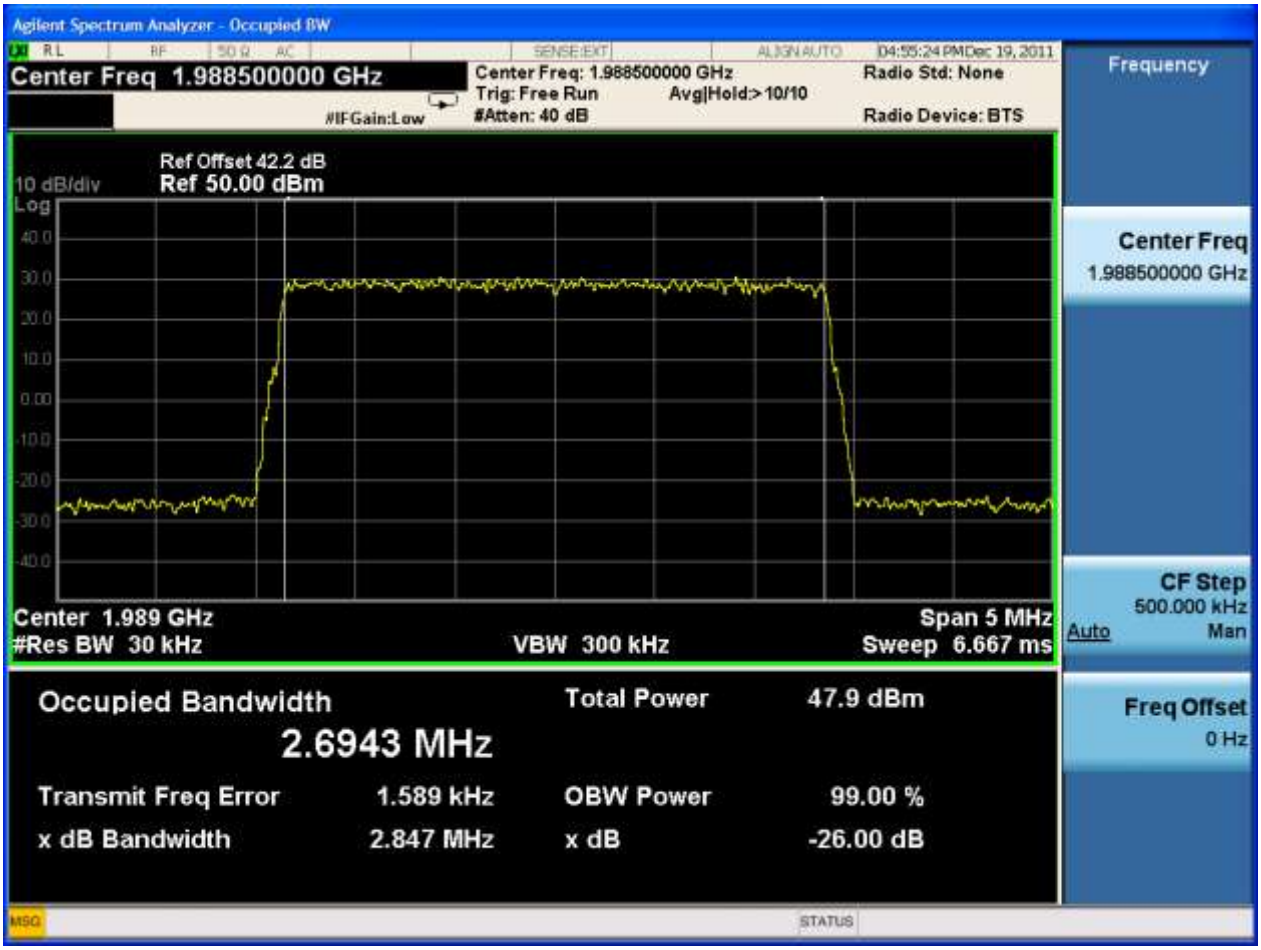
2.4.1.1 Ch. B



2.4.1.2 Ch. M



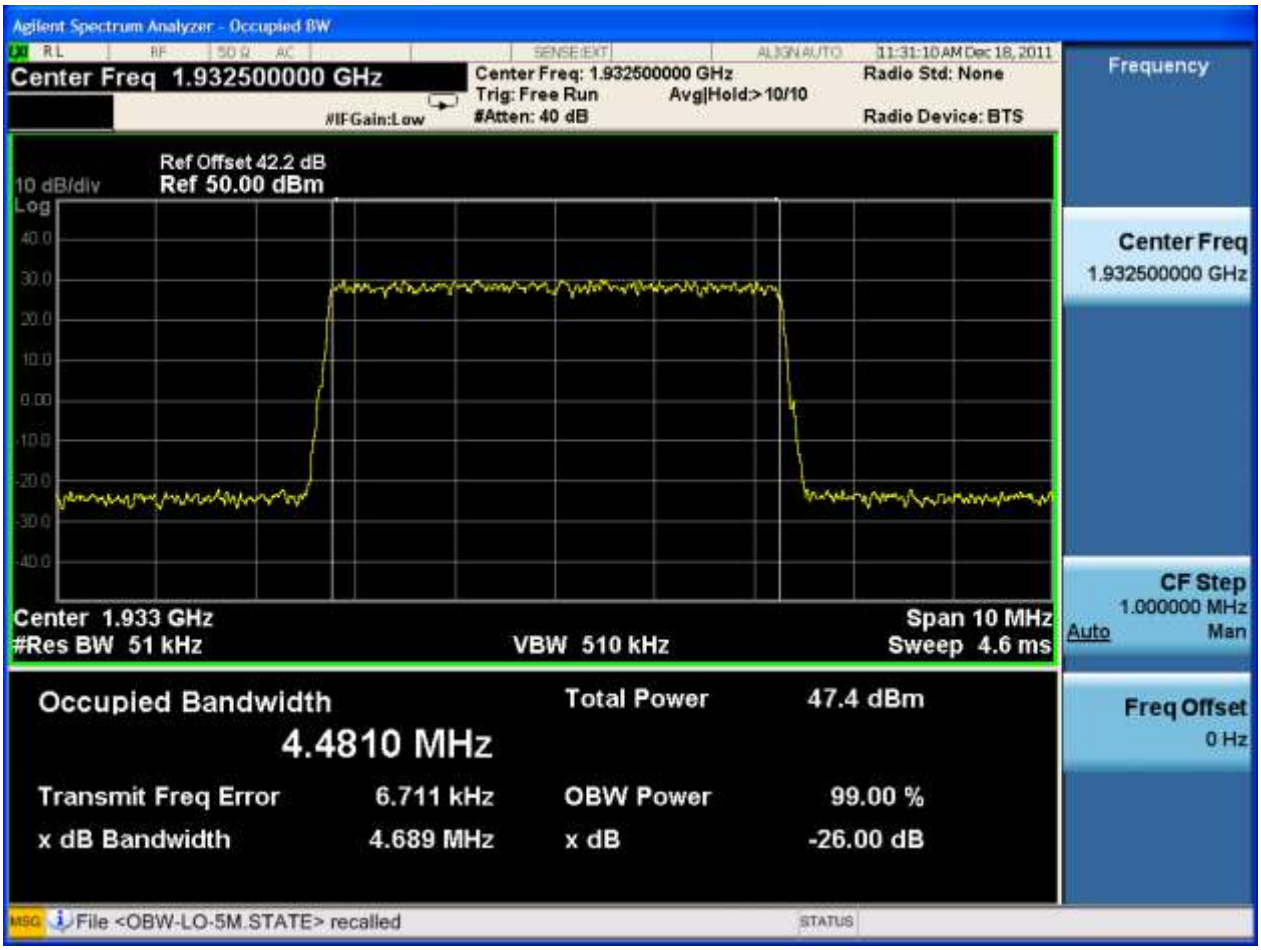
2.4.1.3 Ch. T



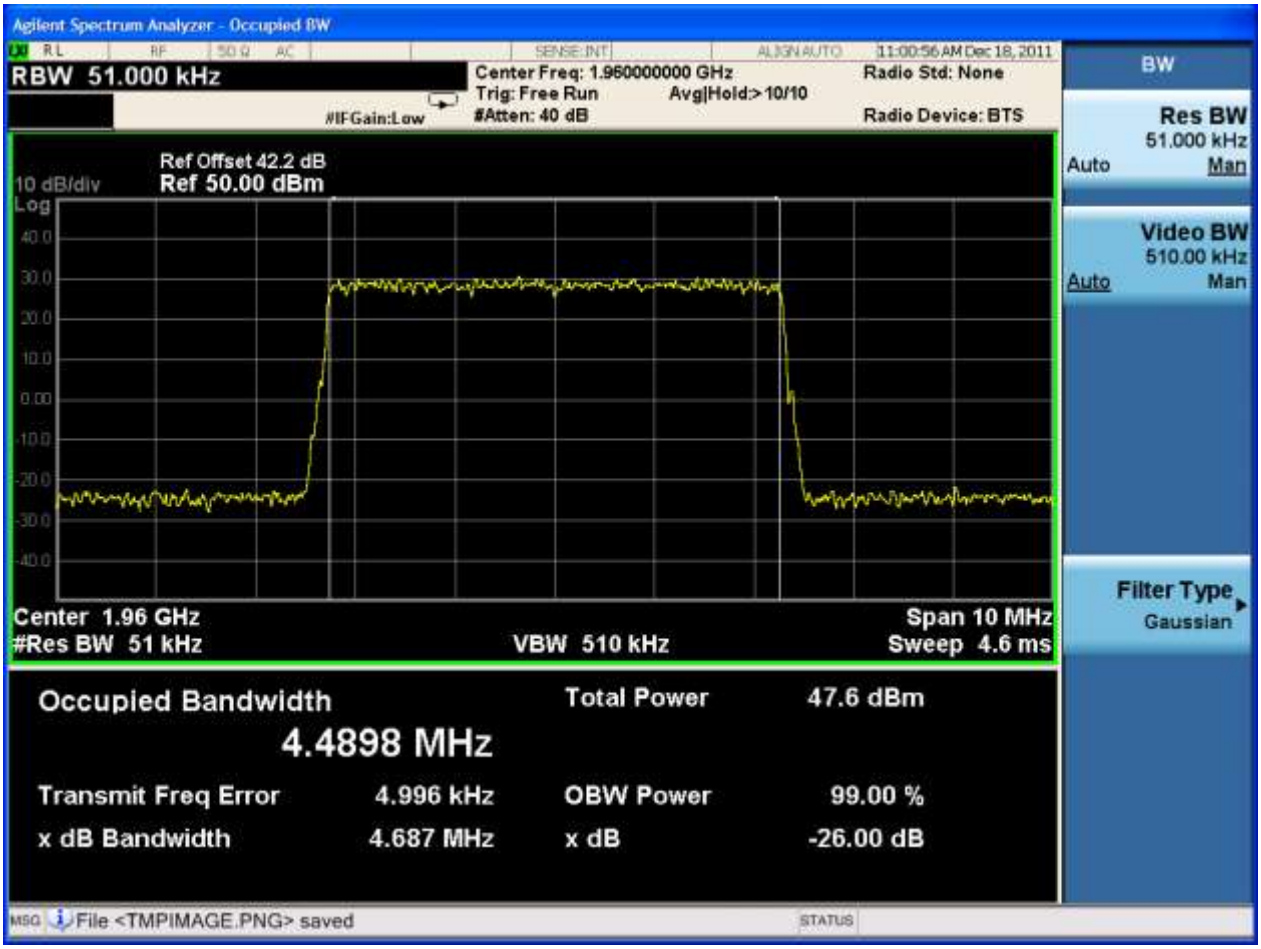
2.5 Test Mode = LTE

2.5.1 Carrier Conf. = 5M

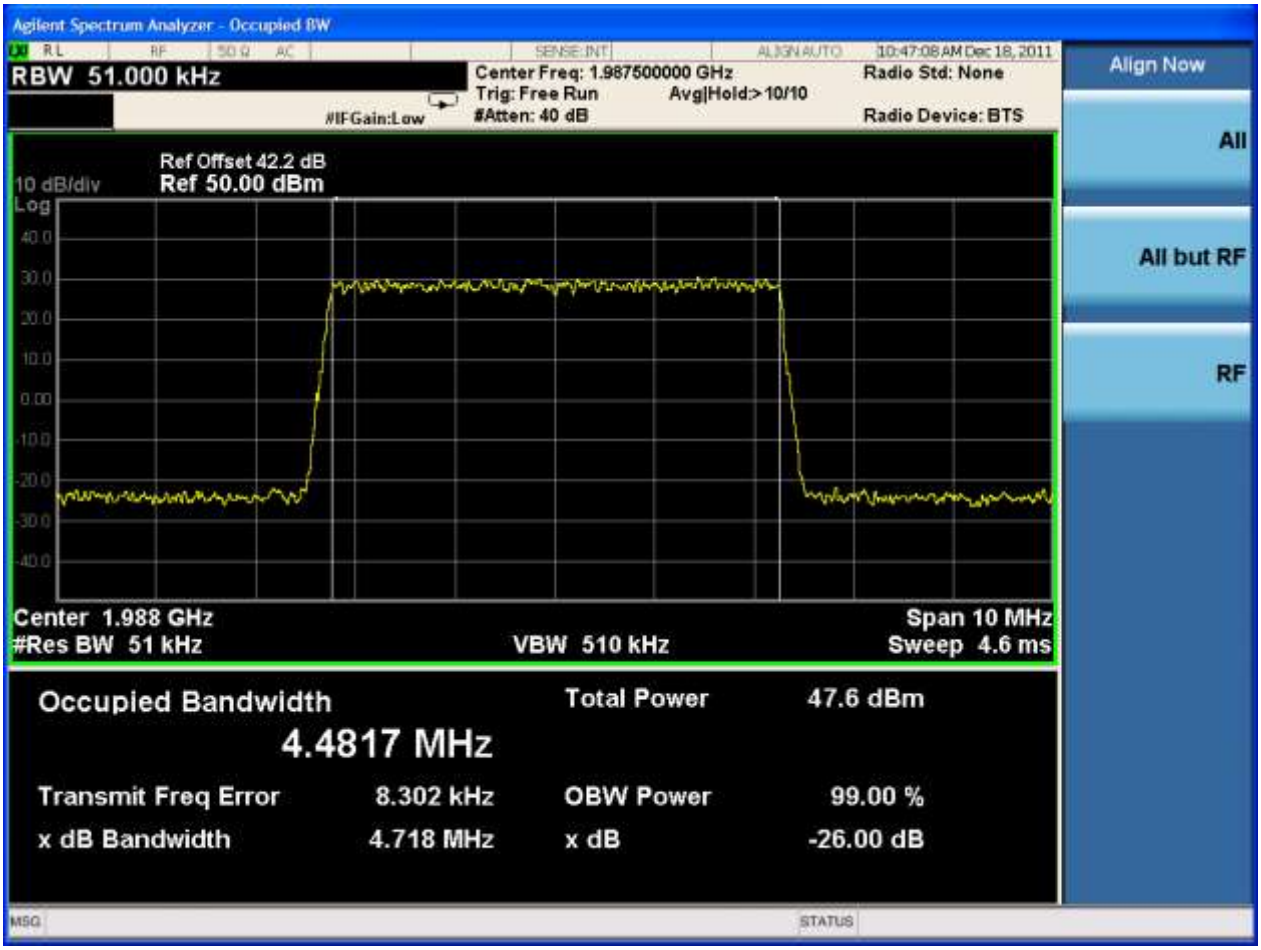
2.5.1.1 Ch. B



2.5.1.2 Ch. M



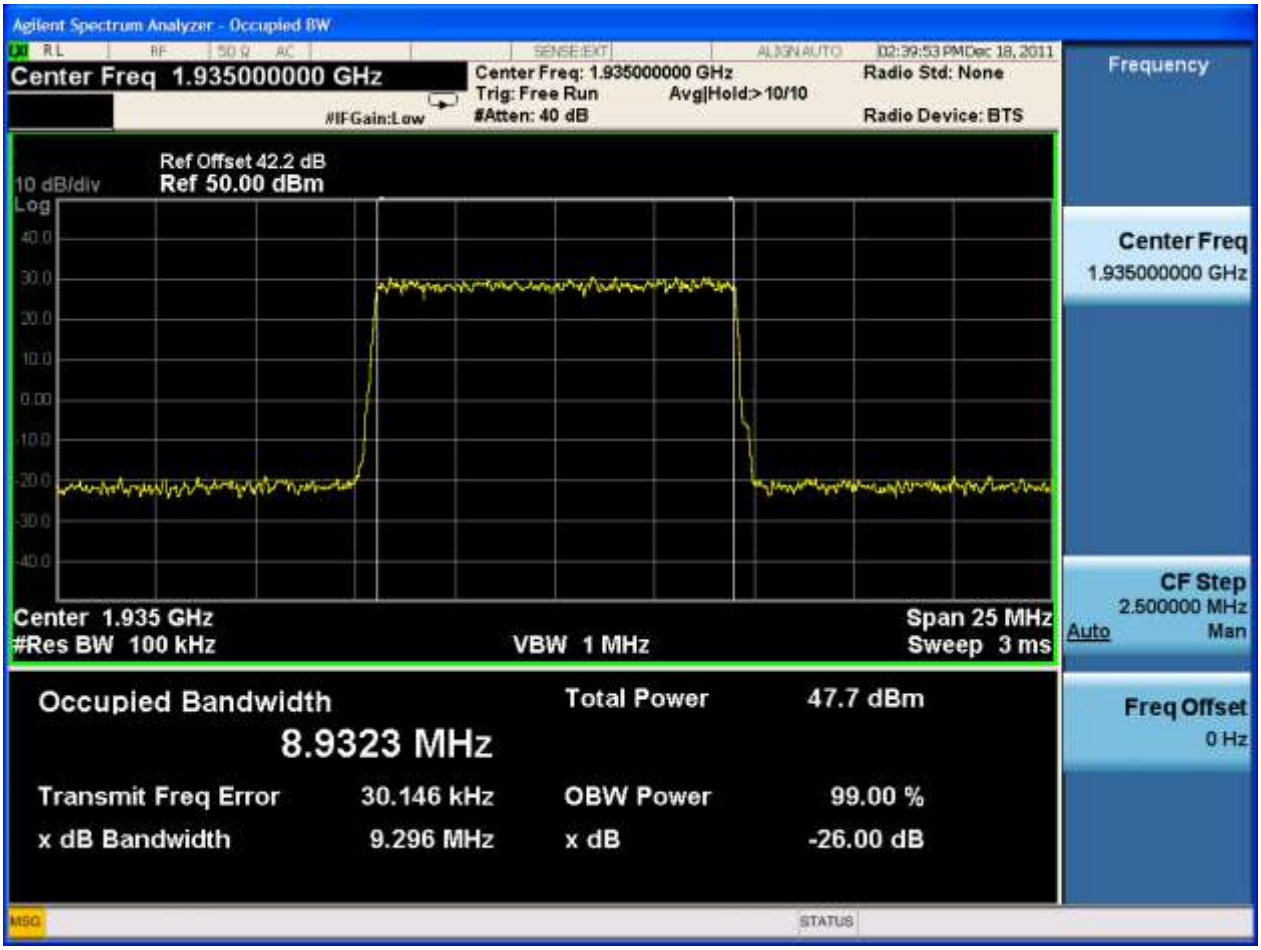
2.5.1.3 Ch. T



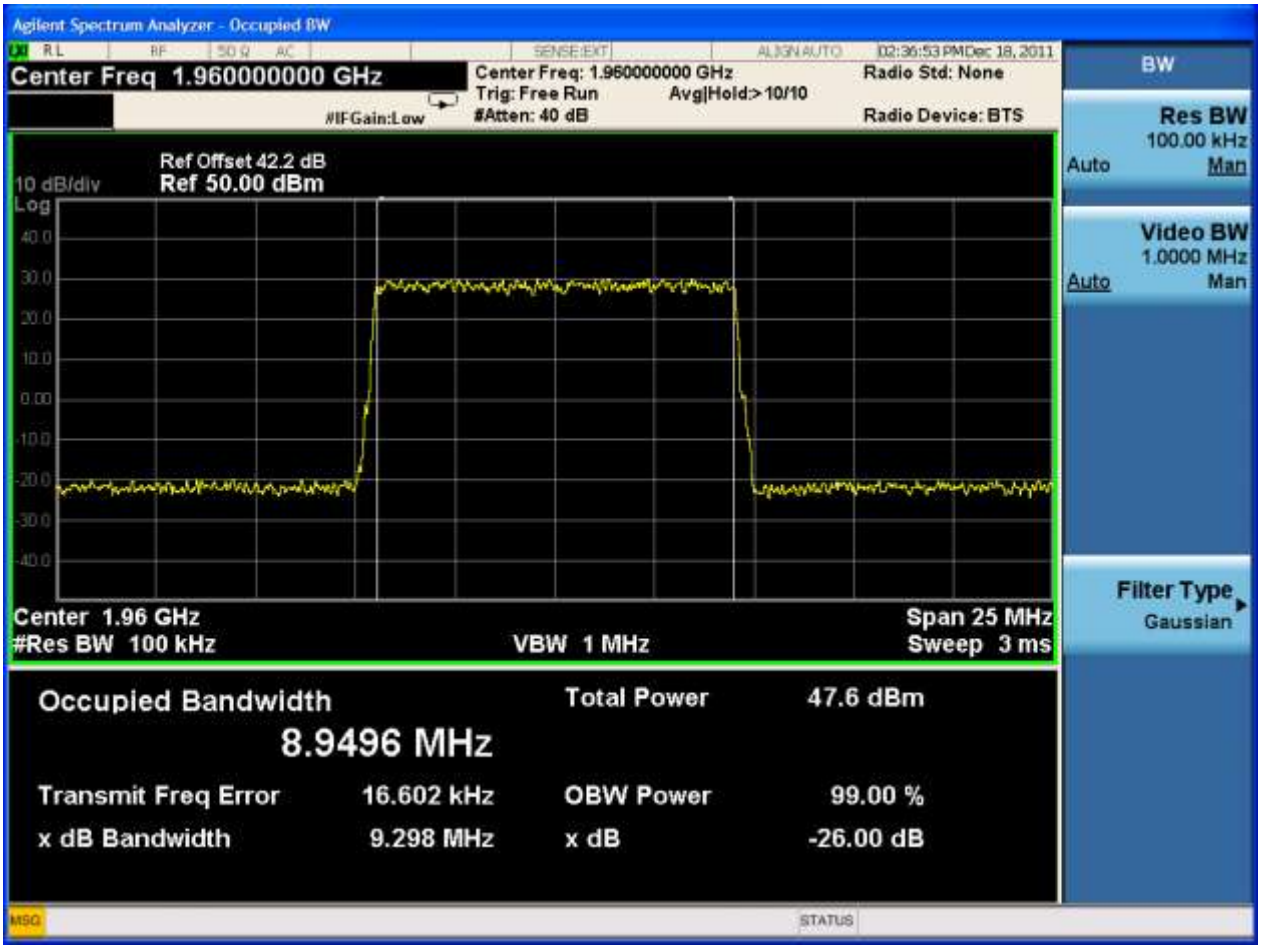
2.6 Test Mode = LTE

2.6.1 Carrier Conf. = 10M

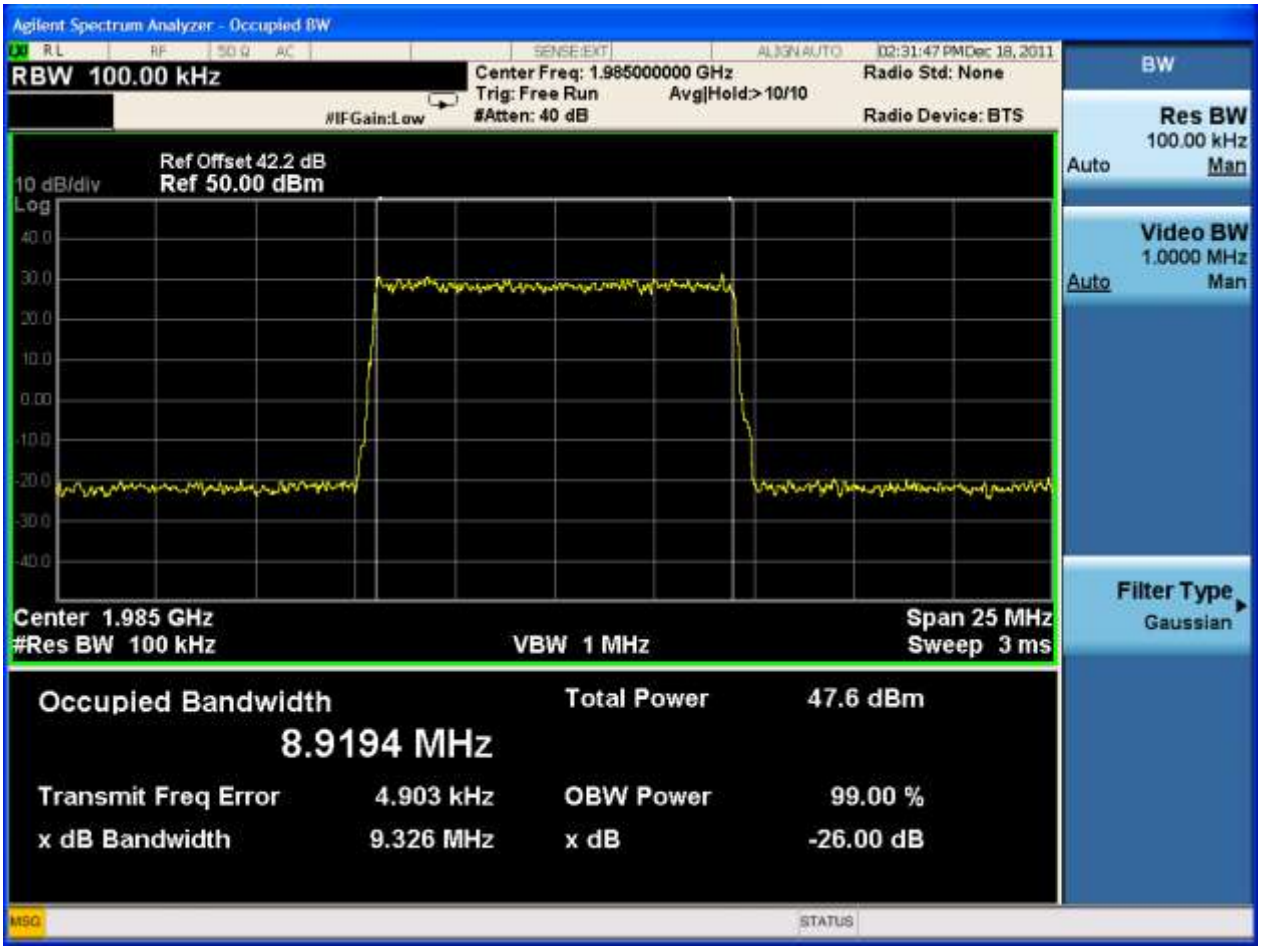
2.6.1.1 Ch. B



2.6.1.2 Ch. M



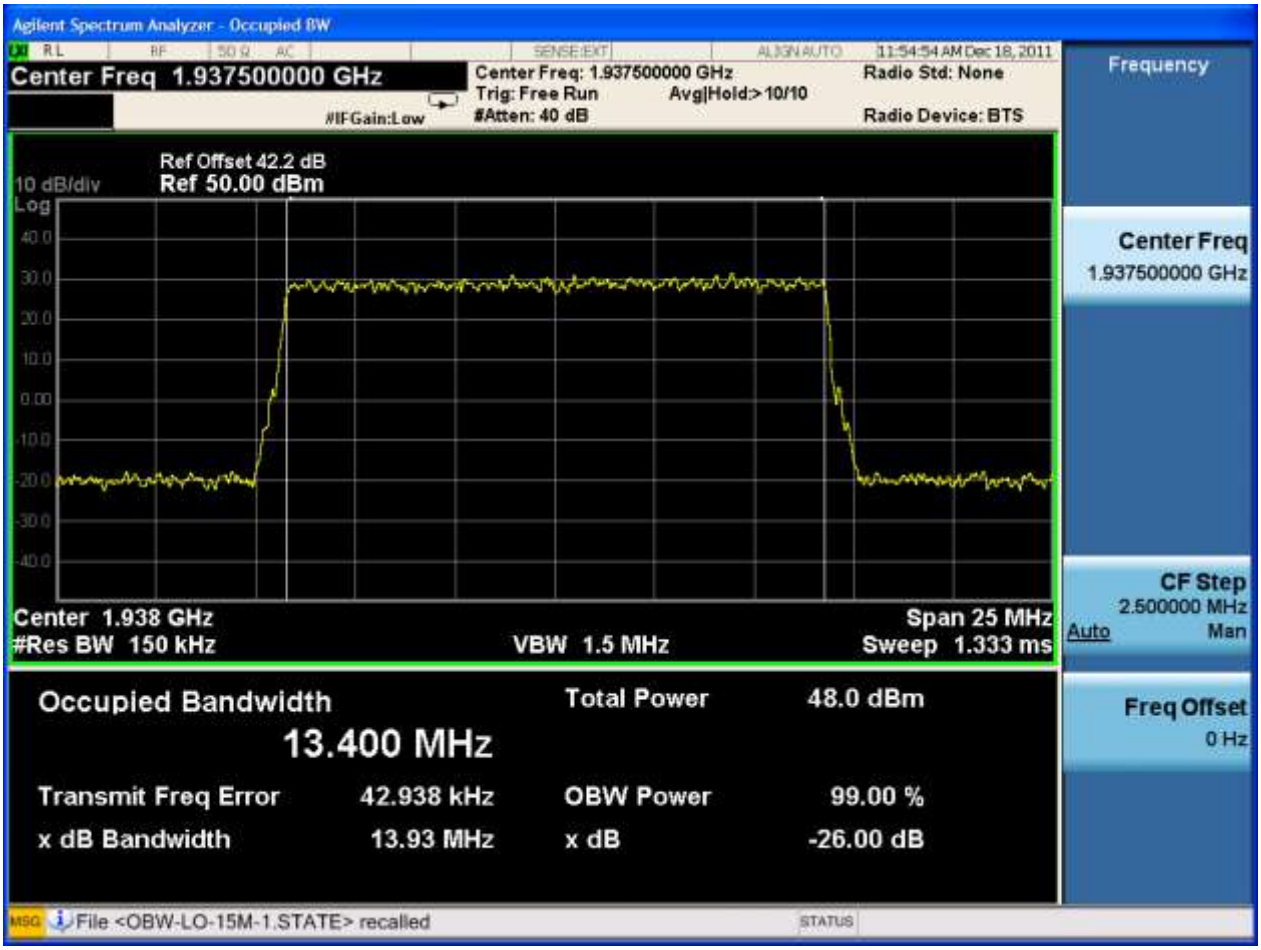
2.6.1.3 Ch. T



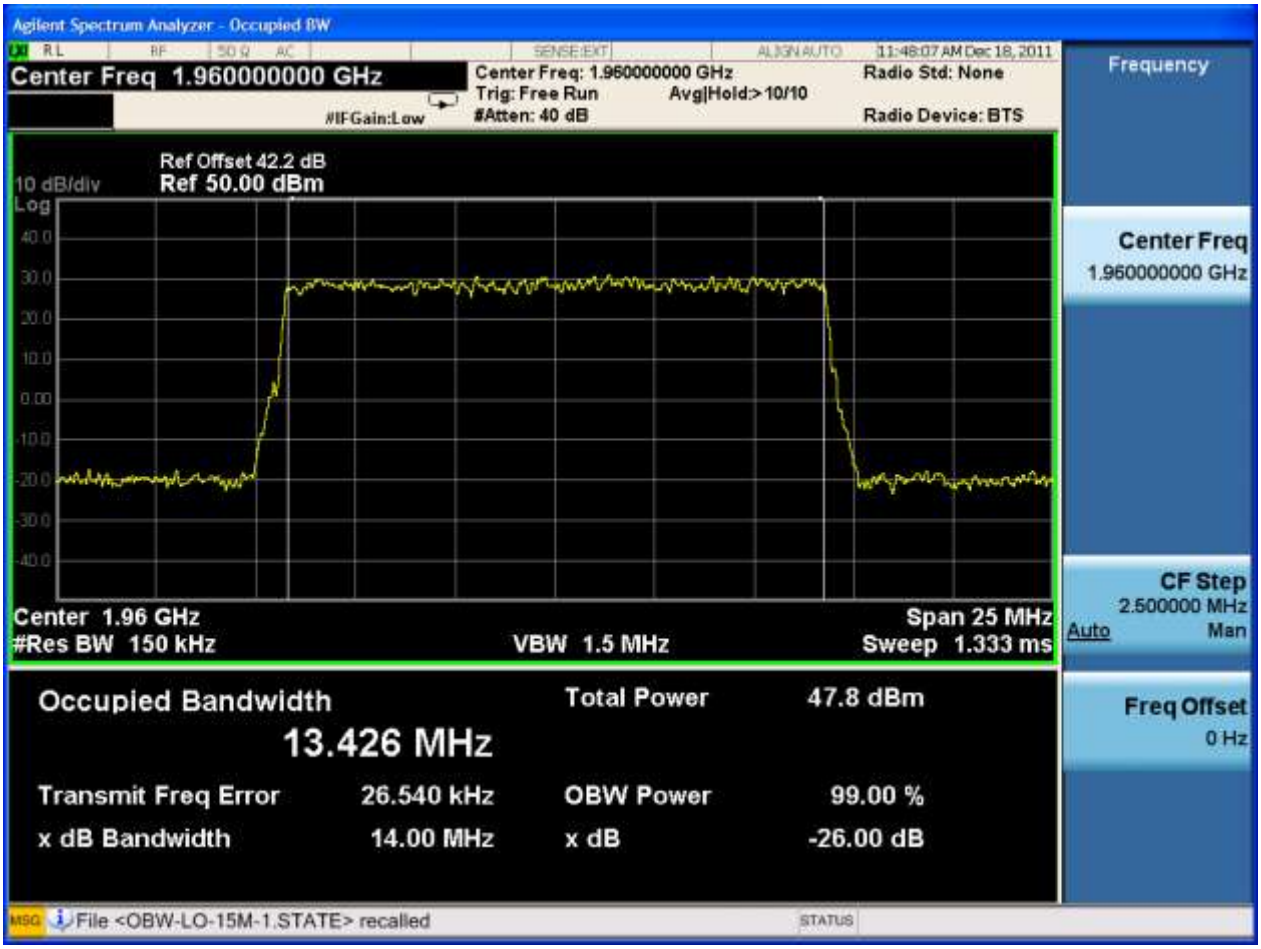
