FCC PART 22, 24 Test Report For

Barnes&Noble.com

BNRZ100

Model Number: BNRZ100

FCC ID: XHHBNRZ100

Prepared for : Barnes&Noble.com
76 Ninth Avenue 9th Floor New York

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Ke Feng Rd., 52 Block,
Shenzhen Science & Industrial Park,
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Report Number : ACS-F09184
Date of Test : Aug.29~Sep.02, 2009
Date of Report : Sep.04, 2009

TABLE OF CONTENTS

Description Page

TEST REPORT STATEMENT

Applicant	:	Barnes&Noble.com
Manufacturer	:	Barnes&Noble.com
EUT Description	:	BNRZ100
FCC ID	:	XHHBNRZ100

(A) MODEL NO. : BNRZ100

(B) SERIAL NO. : N/A

(C) POWER SUPPLY : DC 3.7V; DC 5V

(D) TEST VOLTAGE : DC 3.7V; DC 5V From Adapter Input AC 120V/60Hz:

Test Standard/s:

FCC Rules and Regulations CFR 47 Part 22E, Part 24H, Part 2, FCC PART 15C

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to determine comply with apply rules

The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Date of Test : Aug.29~ Sep.02, 2009

Prepared by : Edie Huang

Edie Huang / Assistant

Reviewer : Jamy Yu

Jamy Yu / Senior Engineer

AUDIX® 信華科技(深圳)有限公司
Audix Technology (Shenzhen) Co., Ltd.
EMC 部門報告專用章
Stamp only for EMC Dept. Report
Signature: Ken Lu 09'

Approved & Authorized Signer :

Ken Lu / Manager

1. SUMMARY OF STANDARDS AND RESULTS

1.1.Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

Description of Test Item	Standard	Results
Conducted Output power	FCC PART 2: 2.1046 FCC PART 22H: 22.913 (a) FCC PART 24E: 24.232 (c)	PASS
Radiated Output power(erp/eirp)	FCC PART 22H:22.913 (a) FCC PART 24E:24.232(c)	PASS
Occupied bandwidth	FCC PART 2: 2.1049 FCC PART 22H: 22.917 (b) FCC PART 24E: 24.238 (b)	PASS
Frequency stability	FCC PART 2: 2.1055 FCC PART 22H: 22.355 FCC PART 24E: 24.235	PASS
Conducted spurious emission (Antenna terminal)	FCC PART 2: 2.1051 FCC PART 22H: 22.917 FCC PART 24E: 24.238	PASS
Radiated spurious emissions	FCC PART 2: 2.1053 FCC PART 22H: 22.917 FCC PART 24E: 24.238	PASS
Block edge compliance	FCC PART 22H: 22.917 (b) FCC PART 24E: 24.238 (b)	PASS
Power Line Conducted Emission Test	FCC Part 15: 15.207 ANSI C63.4: 2003	PASS

2. GENERAL INFORMATION

2.1.Description of Device (EUT)

Product Name	:	BNRZ100
Model Number	:	BNRZ100
FCC ID	:	XHHBNRZ100
Radio technology	:	GPRS,EDGE,WCDMA,HSDPA
Operation Frequency	:	824.2MHz—848.8MHz and 1850.2MHz—1909.8MHz
Modulation Technology	:	GMSK;8-PSK;QPSK;16QAM
Applicant	:	Barnes&Noble.com 76 Ninth Avenue 9th Floor New York
Manufacturer	:	Barnes&Noble.com 76 Ninth Avenue 9th Floor New York
Power Adapter	:	Manufacturer: Barnes&Noble.com M/N: BNRP5-850 Cable: Unshielded, Detachable, 1m
Date of Test	:	Aug.29~Sep.02, 2009
Date of Receipt	:	Aug.27, 2009
Sample Type	:	Prototype production

2.2.Test equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4446A	US44300459	May.08, 09	1 Year
2	Signal Generator	HP	83732B	VS3449051	May.08, 09	1 Year
3	Base station	R&S	CMU200	1100000802	Jun.18.09	1 Year
4	Attenuator	Agilent	8491B	MY39262165	May.08, 09	1 Year
5	Temperature controller	Terchy	MHQ	120	May.08, 09	1Year
6	RF Cable	Hubersuhner	SUCOFLEX 102	28618/2	May.08, 09	1Year
7	RF Cable	Hubersuhner	SUCOFLEX 102	28620/2	May.08, 09	1 Year
8	RF Cable	Hubersuhner	SUCOFLEX 102	271471/4	May.08, 09	1 Year
9	RF Cable	Hubersuhner	SUCOFLEX 102	29086/2	May.08, 09	1 Year
10	RF Cable	Hubersuhner	SUCOFLEX 102	271473/4	May.08, 09	1 Year
11	RF Cable	Hubersuhner	SUCOFLEX 102	29091/2	May.08, 09	1 Year
12	Power divider	Anritsu	K240C	020346	May.08, 09	1 Year
13	Horn Antenna	EMCO	3115	9607-4877	May. 27, 08	1.5 Year
14	Horn Antenna	EMCO	3115	9510-4580	May.10, 08	1.5 Year
15	Bilog Antenna	Schaffner	CBL6112D	25238	Feb.12, 09	1 Year
16	Dipole antenna	Schwarzbeck	UHAP	1101	Jun.16, 08	2 Year
17	Dipole antenna	Schwarzbeck	VHAP	1118	Jun.16, 08	2 Year
18	Test Receiver	Rohde & Schwarz	ESHS20	836600/006	May.08, 09	1 Year
19	L.I.S.N.#2	Kyoritsu	KNW-407	8-1636-1	May.08, 09	1 Year
20	Terminator	Hubersuhner	50Ω	No. 1	May.08, 09	1 Year
21	RF Cable	Fujikura	3D-2W	LISN Cable 1#	May.08, 09	1Year
22	Coaxial Switch	Anritsu	MP59B	M55367	May.08, 09	1 Year
23	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100341	May.08, 09	1 Year

2.3.Test configuration of EUT

During all testing, EUT is in link mode with base station emulator at maximum power level in each test mode and channel as below:

Mode	Channel	Frequency(MHz)
GPRS 850 (GMSK)	128	824.2
	190	836.6
	251	848.8
GPRS 1900 (GMSK)	512	1850.2
	661	1880.0
	810	1909.8
EDGE 850 (8-PSK)	128	824.2
	190	836.6
	251	848.8
EDGE 1900 (8-PSK)	512	1850.2
	661	1880.0
	810	1909.8
UMTS FDD Band II	9262	1852.4
	9400	1880.0
	9538	1907.6
UMTS FDD Band V	4132	826.4
	4182	836.4
	4233	846.6
FDD II HSDPA	9262	1852.4
	9400	1880.0
	9538	1907.6
FDD V HSDPA	4132	826.4
	4182	836.4
	4233	846.6

For GPRS test, chose CS-1 coding scheme and 1down 1up multislot config, for EDGE test chose MCS-8(8PSK modulation) coding scheme and 1down 1up multislot config.

For WCDMA Rel99: The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 V7.5.0 specification. The EUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7). RMC 12.2kps is used for this testing. The test was performed according to section 5.2 of the 3GPP TS34.121-1 V7.5.

For HSDPA Rel5: The EUT supports Category 8 FDD HS-DSCH physical layer. As stated in the 3GPP TS25.306 V7.3.0 Table 5.1a, the details of Category 8 are as follows:

- Maximum of 10 E-DSCH received codes
- Minimum 1 inter-TTI interval
- Maximum 14411bits in an E-DSCH transport block received within an EDSCH TTI
- Total number of soft channel bits is 134400
- Support of QPSK and 16QAM

The following Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 V7.5.0 specification. All TX RMS and Peak power requirements for Power Class 3 were met according to table 5.2AA.5 and achieved through the outlined test procedure in section 5.2AA.4.2. All UE channels and power ratio's are set according to table C10.1.4 in the 3GPP TS34.121-1 V7.5.0 specification. A summary of these settings are illustrated below:

Subtest	**Mode**	**Call Type**	**RMC (kbpSs)**	**HSDPA FRC**	**Power Class 3 Max Limit dBm**	**βc/βd**	**βhs**	**CM (db)**	**MPR (db)**
1	HSDPA	PS	12.2	H-Set 1 QPSK	24 (+1.7/-3.7 db)	2 /15	4/15	0.0	0.0
2	HSDPA	PS	12.2	H-Set 1 QPSK	24 (+1.7/-3.7 db)	12 /15	24/15	1.0	0.0
3	HSDPA	PS	12.2	H-Set 1 QPSK	23.5 (+2.2/-3.7 db)	15 /8	30/15	1.5	0.5
4	HSDPA	PS	12.2	H-Set 1 QPSK	23.5 (+2.2/-3.7 db)	15 /4	30/15	1.5	0.5

2.4.Test Facility

Site Description

Name of Firm	:	Audix Technology (Shenzhen) Co., Ltd. No. 6, Ke Feng Rd., 52 Block, Shenzhen Science & Industrial Park,Nantou, Shenzhen, Guangdong, China
3m Anechoic Chamber	:	Mar.31, 2009 File on Federal Communication Commission Registration Number: 90454
3m & 10m Anechoic Chamber	:	Jan. 31, 2007 File on Federal Communication Commission Registration Number: 794232
EMC Lab.	:	Accredited by DATech, German Registration Number: DAT-P-091/99-01 Feb. 02, 2009 Accredited by NVLAP, USA NVLAP Code: 200372-0 Apr. 01, 2009

2.5.Measurement Uncertainty (95% confidence levels, k=2)

Test Item	Uncertainty
Uncertainty for Conduction emission test in No. 1 Conduction	2.40dB
Uncertainty for Radiation Emission test in 3m chamber	3.78 dB (Polarize: V)
	4.20 dB (Polarize: H)
Uncertainty for Radiated Spurious Emission test in RF chamber	2.70 dB (Bilog antenna 30M~1000MHz)
	2.26 dB (Horn antenna 1000M~25000MHz)
Uncertainty for Conduction Spurious emission test	2.10 dB
Uncertainty for Output power test	0.94 dB
Uncertainty for Power density test	2.10 dB
Uncertainty for Temperature and humidity test	2%
	1℃
Uncertainty for Bandwidth test	$1x10^{-9}$
Uncertainty for DC power test	0.042 %
Uncertainty for test site temperature and humidity	0.6℃
	3%

3. CONDUCTED OUTPUT POWER

3.1.Block Diagram of Test Setup

3.2.Limit

N/A

3.3.Test Procedure

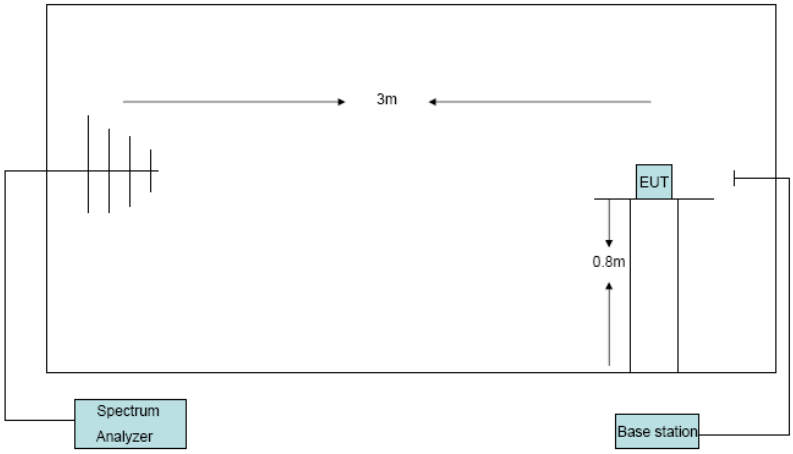
1. The transmitter output port was connected to base station.
2. Set EUT at maximum power through base station.
3. Measure the maximum output power of EUT at each frequency band and mode by base station.

Conducted Output power			
EUT: BNRZ100 M/N:BNRZ100			
Power: DC 3.7V			
Ambient Temperature:24℃		Relative Humidity: 62%	
Test date: 2009-09-15		Test site: RF site	Tested by: Sunny-lu
Mode	Channel	Average Output Power(dBm)	
GPRS 850 Class 8 (GMSK)	128	31.72	
	190	31.73	
	251	31.63	
GPRS 850 Class 10 (GMSK)	128	31.65	
	190	31.66	
	251	31.55	
GRPS 1900 Class 8 (GMSK)	512	28.50	
	661	28.54	
	810	28.65	
GRPS 1900 Class 10 (GMSK)	512	28.34	
	661	28.20	
	810	28.43	
EDGE 850 Class 8 (8-PSK)	128	27.10	
	190	27.00	
	251	26.85	
EDGE 850 Class 10 (8-PSK)	128	26.70	
	190	26.70	
	251	26.11	
EDGE 1900 Class 8 (8-PSK)	512	25.70	
	661	25.45	
	810	25.32	
EDGE 1900 Class 10 (8-PSK)	512	25.69	
	661	25.39	
	810	25.29	
UMTS FDD Band II	9262	22.74	
	9400	22.11	
	9538	22.17	
UMTS FDD Band V	4132	22.78	
	4182	22.74	
	4233	22.51	

Mode	Channel	Subtest	RMS Power(dBm)
FDD II HSDPA	9262	1	22.34
		2	22.34
		3	22.54
		4	22.53
	9400	1	22.63
		2	22.53
		3	22.43
		4	22.47
	9538	1	22.67
		2	22.12
		3	22.32
		4	22.45
FDD V HSDPA	4132	1	22.35
		2	22.52
		3	22.41
		4	22.43
	4182	1	22.92
		2	22.52
		3	22.41
		4	22.43
	4233	1	22.50
		2	22.13
		3	22.32
		4	22.43

4. RADIATED OUTPUT POWER

4.1.Block Diagram of Test Setup



4.2.Limit

Cellular Telephone 850MHz; FDD V	PCS 1900MHz;FDD II
38.5dBm(ERP)	33dBm(EIRP)

4.3.Test Procedure

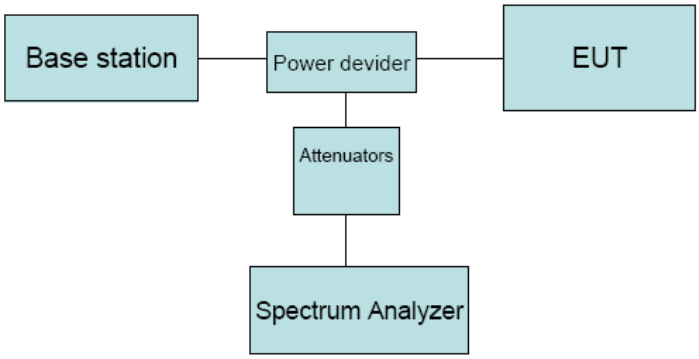
1. The EUT was placed on an non-conductive rotating platform with 0.8 meter height in an anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RBW= 3MHz,VBW= 3MHz for GPRS and EDGE mode and RBW=5MHz, VBW=5MHz for WCDMA mode and peak detector settings.
2. During the measurement, the EUT was enforced in maximum power and linked with a base station. The highest emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations and EUT in X,Y,Z position.
3. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-C. The EUT was replaced by dipole antenna (for frequency lelow 1GHz) or Horn antenna(for frequecny above 1GHz) at same location with same polarize of reveiver antenna and then a known power of each measure frequency from S.G. was applied into the dipole antenna or Horn antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain –Substitution antenna Loss(only for Dipole antenna) - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, EIRP= LVL + Correction factor and ERP = EIRP – 2.15

4.4.Radiated Output power test result

EIRP/ERP					
EUT: BNRZ100 M/N:BNRZ100					
Power: DC 3.7V					
Ambient Temperature:23℃			Relative Humidity: 60%		
Test date: 2009-08-31			Test site: RF site		Tested by: Sunny-lu
Mode	Channel	LVL (dBm)	Correction factor(dB)	ERP (dBm)	EIRP (dBm)
GPRS 850 (GMSK)	128	1.05	30.42	29.32	/
	190	1.17	30.21	29.23	/
	251	1.52	30.05	29.42	/
GRPS 1900 (GMSK)	512	-20.01	46.80	/	26.79
	661	-19.56	46.45	/	26.89
	810	-19.71	46.58	/	26.87
EDGE 850 (8-PSK)	128	-2.17	30.42	26.10	/
	190	-2.28	30.21	25.78	/
	251	-1.92	30.05	25.98	/
EDGE 1900 (8-PSK)	512	-22.69	46.80	/	24.11
	661	-22.35	46.45	/	24.10
	810	-22.55	46.58	/	24.03
UMTS FDD Band II	9262	-25.08	46.18	/	21.10
	9400	-25.67	46.45	/	20.78
	9538	-25.59	46.70	/	21.11
UMTS FDD Band V	4132	-7.11	30.37	21.11	/
	4182	-7.39	30.21	20.67	/
	4233	-6.95	30.08	20.98	/
FDD II HSDPA	9262	-25.07	46.18	/	21.11
	9400	-25.13	46.45	/	21.32
	9538	-25.60	46.70	/	21.10
FDD V HSDPA	4132	-7.00	30.37	21.22	/
	4182	-6.61	30.21	21.45	/
	4233	-6.58	30.08	21.35	/
ERP=LVL- Correction factor -2.15 EIRP=LVL- Correction factor					

5. OCCUPIED BANDWIDTH

5.1.Block Diagram of Test Setup



5.2.Limit

N/A

5.3.Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.

2. Spectrum analyzer’s occupied bandwidth measure function was used to measure 99% bandwidth and -26dBc bandwidth

5.4.Test result

5.4.Test result

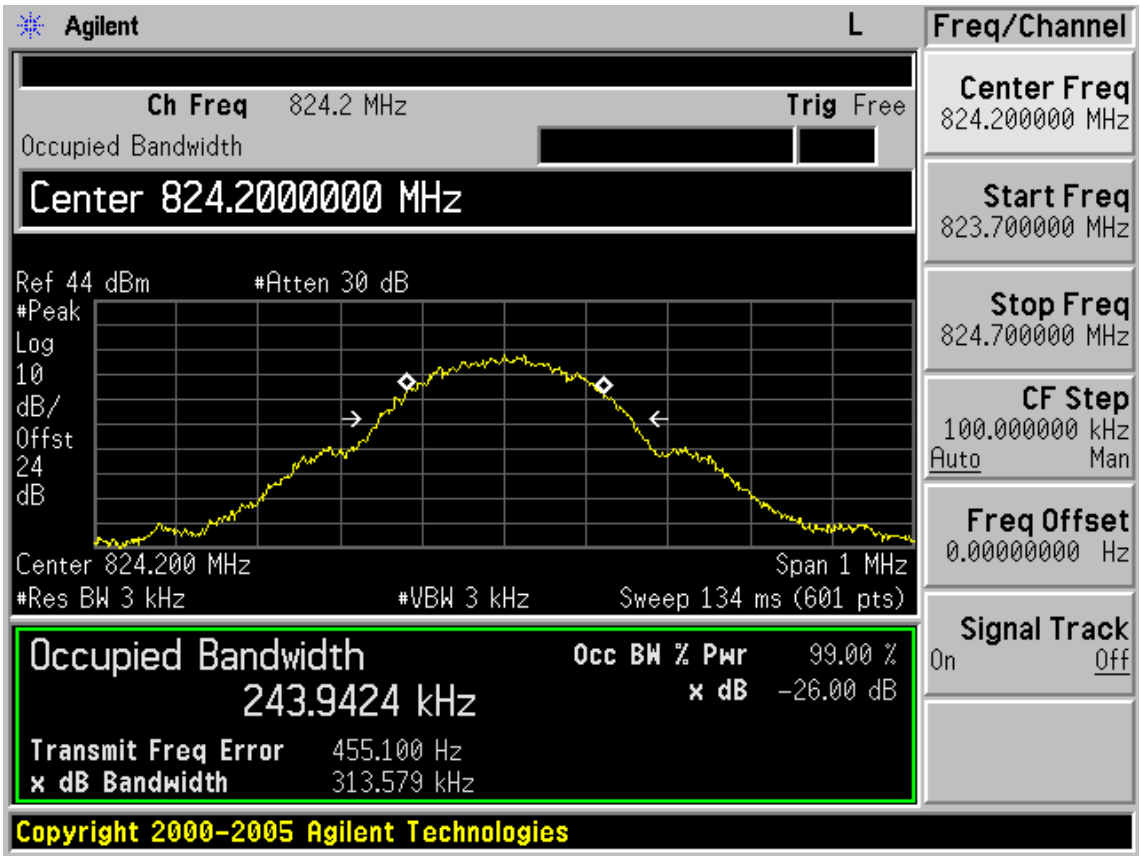
EUT: BNRZ100 M/N:BNRZ100

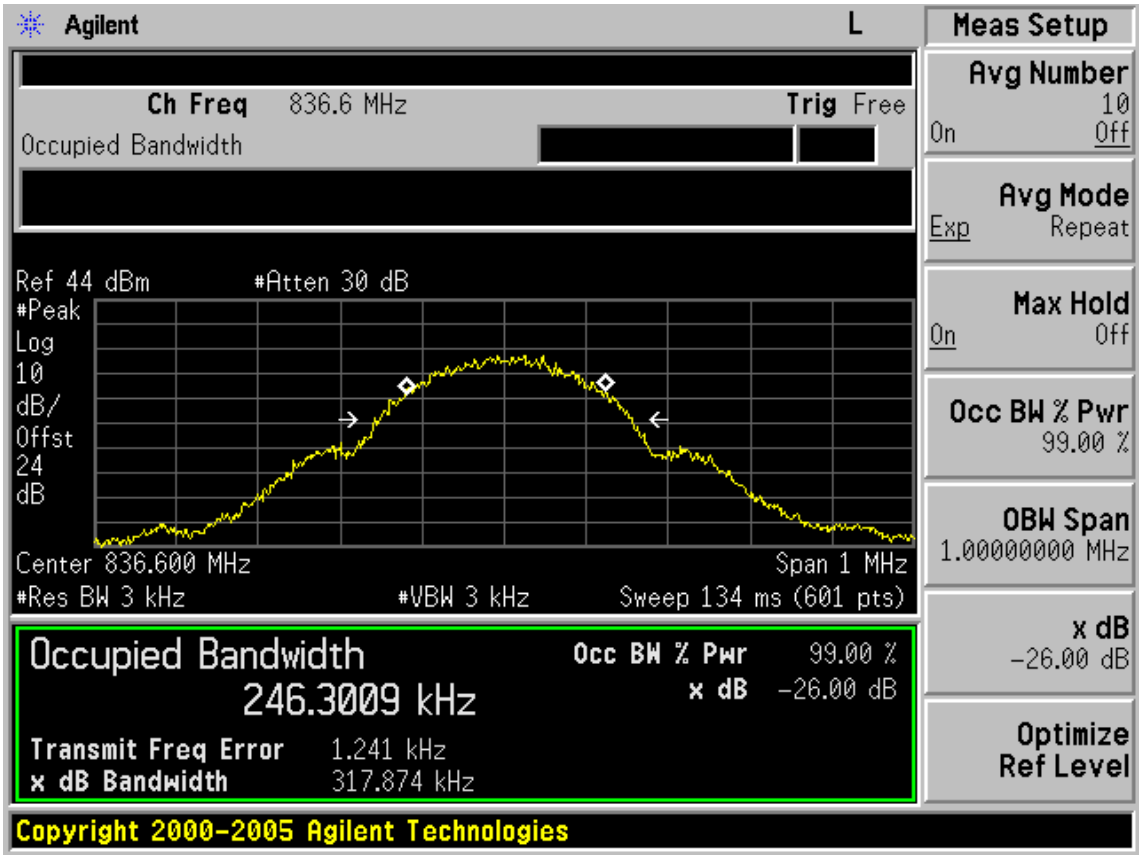
Power: DC 3.7V			
Ambient Temperature:23℃		Relative Humidity: 60%	
Test date: 2009-08-31		Test site: RF site	Tested by: Sunny-lu