2.7 Test Mode = LTE

2.7.1 Carrier Conf. = 15M

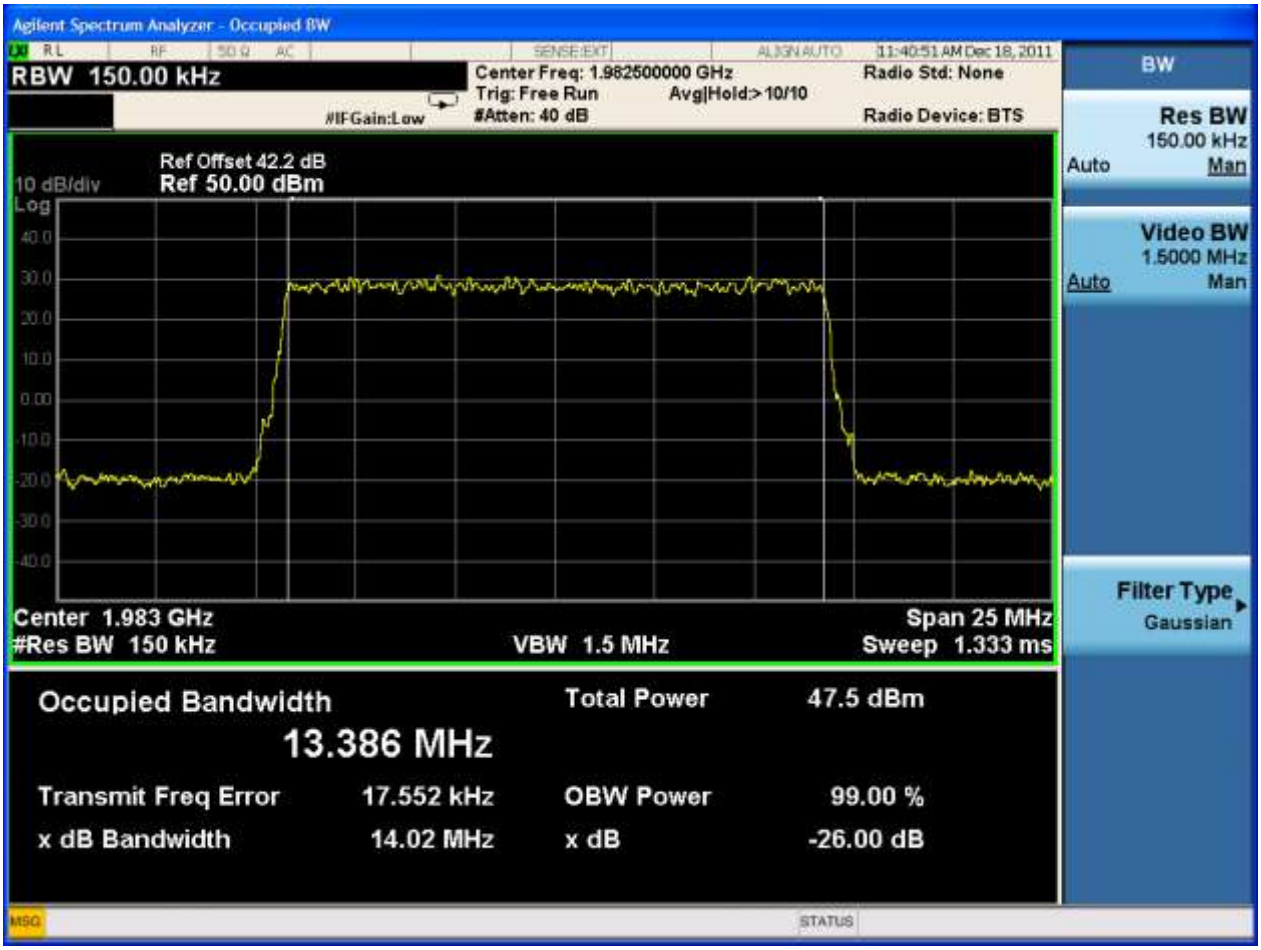
2.7.1.1 Ch. B



2.7.1.2 Ch. M



2.7.1.3 Ch. T



Appendix D: Band Edges Compliance

1 Result Table

NOTE: The offset of measurement filter -3dB point may be considered when identifying the maximum emission for e.g. the CDMA, WCDMA, WiMAX, LTE systems.

Test Mode	Carrier Conf.	RF Ch.	Band Edges Emissions [dBm]	Verdict
CDMA2000 1X	1(60W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass
	4(4*15W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass
CDMA2000 EVDO	1(60W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass
	4(4*15W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass
LTE-1.4M	1(60W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass
LTE-1.4M+1.4M	2(2*30W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass
LTE-15M	1(60W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass
LTE-15M+15M	2(2*30W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass
DO+1X+1L_5M	3(2*20+20W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass
DO+1L_5M	2(20W+20W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass
DO+1X+DO+1L_5M	4(3*15W+15W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass