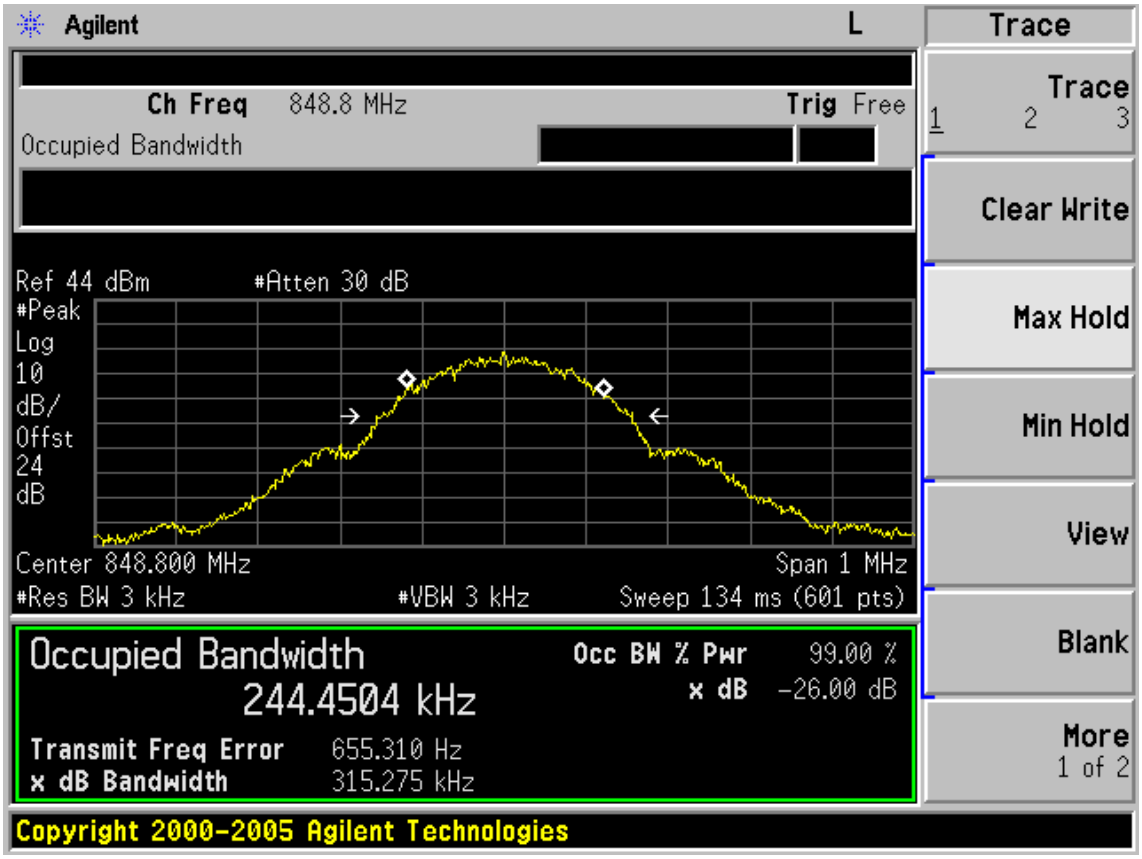
Mode	Channel	99% bandwidth (KHz)	-26dBc bandwidth (KHz)
GPRS 850 (GMSK)	128	243.94	313.58
	190	246.30	317.87
	251	244.45	315.27
GPRS 1900 (GMSK)	512	244.70	312.21
	661	248.43	307.06
	810	250.21	312.93
EDGE 850 (8-PSK)	128	245.83	316.89
	190	245.45	309.50
	251	245.14	312.35
EDGE 1900 (8-PSK)	512	243.44	309.75
	661	246.61	315.08
	810	242.20	308.27
	Channel	99% bandwidth (MHz)	-26dBc bandwidth (MHz)
UMTS FDD Band II	9262	4.16	4.62
	9400	4.19	4.63
	9538	4.16	4.61
UMTS FDD Band V	4132	4.17	4.62
	4182	4.17	4.61
	4233	4.16	4.62