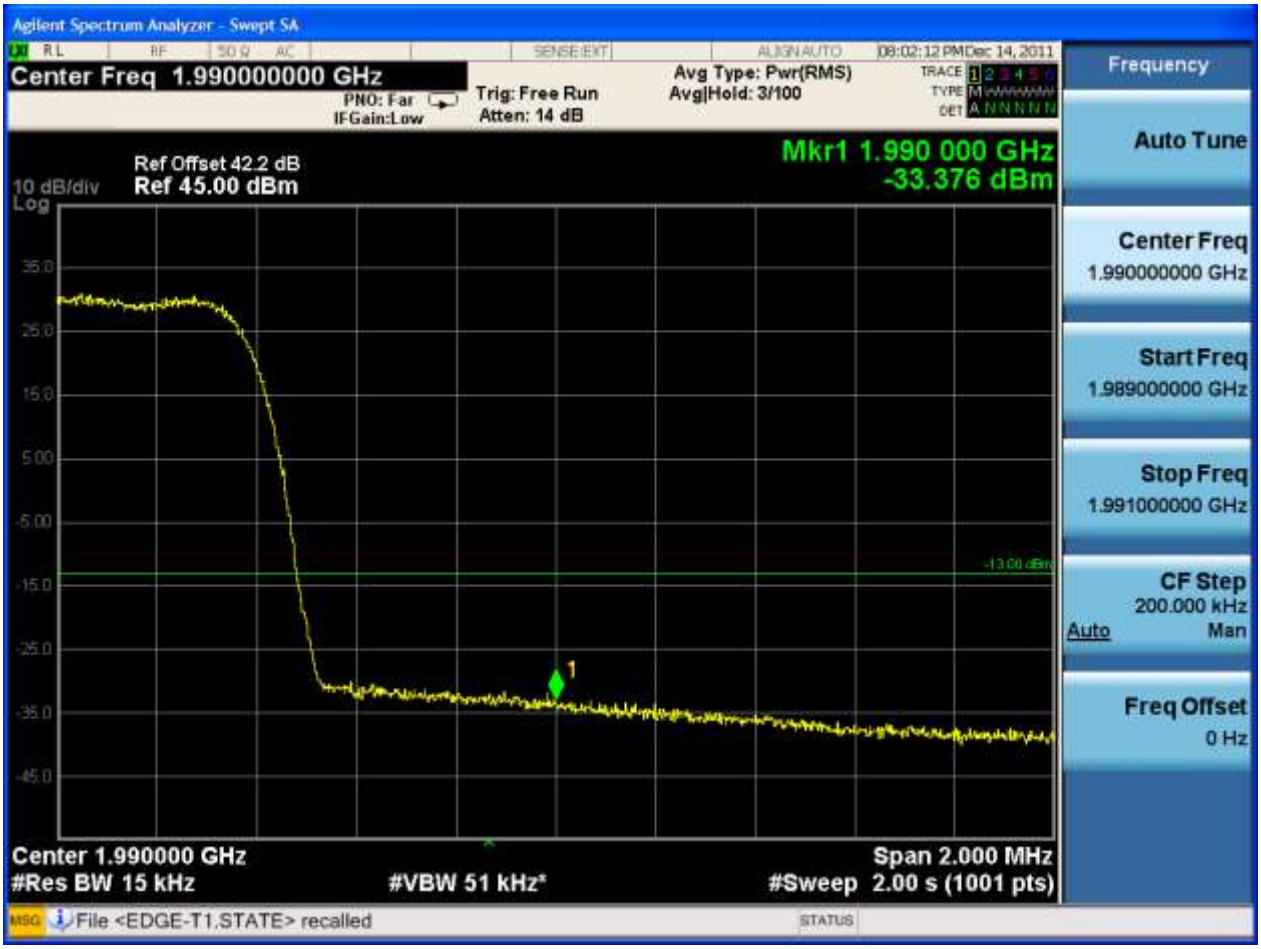
2 Test Plot

2.1 Test Mode = CDMA2000 1X

2.1.1 Carrier Conf. = 1(60W)

2.1.1.1 Ch. B

2.1.1.2 Ch. T



2.1.2 Carrier Conf. = 4(4*15W)

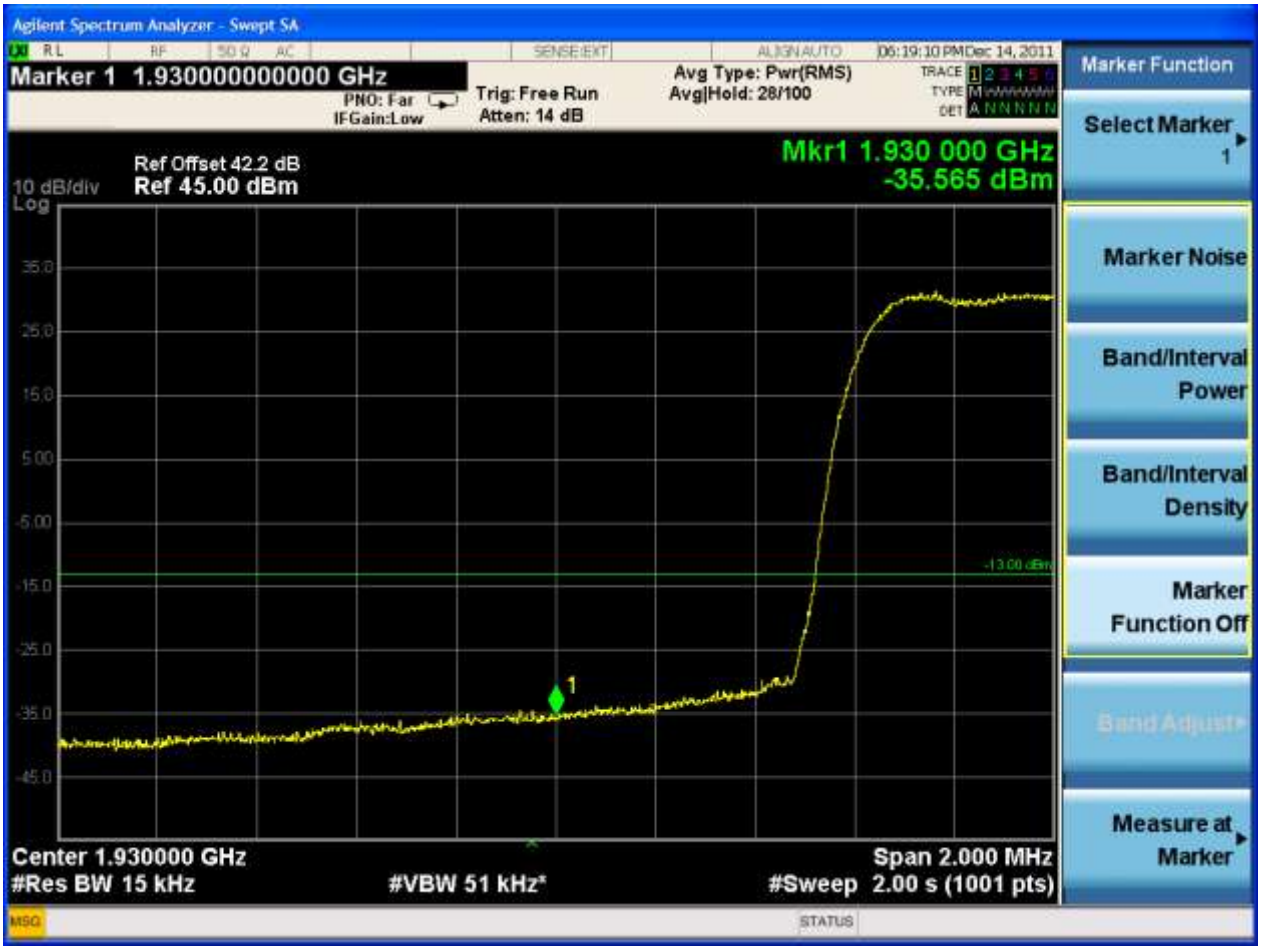
2.1.2.1 Ch. B

2.1.2.2 Ch. T

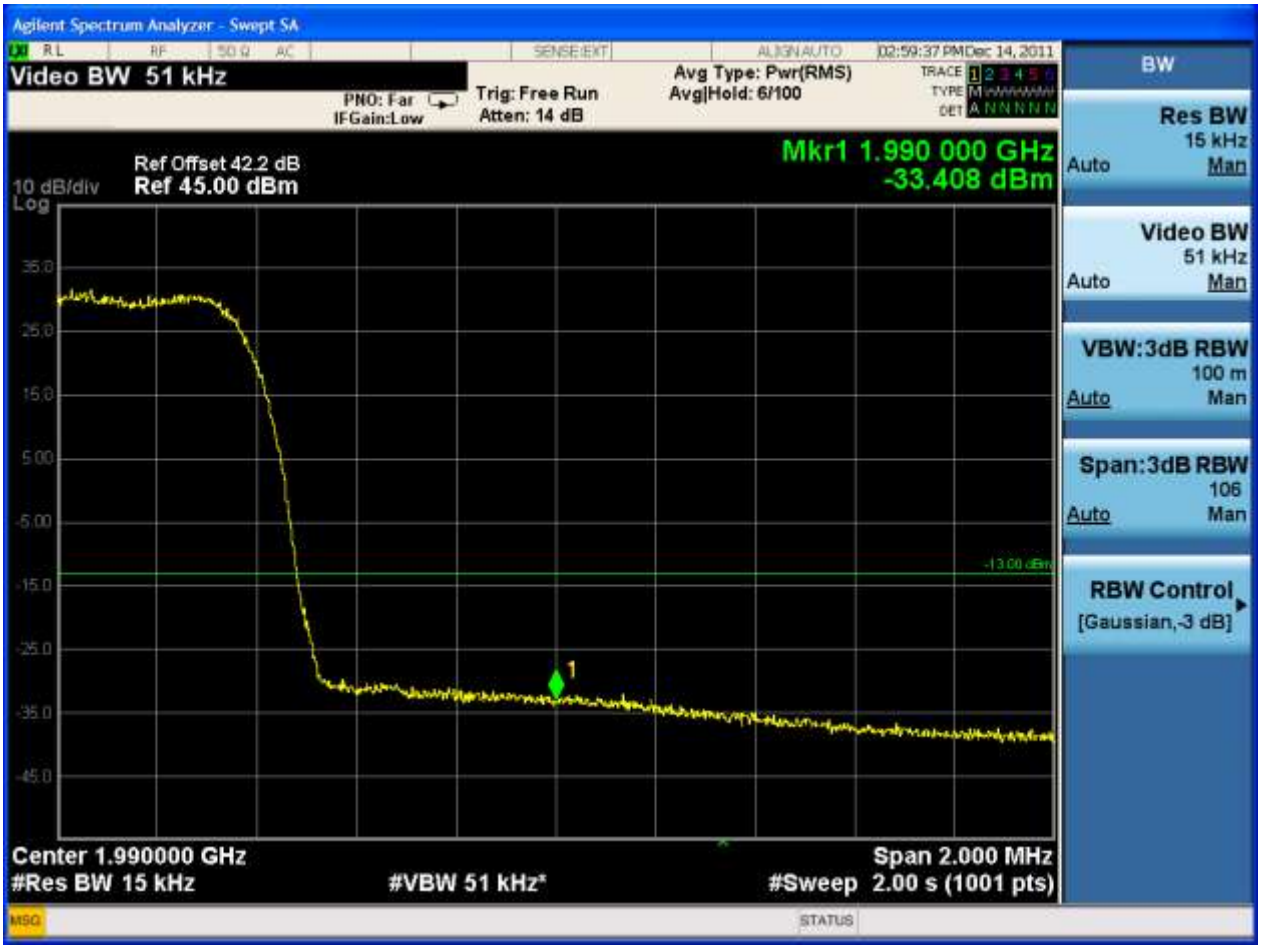
2.2 Test Mode = CDMA2000 EVDO

2.2.1 Carrier Conf. = 1(60W)

2.2.1.1 Ch. B



2.2.1.2 Ch. T



2.2.2 Carrier Conf. = 4(4*15W)

2.2.2.1 Ch. B

2.2.2.2 Ch. T

2.3 Test Mode = LTE

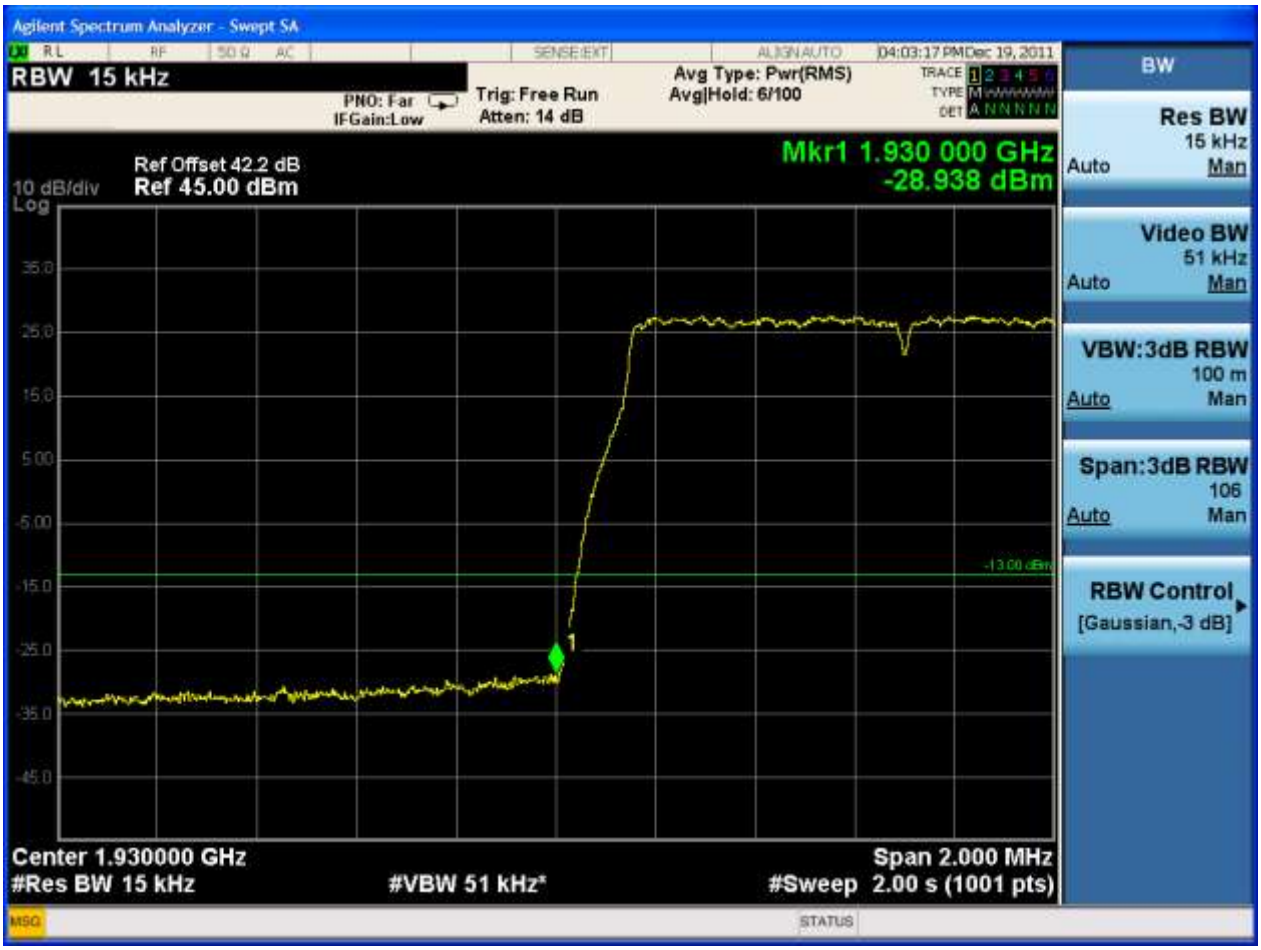
2.3.1 Carrier Conf. = 1.4M (60W)

2.3.1.1 Ch. B

2.3.1.2 Ch. T

2.3.2 Carrier Conf. = 2*1.4M (2*30W)

2.3.2.1 Ch. B



2.3.2.2 Ch. T

2.3.3 Carrier Conf. = 15M (60W)

2.3.3.1 Ch. B

2.3.3.2 Ch. T

2.3.4 Carrier Conf. = 2*15M (2*30W)

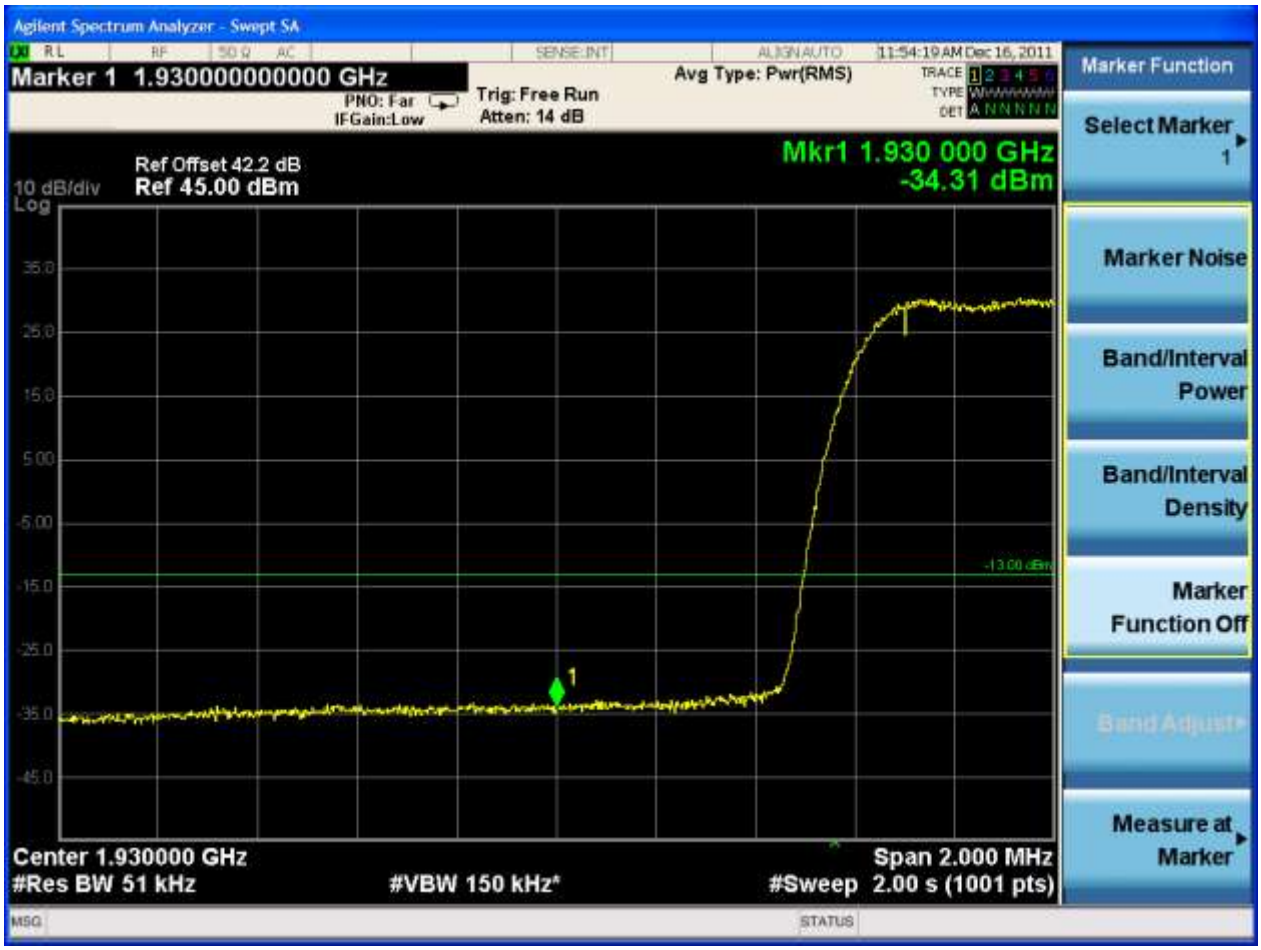
2.3.4.1 Ch. B

2.3.4.2 Ch. T

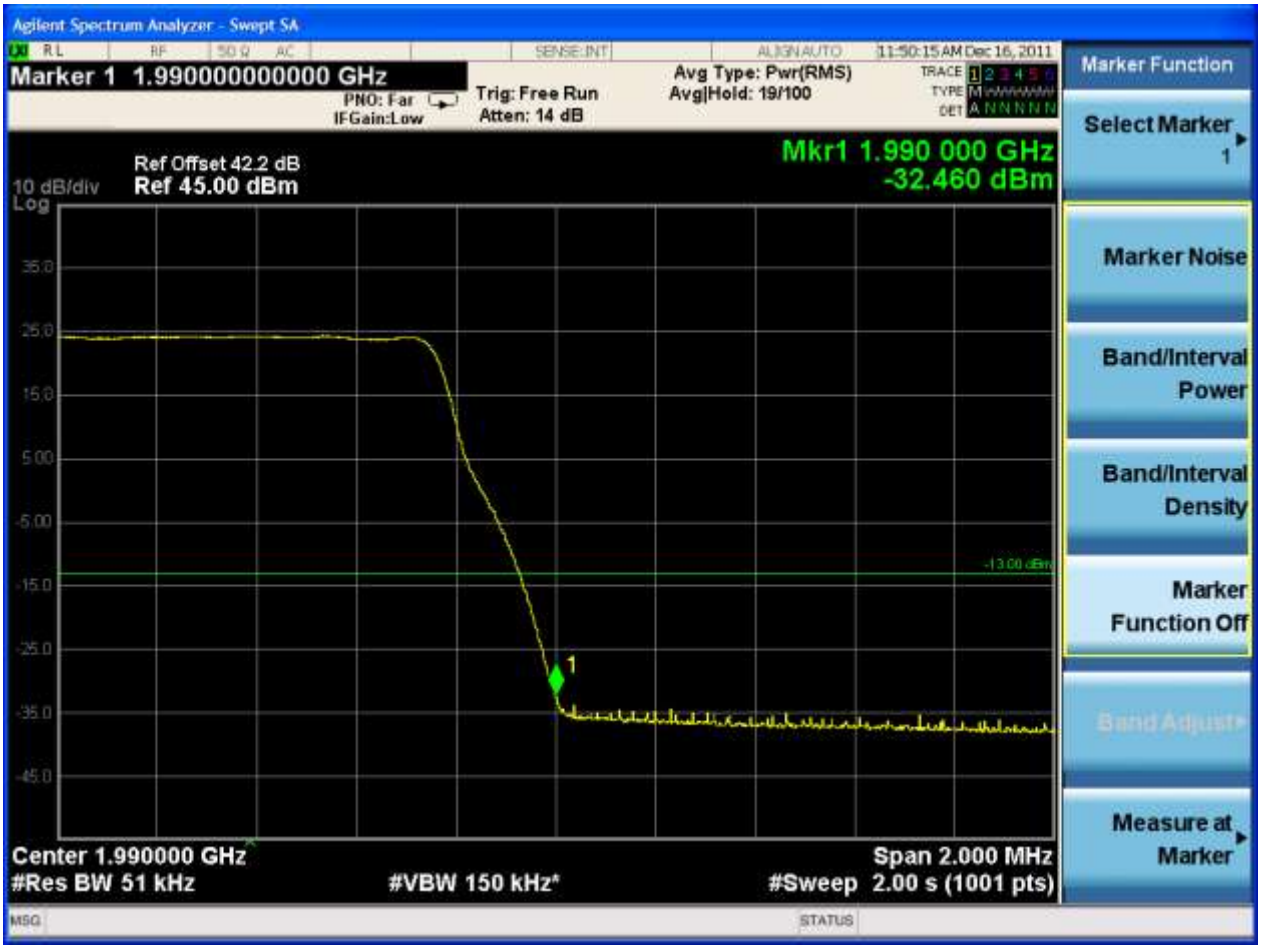
2.4 Test Mode = CDMA&LTE

2.4.1 Carrier Conf. = DO+1X+1L_5M (2*20W+20W)

2.4.1.1 Ch. B

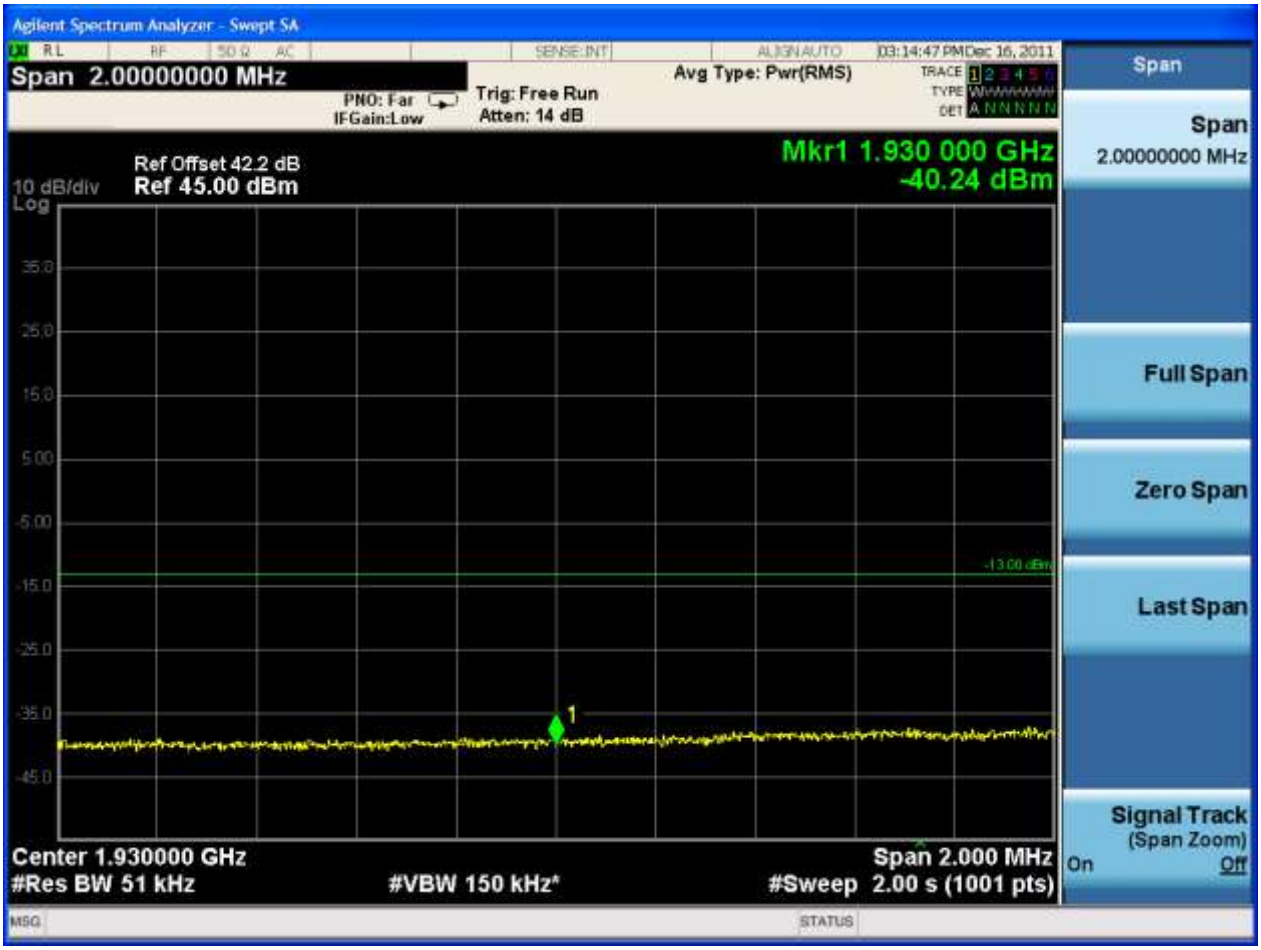


2.4.1.2 Ch. T



2.4.2 Carrier Conf. = DO+1L_5M (20W+20W)

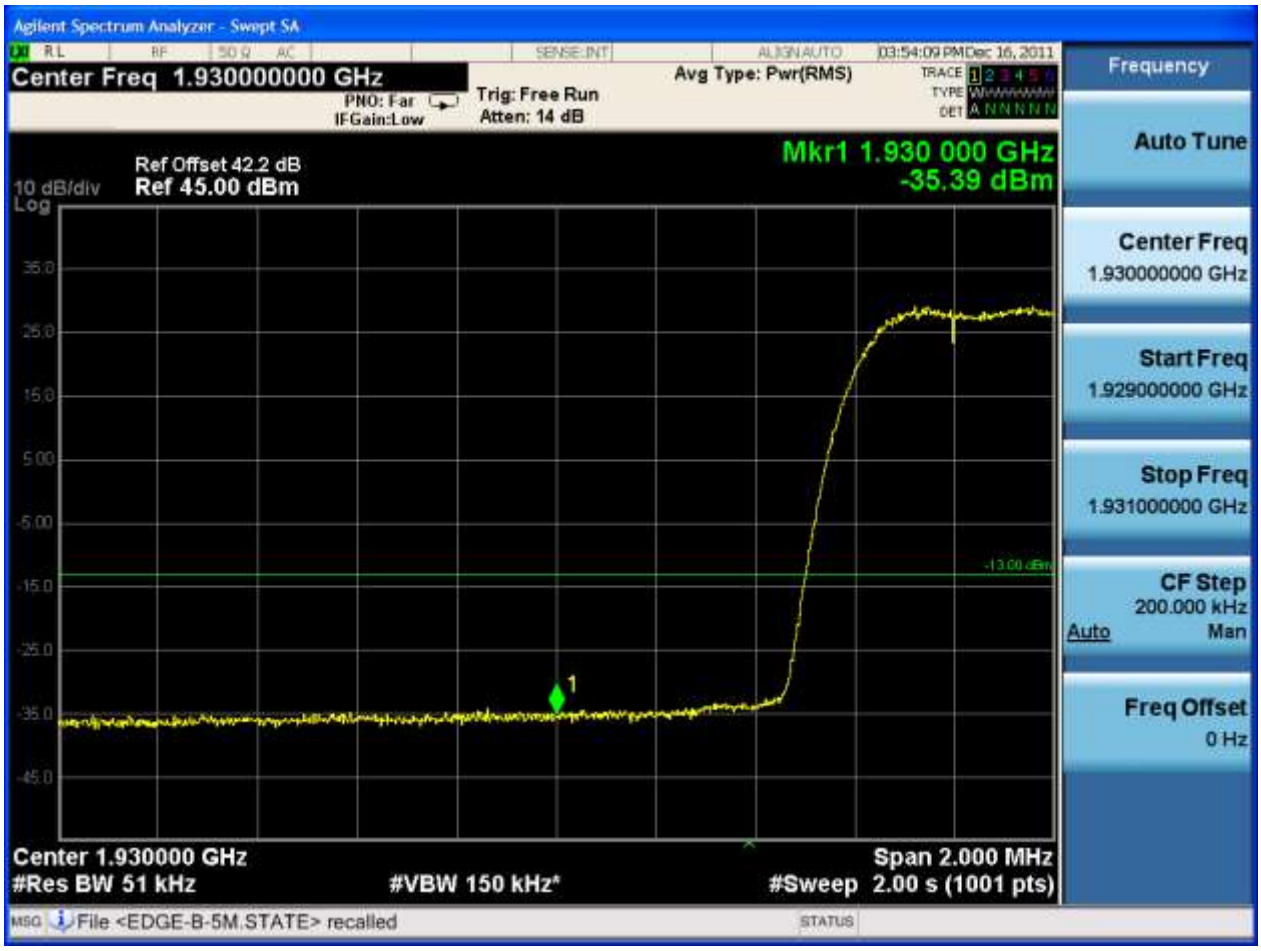
2.4.2.1 Ch. B



2.4.2.2 Ch. T

2.4.3 Carrier Conf. = DO+1X+1L_5M (3*15W+15W)

2.4.3.1 Ch. B