5.5.Original Occupied test result

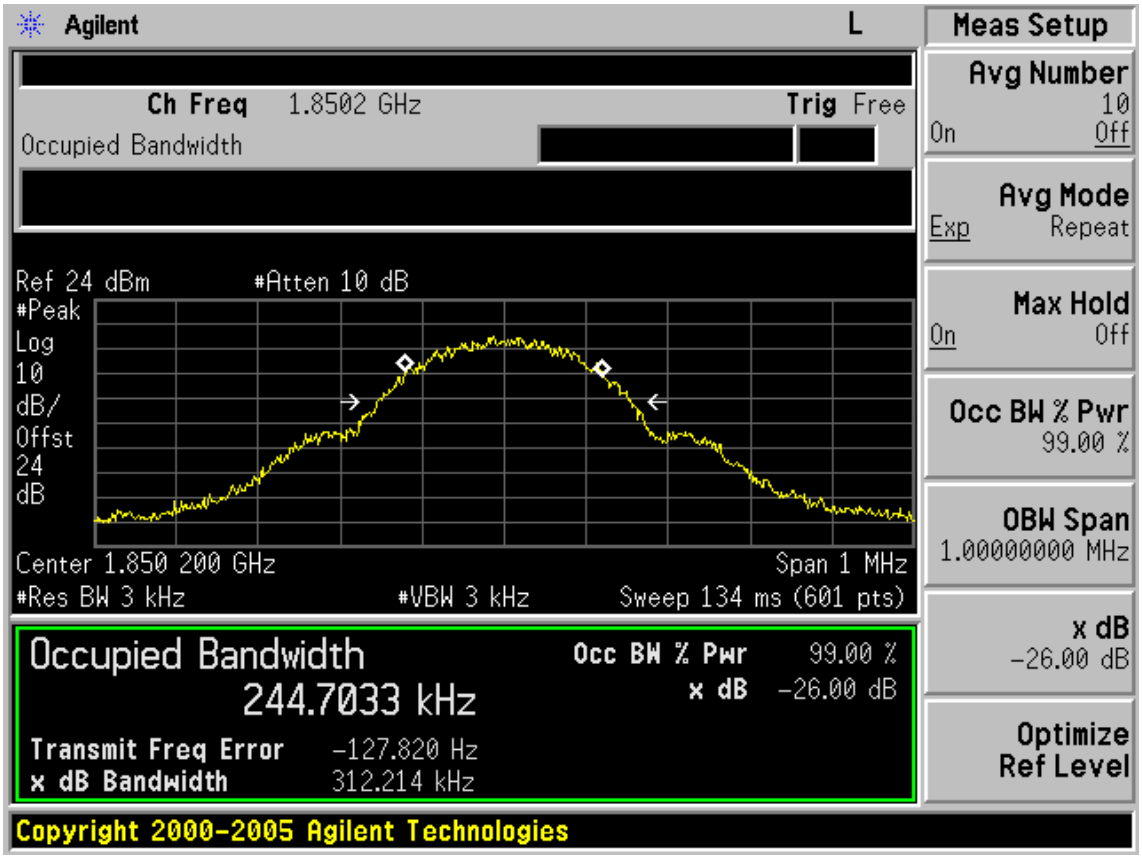
Test Mode: GPRS 850

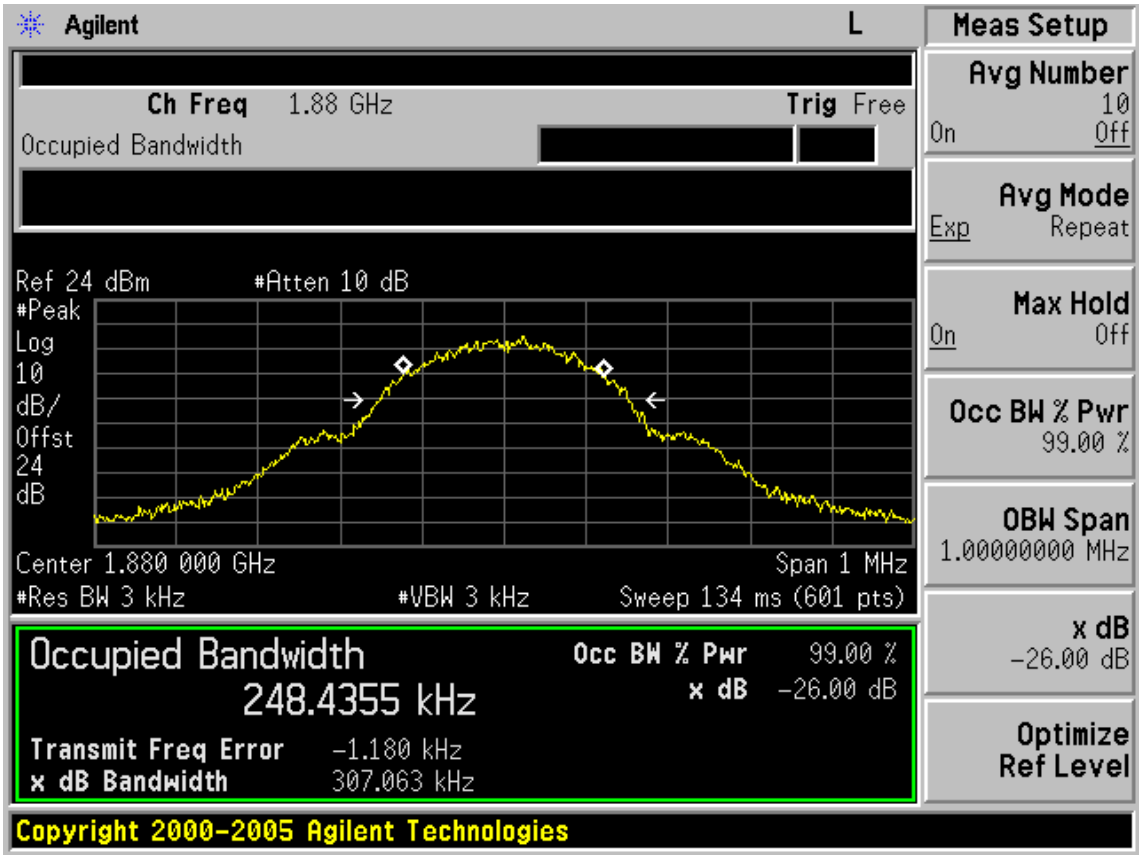






Test Mode: GPRS 1900




Agilent
L
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Trig Free
Occupied Bandwidth
Avg Number
10
On Off
Avg Mode
Exp Repeat
Ref 24 dBm
#Atten 10 dB
#Peak
Log
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Occ BW % Pwr
99.00 %
Center 1.880 000 GHz
Span 1 MHz
#Res BW 3 kHz
#VBW 3 kHz
Sweep 134 ms (601 pts)
OBW Span
1.00000000 MHz
Occupied Bandwidth
248.4355 kHz
Occ BW % Pwr 99.00 %
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x dB
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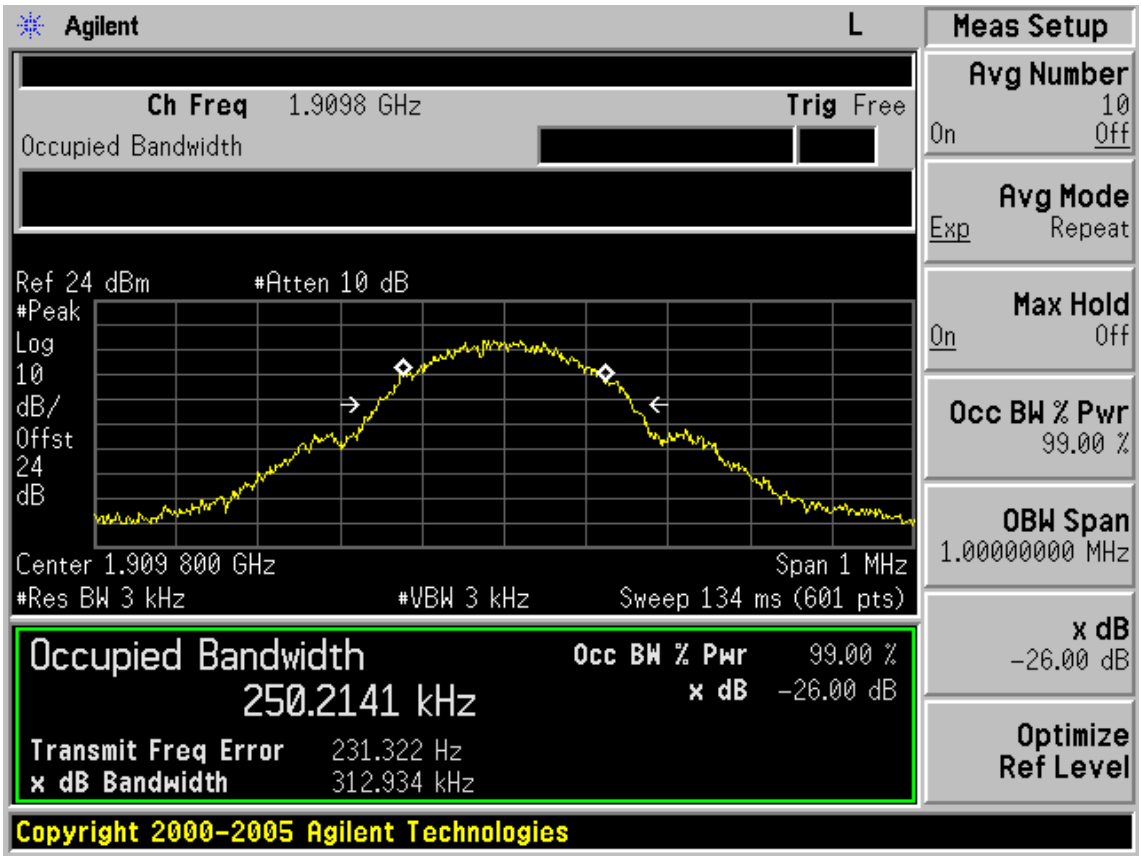
Optimize