2.4.3.2 Ch. T

Appendix E: Spurious Emission at Antenna Terminals

1 Result Table

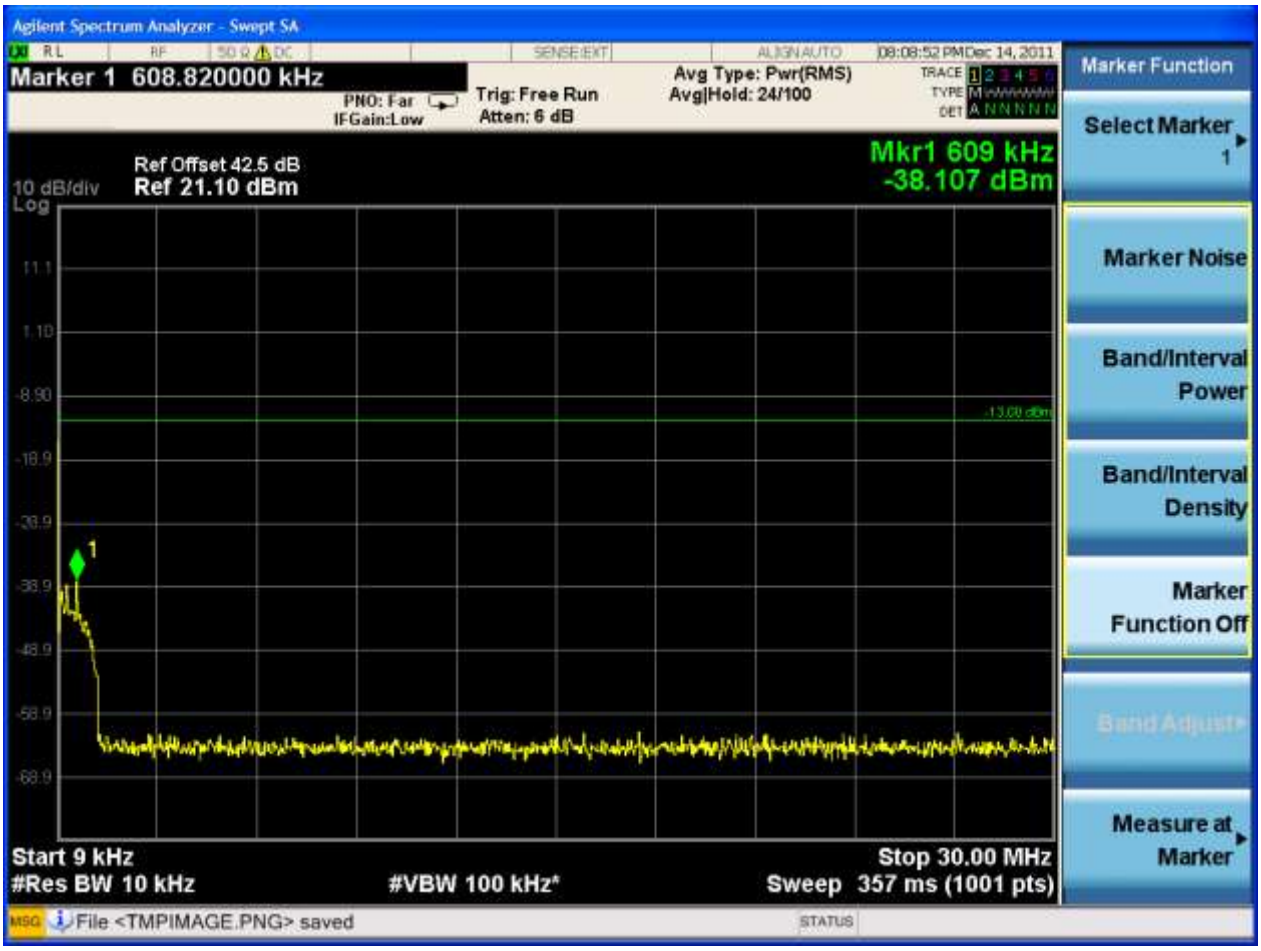
Test Mode	Carrier Conf.	RF Ch.	Spurious Emission at Antenna Terminals [dBm]	Verdict
CDMA2000 1X	1(60W)	B	Below -13dBm	Pass
		M	Below -13dBm	Pass
		T	Below -13dBm	Pass
	4(4*15)W	B	Below -13dBm	Pass
		M	Below -13dBm	Pass
		T	Below -13dBm	Pass
CDMA2000 EVDO	1(60W)	B	Below -13dBm	Pass
		M	Below -13dBm	Pass
		T	Below -13dBm	Pass
	4(4*15)W	B	Below -13dBm	Pass
		M	Below -13dBm	Pass
		T	Below -13dBm	Pass
LTE-1.4M	1(60W)	B	Below -13dBm	Pass
		M	Below -13dBm	Pass
		T	Below -13dBm	Pass
LTE-1.4M+1.4M	2(2*30W)	B	Below -13dBm	Pass
		M	Below -13dBm	Pass
		T	Below -13dBm	Pass
LTE-15M	1(60W)	B	Below -13dBm	Pass
		M	Below -13dBm	Pass
		T	Below -13dBm	Pass
LTE-15 M+15M	2(2*30W)	B	Below -13dBm	Pass
		T	Below -13dBm	Pass
DO+1X+1L_5M	3(2*20W+20W)	B	Below -13dBm	Pass
		M	Below -13dBm	Pass
		T	Below -13dBm	Pass
DO+1L_5M	2(20W+20W)	B	Below -13dBm	Pass
		M	Below -13dBm	Pass
		T	Below -13dBm	Pass
DO+1X+DO+1L_5M	4(3*15W+15W)	B	Below -13dBm	Pass
		M	Below -13dBm	Pass
		T	Below -13dBm	Pass

2 Test Plot

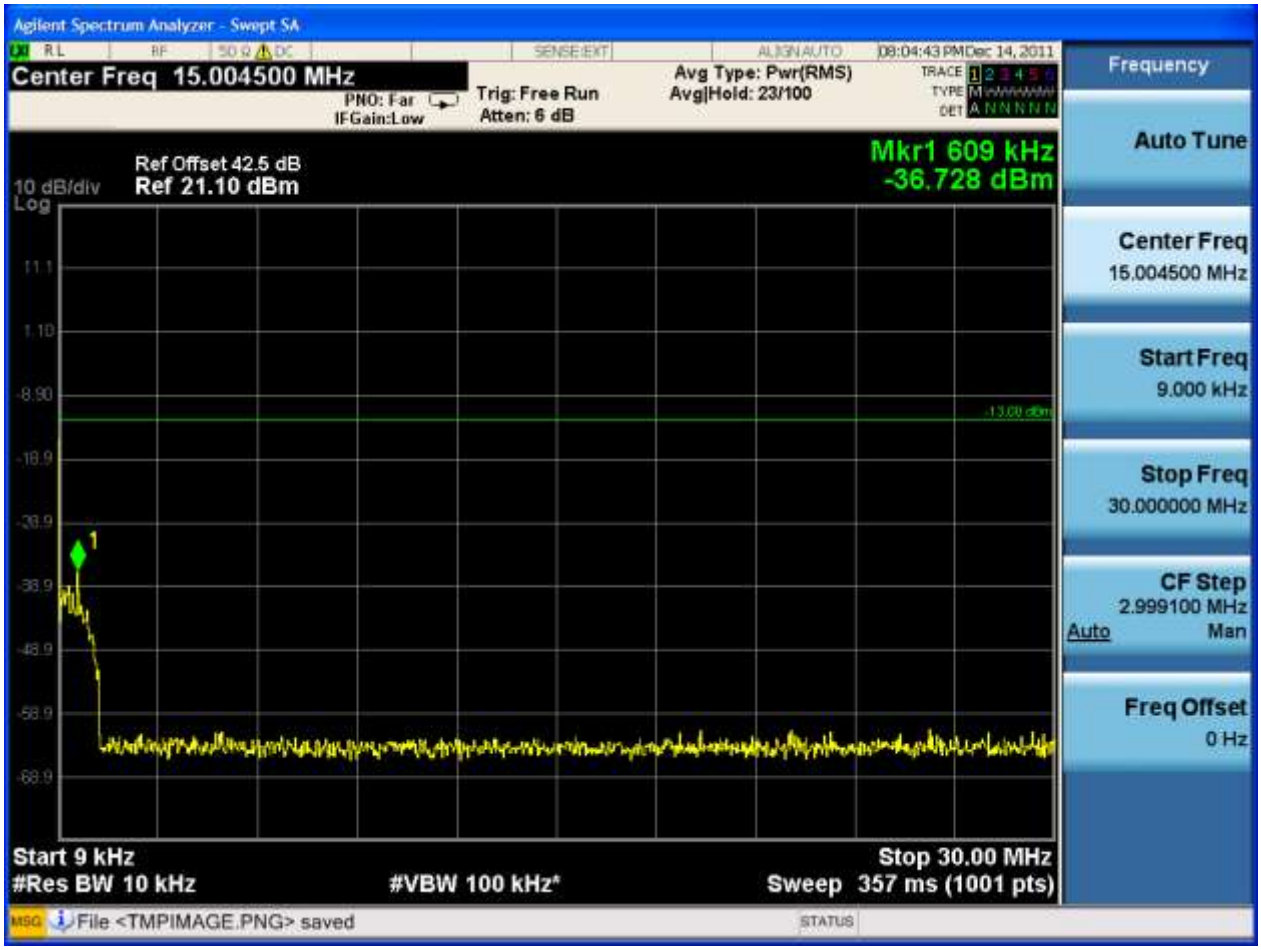
2.1 Test Mode = CDMA2000 1X

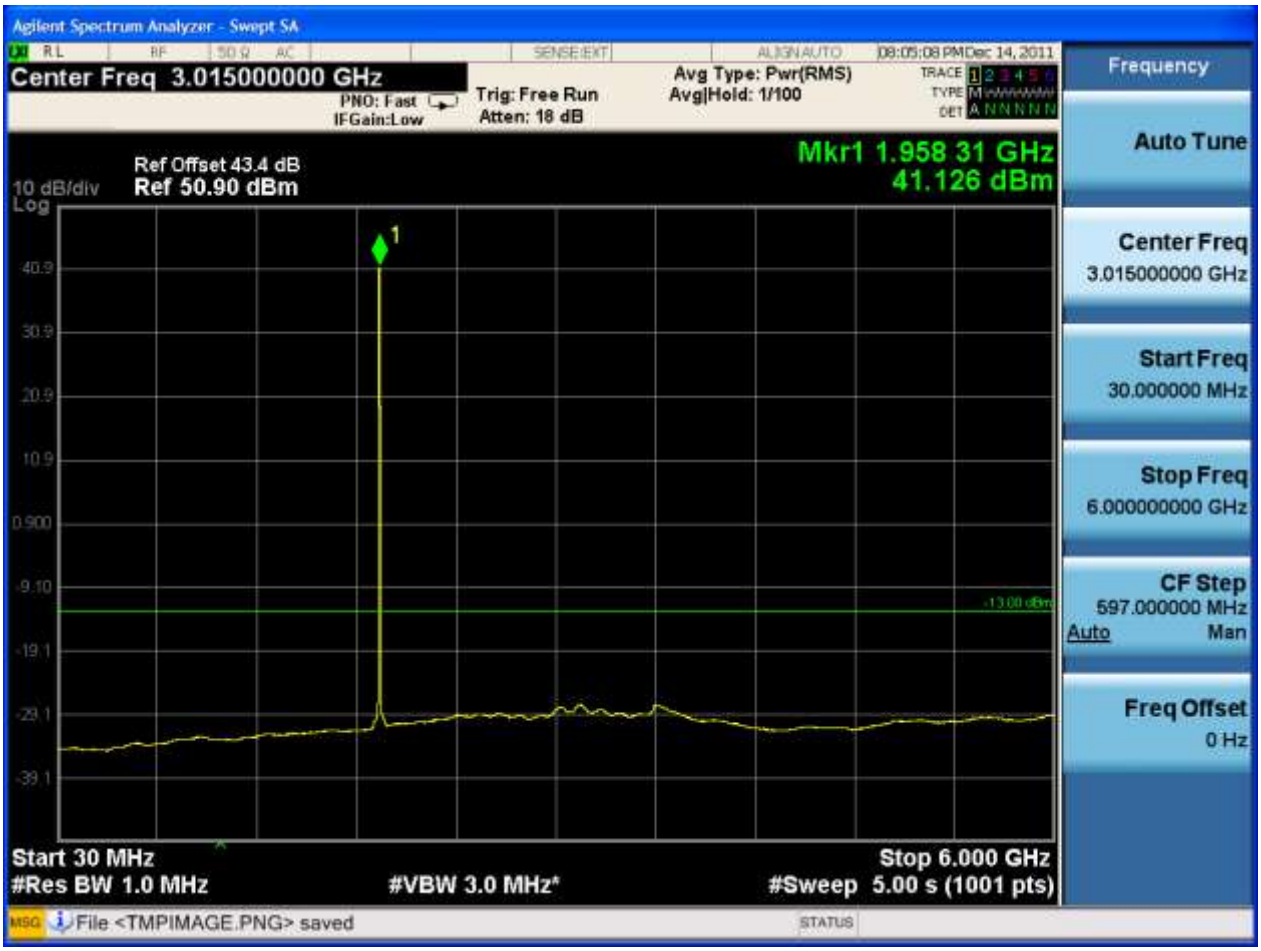
2.1.1 Carrier Conf. = 1(60W)