Ref Level
Copyright 2000-2005 Agilent Technologies


Agilent
L
Meas Setup
Ch Freq 1.9098 GHz
Trig Free
Occupied Bandwidth
Avg Number
10
On Off
Avg Mode
Exp Repeat
Ref 24 dBm
#Atten 10 dB
#Peak
Log
10
dB/
Offst
24
dB
Max Hold
On Off
Occ BW % Pwr
99.00 %
Center 1.909 800 GHz
Span 1 MHz
#Res BW 3 kHz
#VBW 3 kHz
Sweep 134 ms (601 pts)
OBW Span
1.00000000 MHz
Occupied Bandwidth
250.2141 kHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
x dB
-26.00 dB
Transmit Freq Error 231.322 Hz
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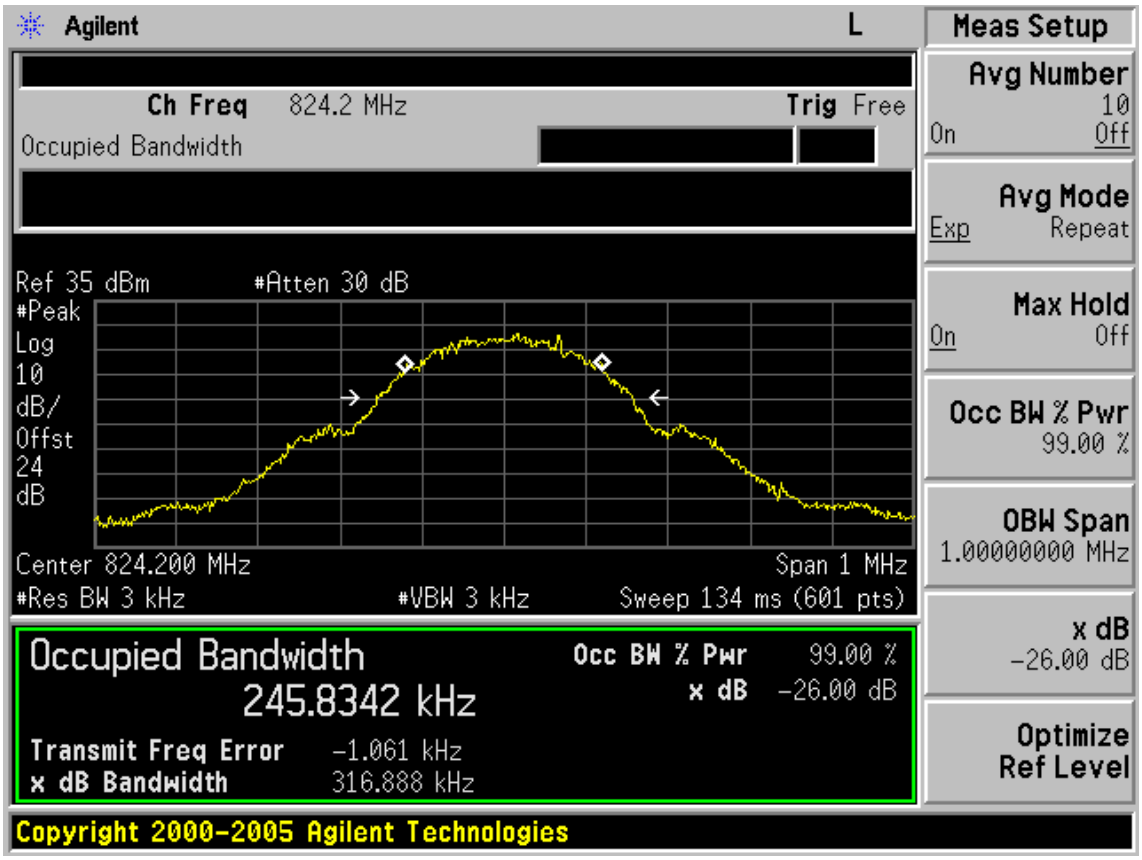
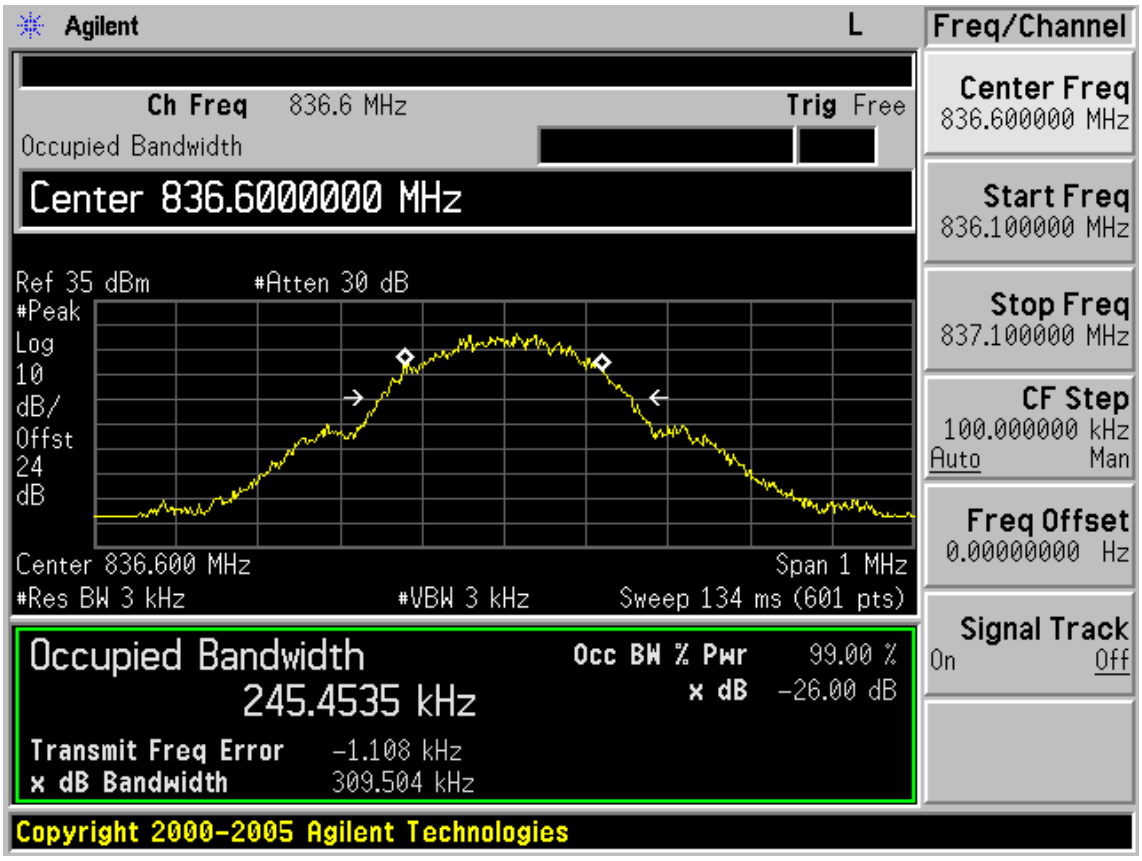
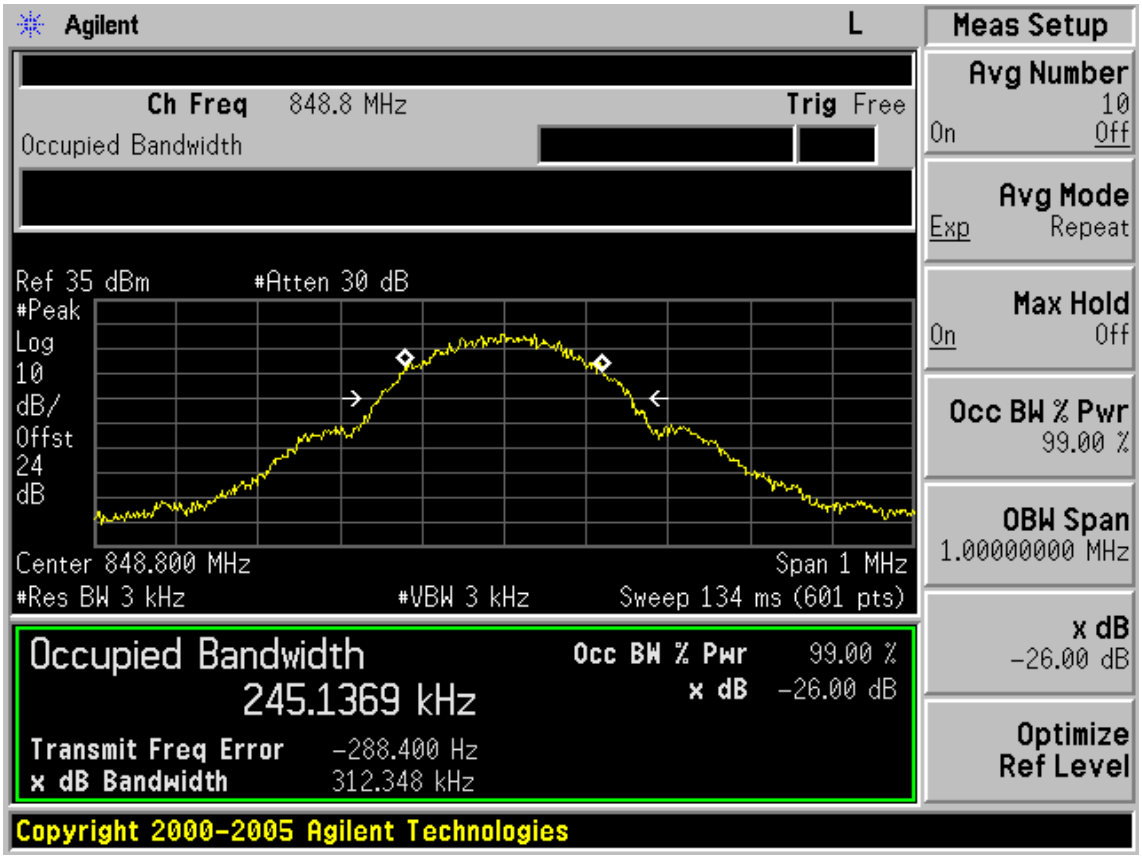
Optimize
Ref Level
Copyright 2000-2005 Agilent Technologies

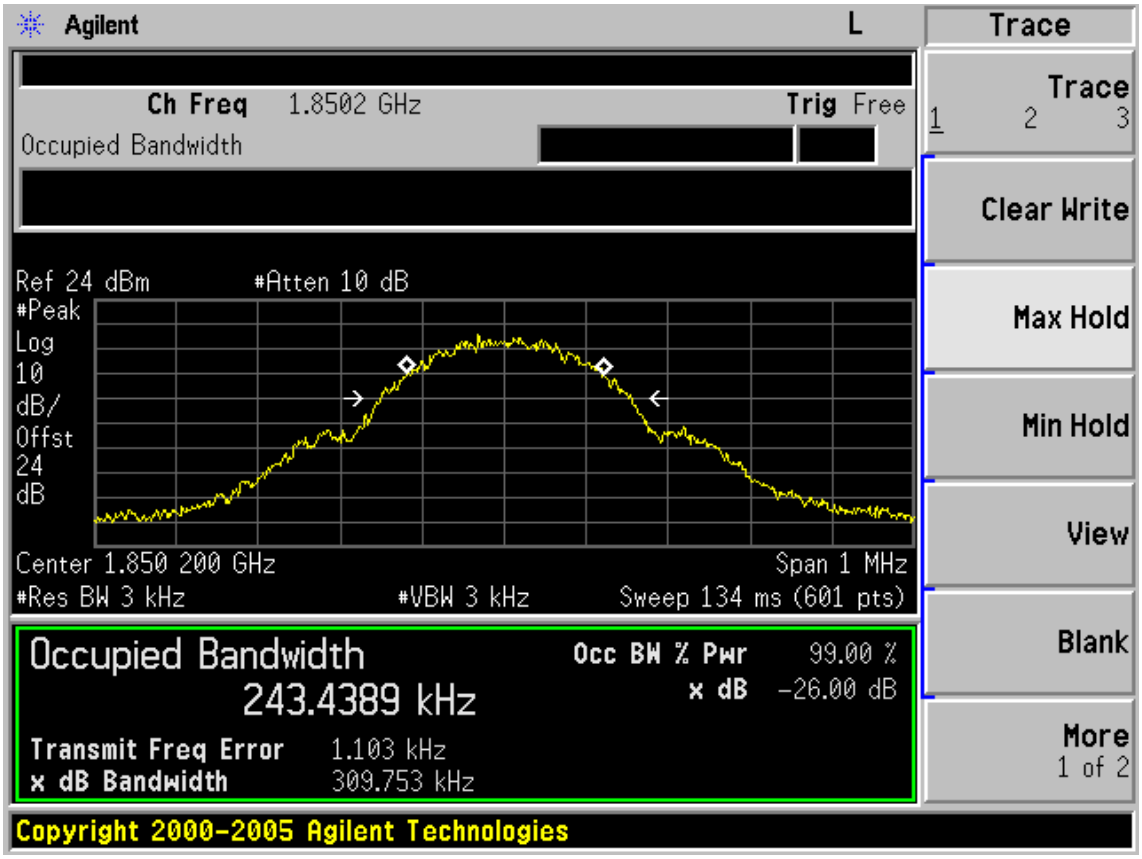
Test Mode: EDGE 850

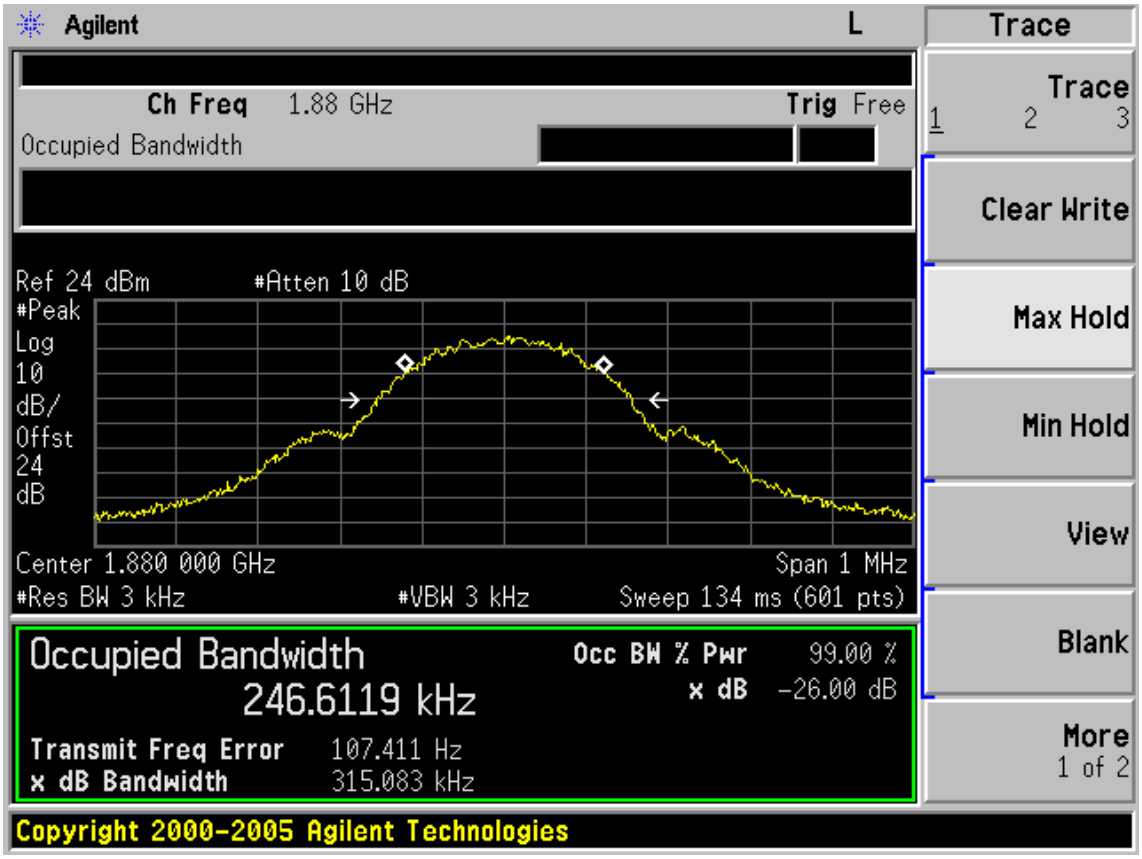


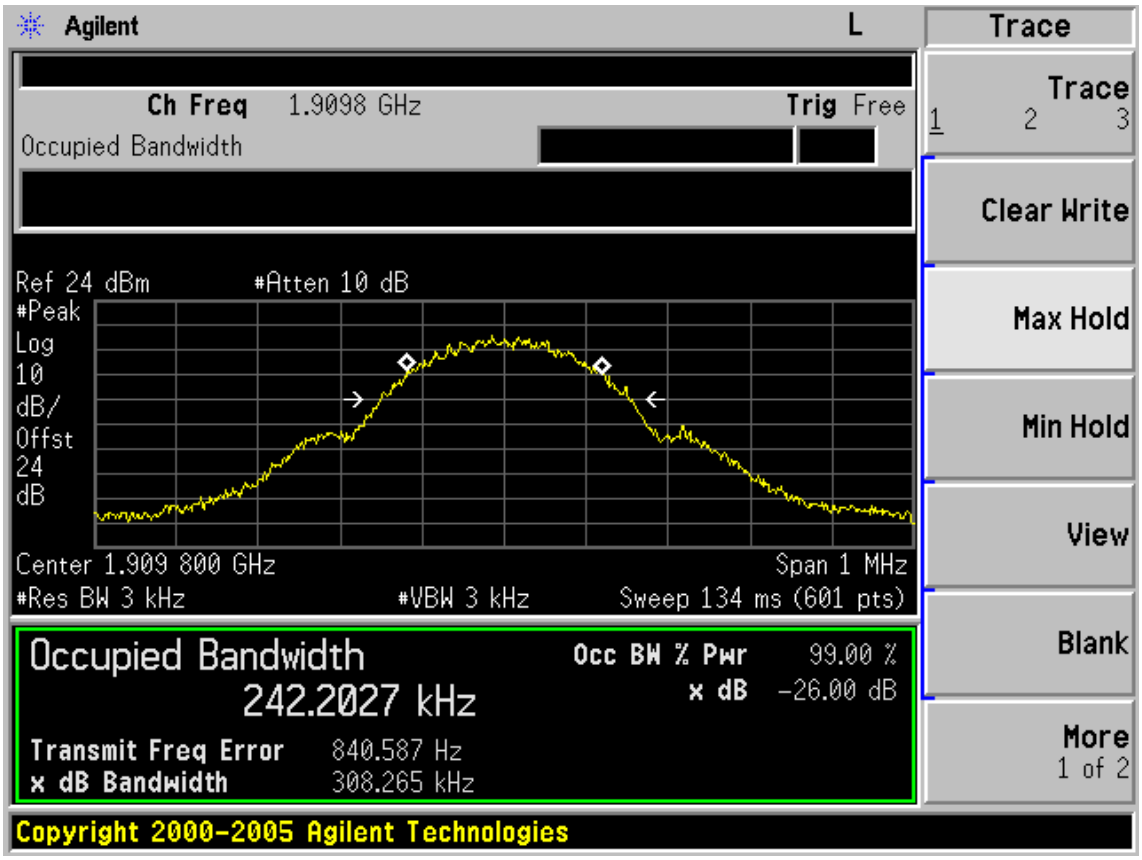




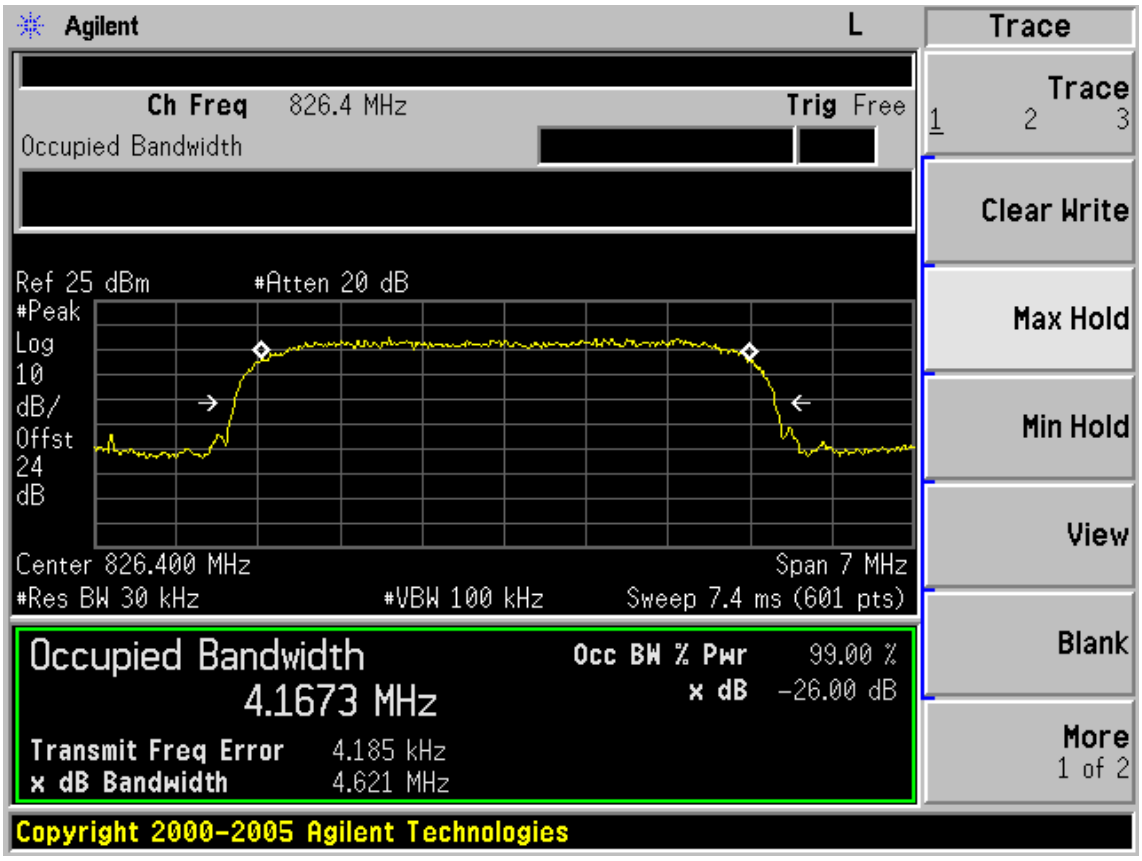
Test Mode: EDGE 1900

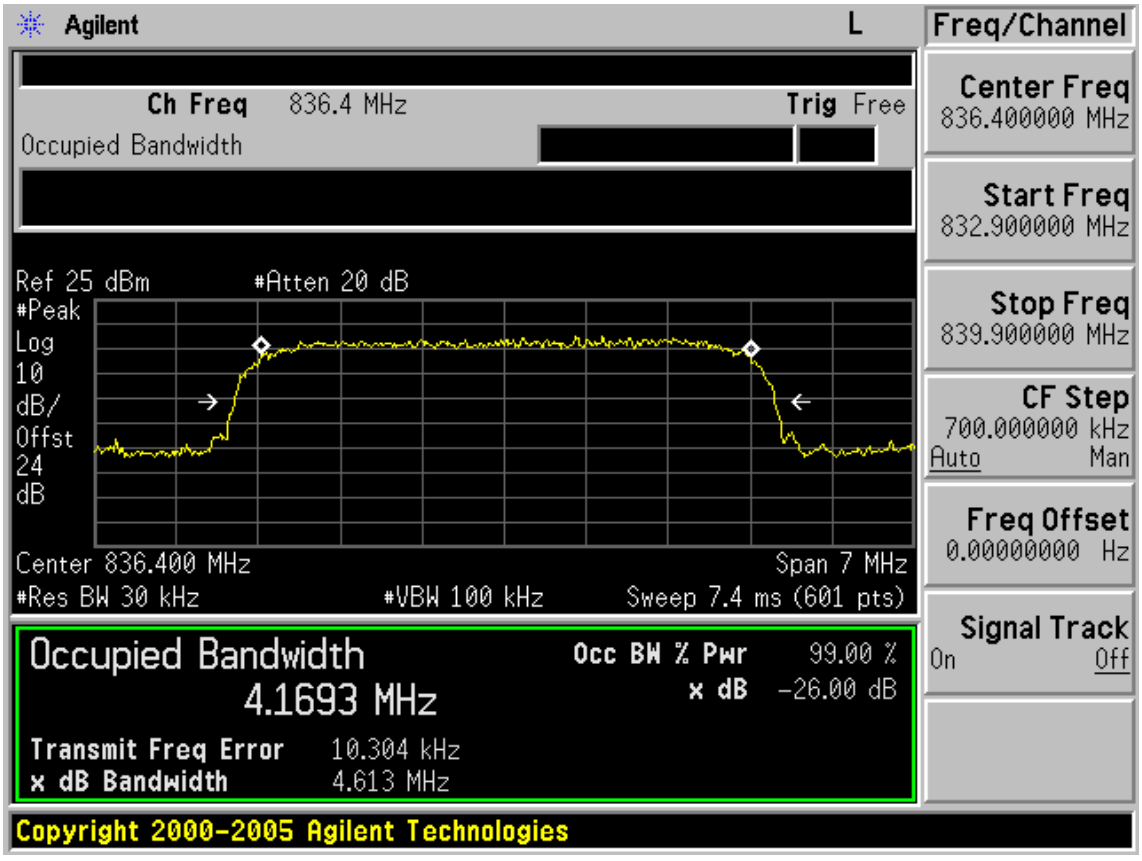


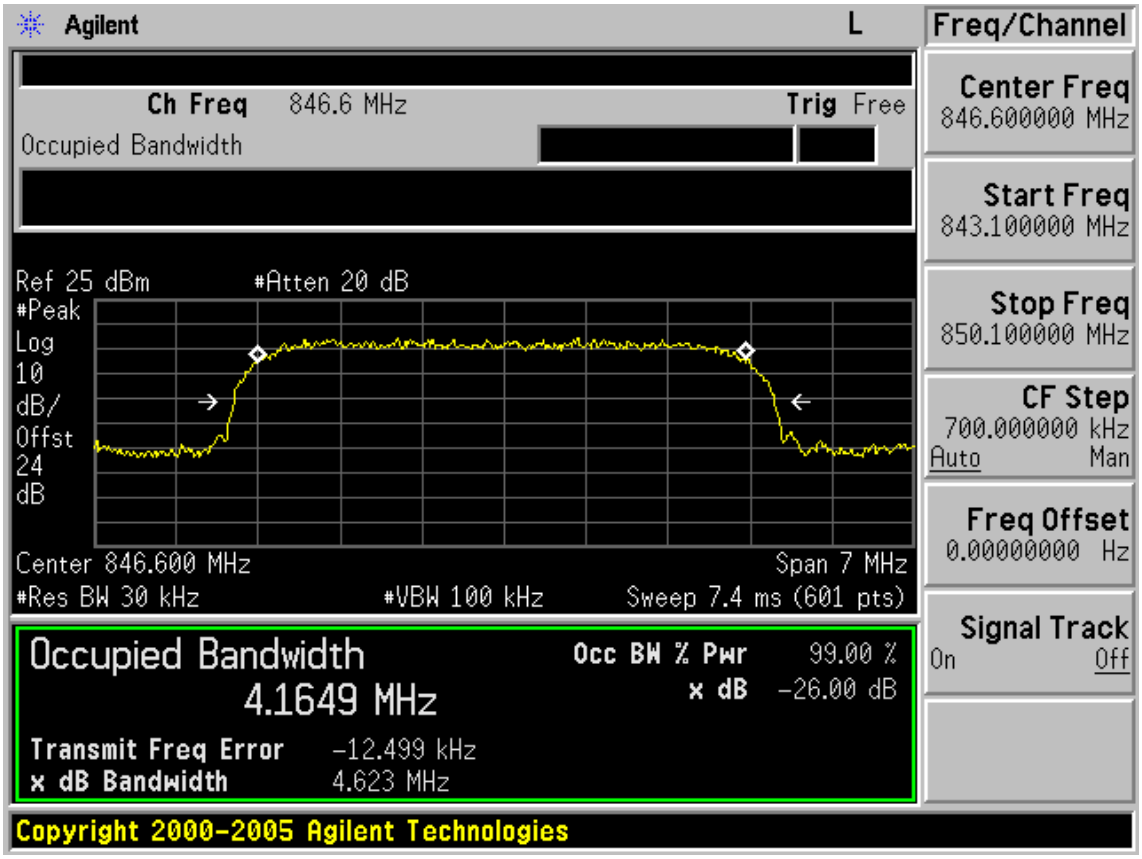

Agilent
L
Trace
Ch Freq 1.88 GHz
Trig Free
Occupied Bandwidth
Trace
1 2 3
Clear Write
Ref 24 dBm
#Atten 10 dB
#Peak
Log
10
dB/
Offst
24
dB
Max Hold
Min Hold
View
Center 1.880 000 GHz
Span 1 MHz
#Res BW 3 kHz
#VBW 3 kHz
Sweep 134 ms (601 pts)
Blank
Occupied Bandwidth
246.6119 kHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 107.411 Hz
x dB Bandwidth 315.083 kHz
More
1 of 2
Copyright 2000-2005 Agilent Technologies