2.1.1.1 Ch. B

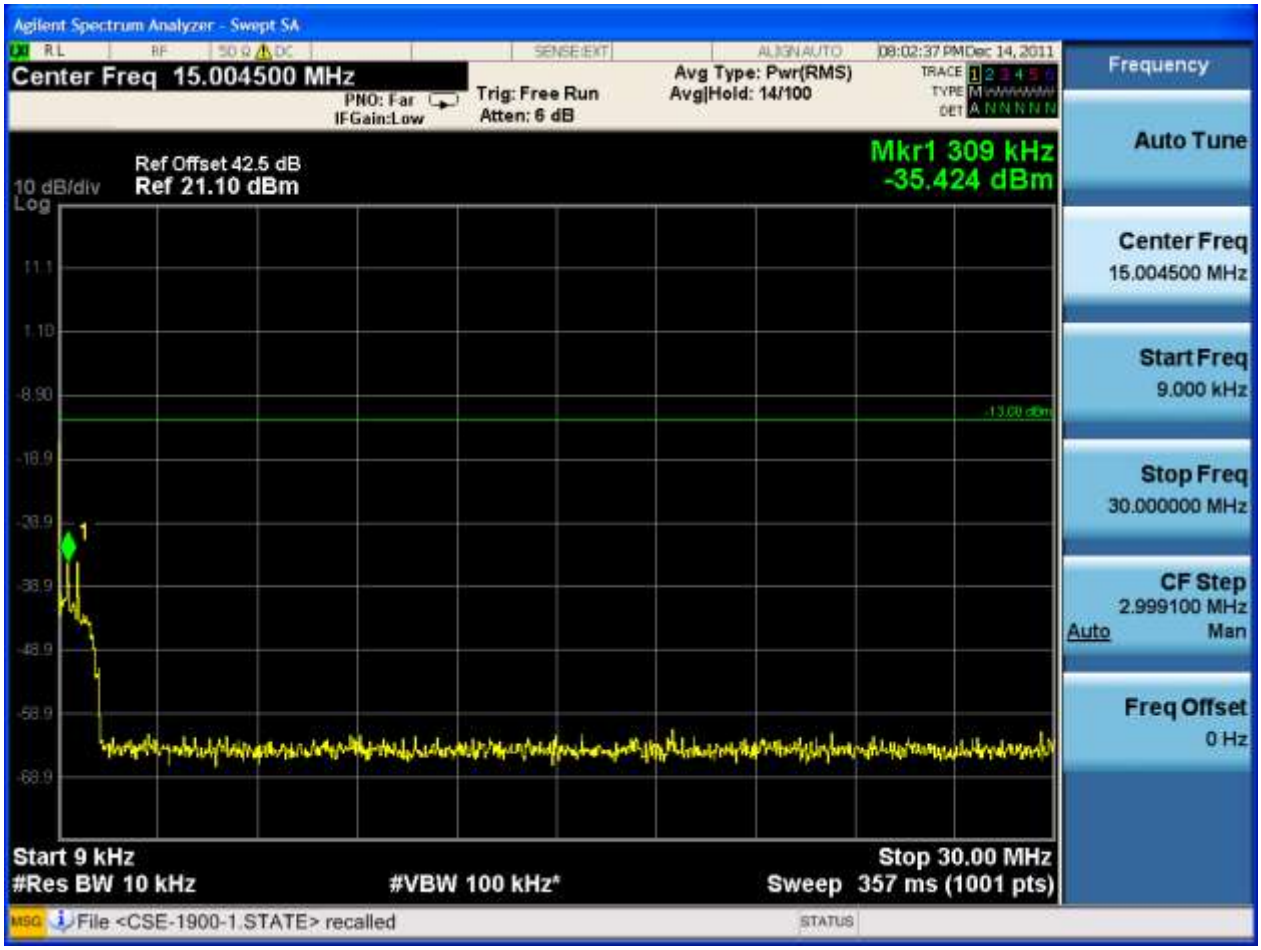


2.1.1.2 Ch. M



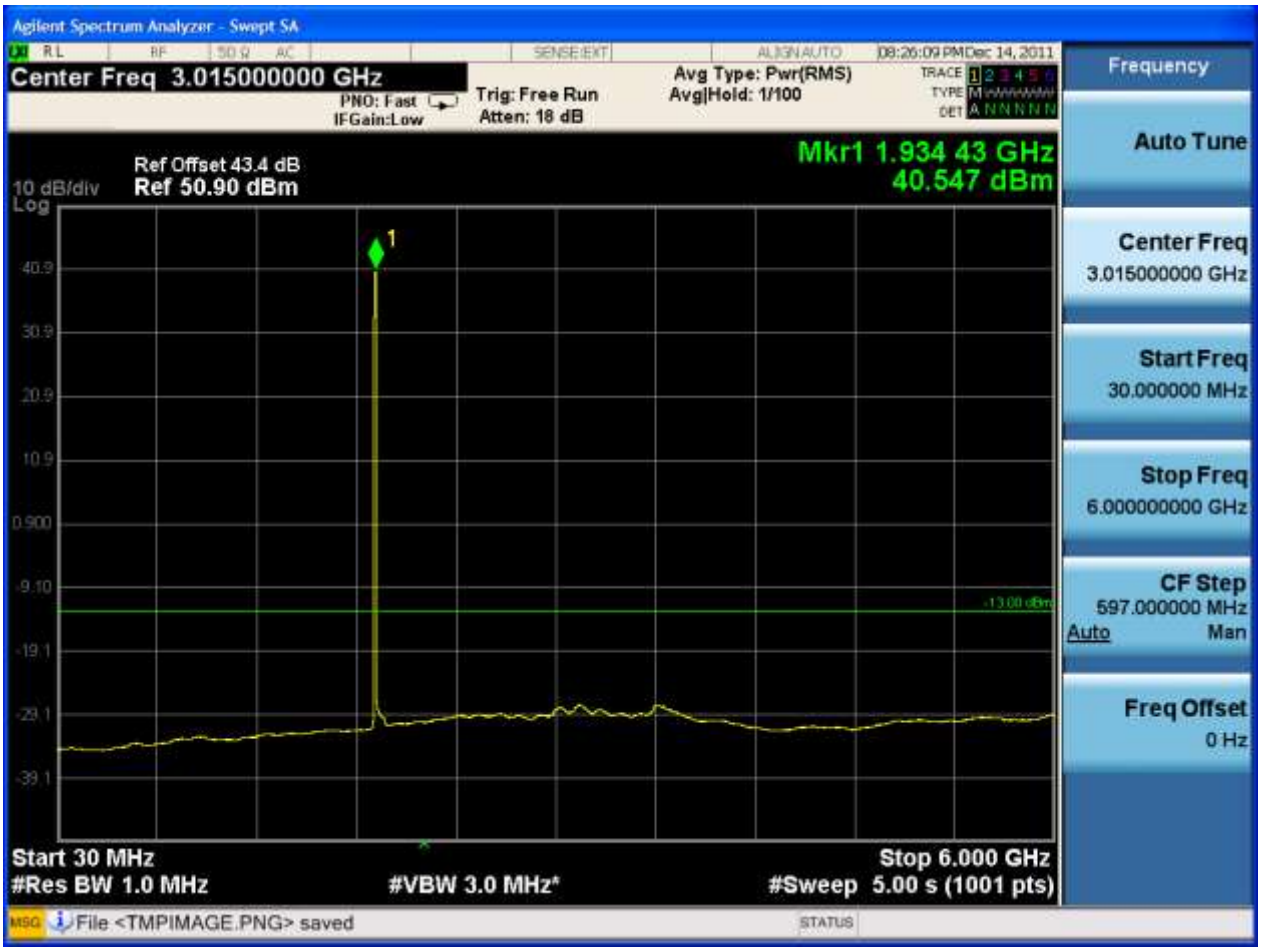


2.1.1.3 Ch. T



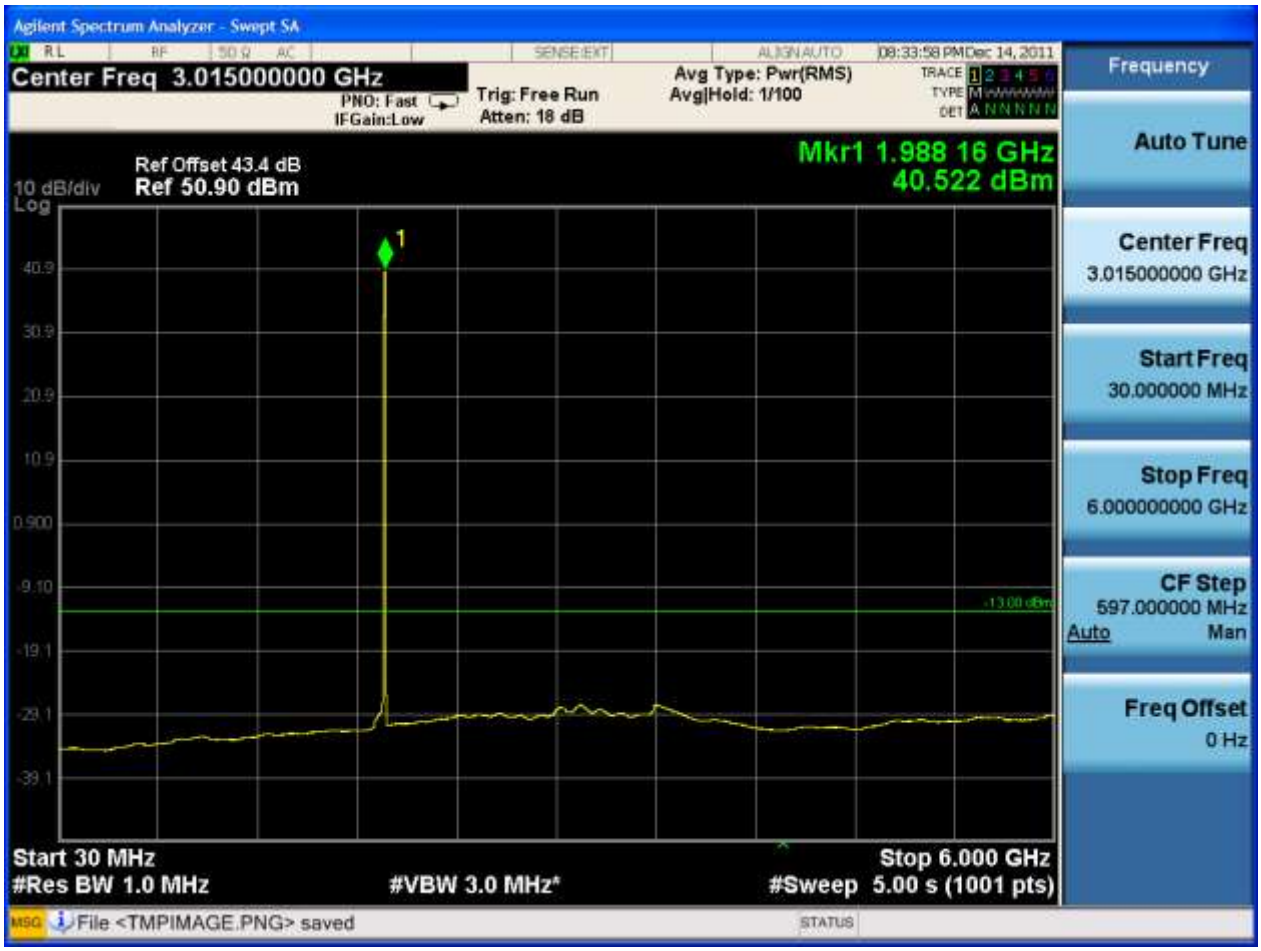
2.1.2 Carrier Conf. = 4(4*15W)

2.1.2.1 Ch. B



2.1.2.2 Ch. M

2.1.2.3 Ch. T



2.2 Test Mode = CDMA2000 EVDO

2.2.1 Carrier Conf. = 1 (60W)

2.2.1.1 Ch. B