Agilent
L
Trace
Ch Freq 1.9098 GHz
Trig Free
Occupied Bandwidth
Trace
1 2 3
Clear Write
Ref 24 dBm
#Atten 10 dB
#Peak
Log
10
dB/
Offst
24
dB
Max Hold
Min Hold
View
Center 1.909 800 GHz
Span 1 MHz
#Res BW 3 kHz
#VBW 3 kHz
Sweep 134 ms (601 pts)
Blank
Occupied Bandwidth
242.2027 kHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 840.587 Hz
x dB Bandwidth 308.265 kHz
More
1 of 2
Copyright 2000-2005 Agilent Technologies

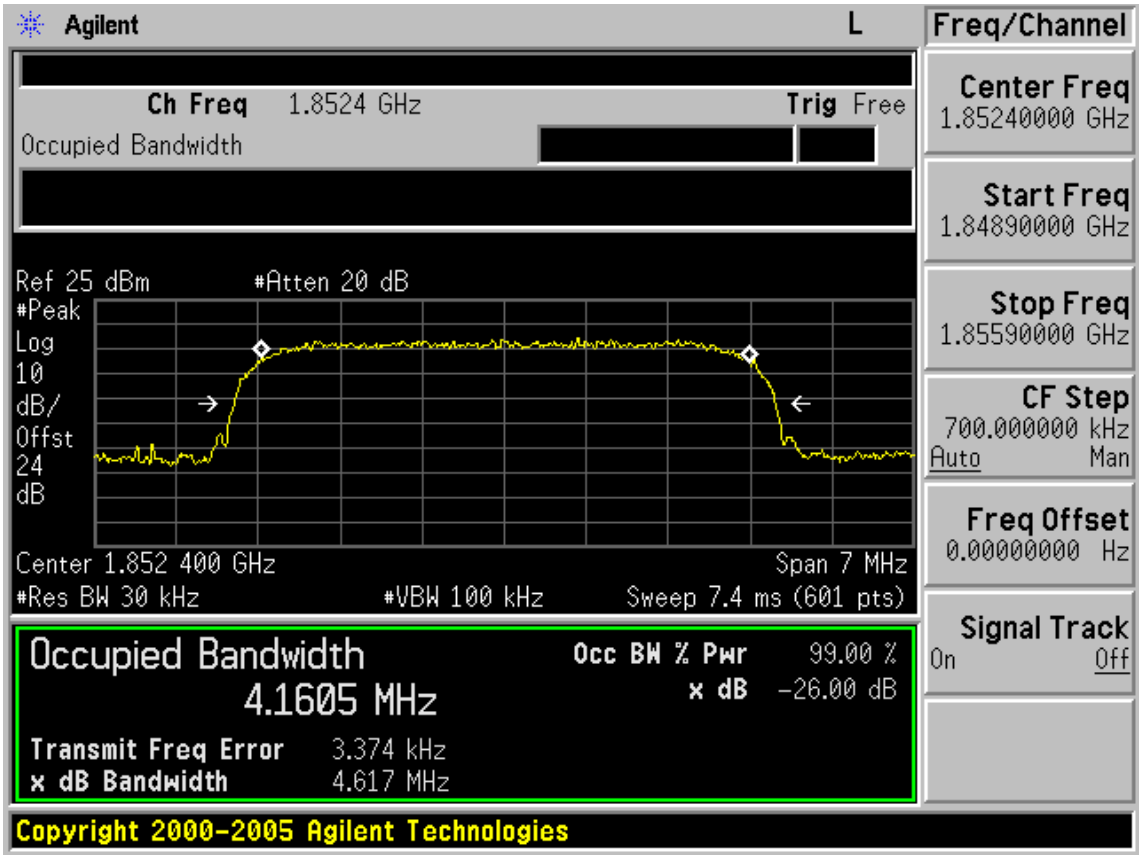
Test Mode: WCDMA 850

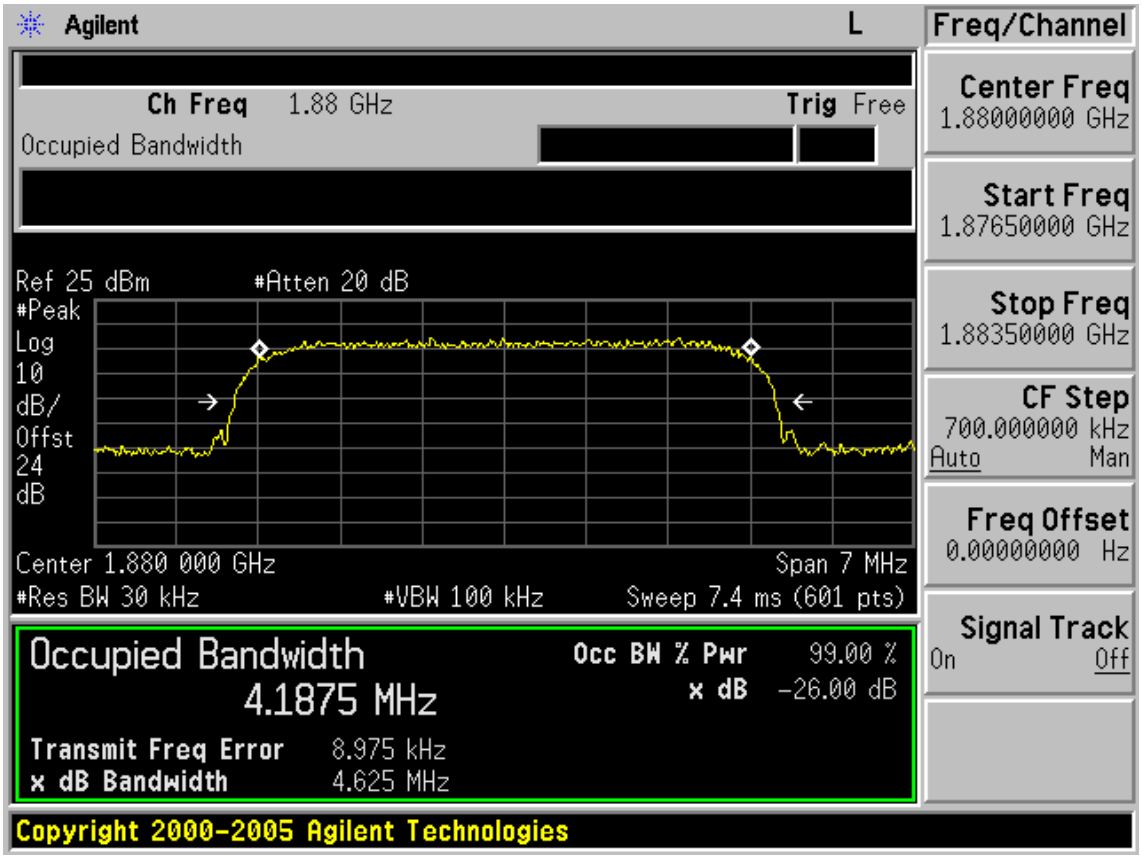


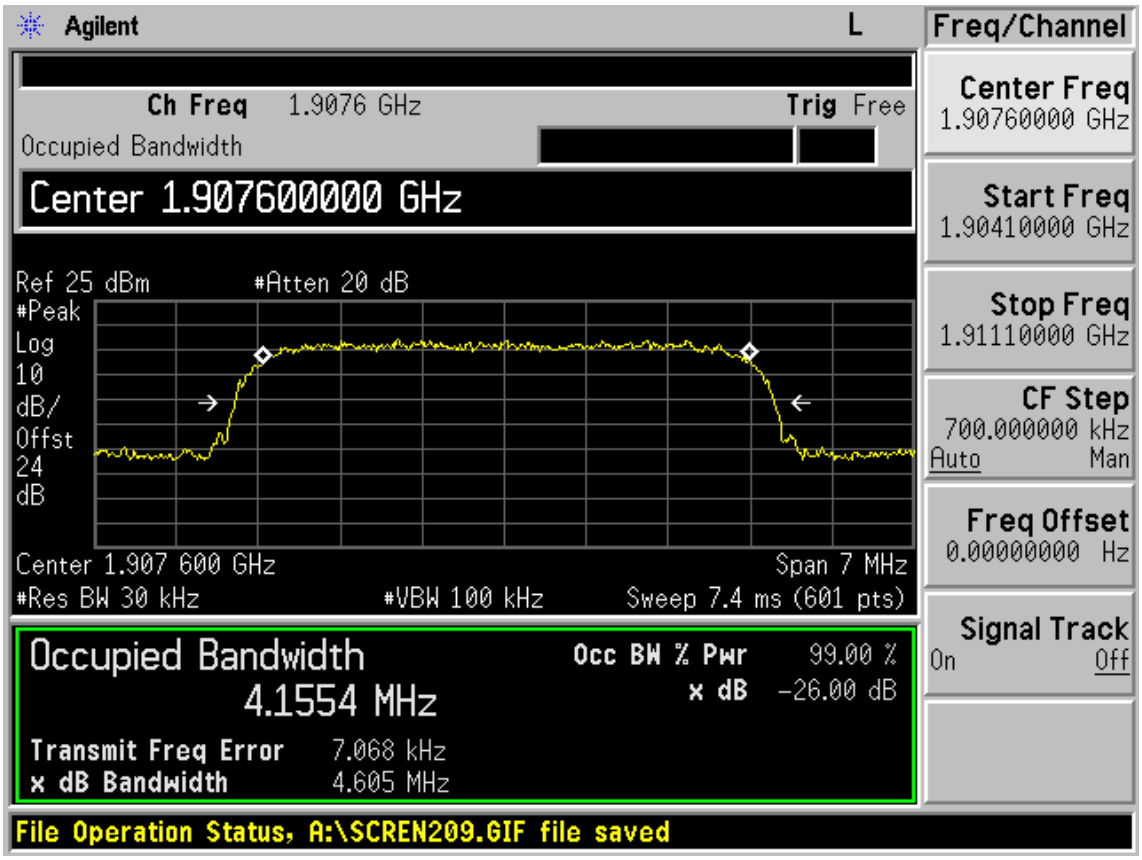




Test Mode: WCDMA 1900




Agilent
L
Freq/Channel
Ch Freq 1.88 GHz
Trig Free
Occupied Bandwidth
Ref 25 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
24
dB
Center 1.880 000 GHz
Span 7 MHz
#Res BW 30 kHz
#VBW 100 kHz
Sweep 7.4 ms (601 pts)
Occupied Bandwidth
4.1875 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 8.975 kHz
x dB Bandwidth 4.625 MHz
Center Freq
1.88000000 GHz
Start Freq
1.87650000 GHz
Stop Freq
1.88350000 GHz
CF Step
700.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2005 Agilent Technologies


Agilent
L
Freq/Channel
Ch Freq 1.9076 GHz
Trig Free
Occupied Bandwidth
Center 1.907600000 GHz
Ref 25 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
24
dB
Center 1.907 600 GHz
Span 7 MHz
#Res BW 30 kHz
#VBW 100 kHz
Sweep 7.4 ms (601 pts)
Occupied Bandwidth
4.1554 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 7.068 kHz
x dB Bandwidth 4.605 MHz
Center Freq
1.90760000 GHz
Start Freq
1.90410000 GHz
Stop Freq
1.91110000 GHz
CF Step
700.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, A:\SCREN209.GIF file saved

6. FREQUENCY STABILITY

6.1.Block Diagram of Test Setup

6.2.Limit

Cellular Telephone 850MHz; FDD V	PCS 1900MHz;FDD II
± 2.5 ppm	Must stay within the authorized frequency block

6.3.Test Produce

Test Procedures for Temperature Variation:

1. The EUT was set up in the thermal chamber and connected with the base station.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.
4. If the EUT can not be turned on at -30°C, the testing lowest temperature will be raised in 10°C step until the EUT can be turned on.

Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at 25±5° C and connected with the base station.
2. The power supply voltage to the EUT was varied from 4.2V to 3.6V(Note)
3. The variation in frequency was measured for the worst case.
   Note:When voltage below 3.6V, EUT will turn off.

6.4.Test Results

EUT: BNRZ100 M/N:BNRZ100			
Power: DC 3.7V			
Ambient Temperature:23℃		Relative Humidity: 60%	
Test date: 2009-08-31		Test site: RF site	Tested by: Sunny-lu

Mode	Voltage (V)	Frequency error (Hz)	frequency error (ppm)
GPRS 850 (GMSK)	4.2	-26	-0.031
	4.1	-28	-0.033
	4.0	25	0.030
	3.9	-24	-0.029
	3.8	21	0.025
	3.7	-23	-0.027
	3.6	-32	-0.038
GPRS 1900 (GMSK)	4.2	32	0.017
	4.1	-33	-0.018
	4.0	-31	-0.016
	3.9	34	0.018
	3.8	-29	-0.015
	3.7	-31	-0.016
	3.6	30	0.016
EDGE 850 (8-PSK)	4.2	-27	-0.032
	4.1	-27	-0.032
	4.0	29	0.035
	3.9	-25	-0.030
	3.8	31	0.037
	3.7	-33	-0.039
	3.6	31	0.037
EDGE 1900 (8-PSK)	4.2	-33	-0.018
	4.1	-31	-0.016
	4.0	37	0.020
	3.9	-36	-0.019
	3.8	39	0.021
	3.7	-39	-0.021
	3.6	-32	-0.017

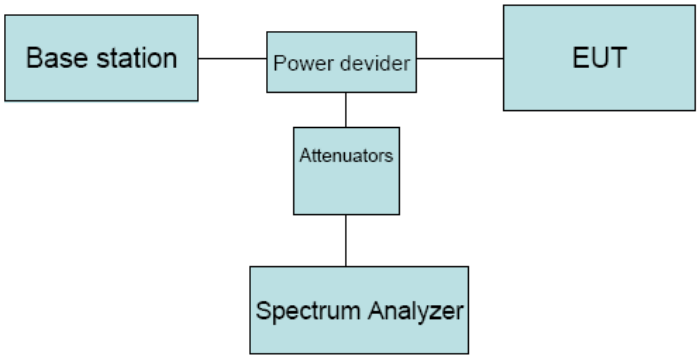
UMTS FDD Band II	4.2	-14	-0.007
	4.1	-21	-0.011
	4.0	21	0.011
	3.9	18	0.010
	3.8	-20	-0.011
	3.7	-23	-0.012
	3.6	21	0.011
UMTS FDD Band V	4.2	-19	-0.023
	4.1	18	0.022
	4.0	-21	-0.025
	3.9	-23	-0.027
	3.8	-25	-0.030
	3.7	-29	-0.035
	3.6	19	0.023

Mode	Temperature (℃)	Frequency error (Hz)	frequency error (ppm)
GPRS 850 (GMSK)	-30	23	0.027
	-20	32	0.038
	-10	-23	-0.027
	0	-23	-0.027
	10	32	0.038
	20	33	0.039
	30	-21	-0.025
	40	32	0.038
	50	-21	-0.025
GPRS 1900 (GMSK)	-30	-22	-0.012
	-20	-26	-0.014
	-10	28	0.015
	0	32	0.017
	10	-34	-0.018
	20	21	0.011
	30	-26	-0.014
	40	25	0.013
	50	-21	-0.011
EDGE 850 (8-PSK)	-30	27	0.032
	-20	-25	-0.030
	-10	-22	-0.026
	0	30	0.036
	10	-29	-0.035
	20	-19	-0.023
	30	22	0.026
	40	-27	-0.032
	50	24	0.029
EDGE 1900 (8-PSK)	-30	-24	-0.013
	-20	-27	-0.014
	-10	38	0.020
	0	-19	-0.010
	10	-29	-0.015
	20	25	0.013
	30	-24	-0.013
	40	-23	-0.012
	50	23	0.012

UMTS FDD Band II	-30	-12	-0.006
	-20	-23	-0.012
	-10	19	0.010
	0	-24	-0.013
	10	18	0.010
	20	-19	-0.010
	30	23	0.012
	40	-17	-0.009
	50	16	0.009
UMTS FDD Band V	-30	20	0.024
	-20	-28	-0.033
	-10	-21	-0.025
	0	19	0.023
	10	23	0.027
	20	-21	-0.025
	30	20	0.024
	40	-18	-0.022
	50	18	0.022

7. Conducted Spurious emissions

7.1.Block Diagram of Test Setup



7.2.Limit

The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency outside the frequency band by at least (43 + 10 log P) dB, in this case, -13dBm.

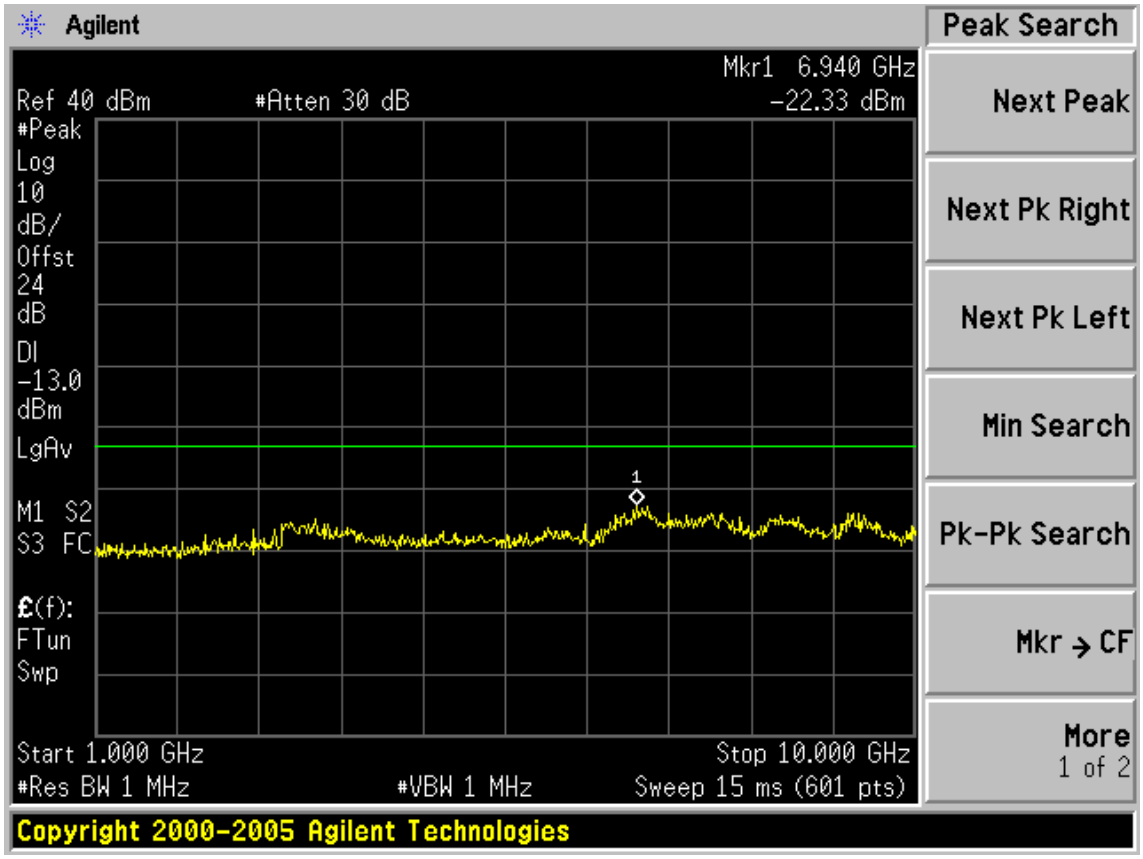
7.3.Test Procedure

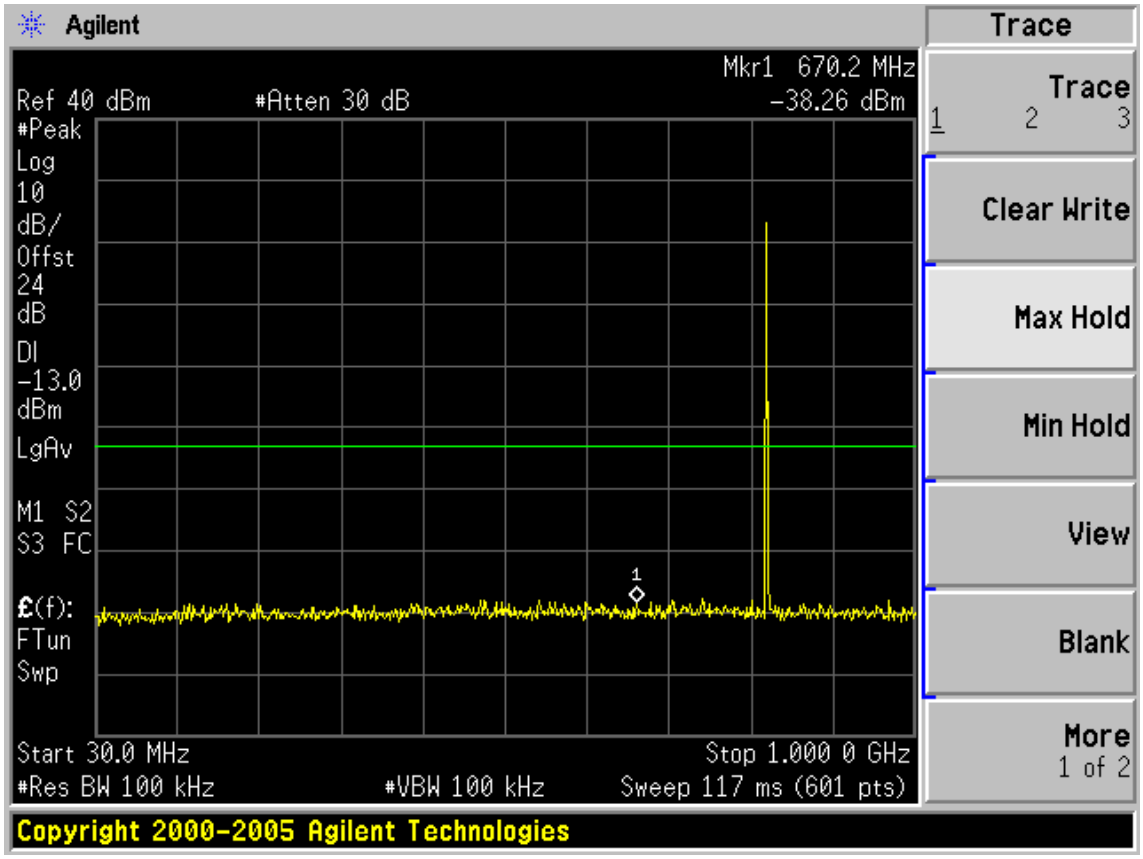
1. The EUT was connected to spectrum analyzer and base station via power divider.

2. The low,middle and high channels of each band and mode's spurious emissions for 30MHz to 10th Harmonic were measured by Spectrum analyzer.

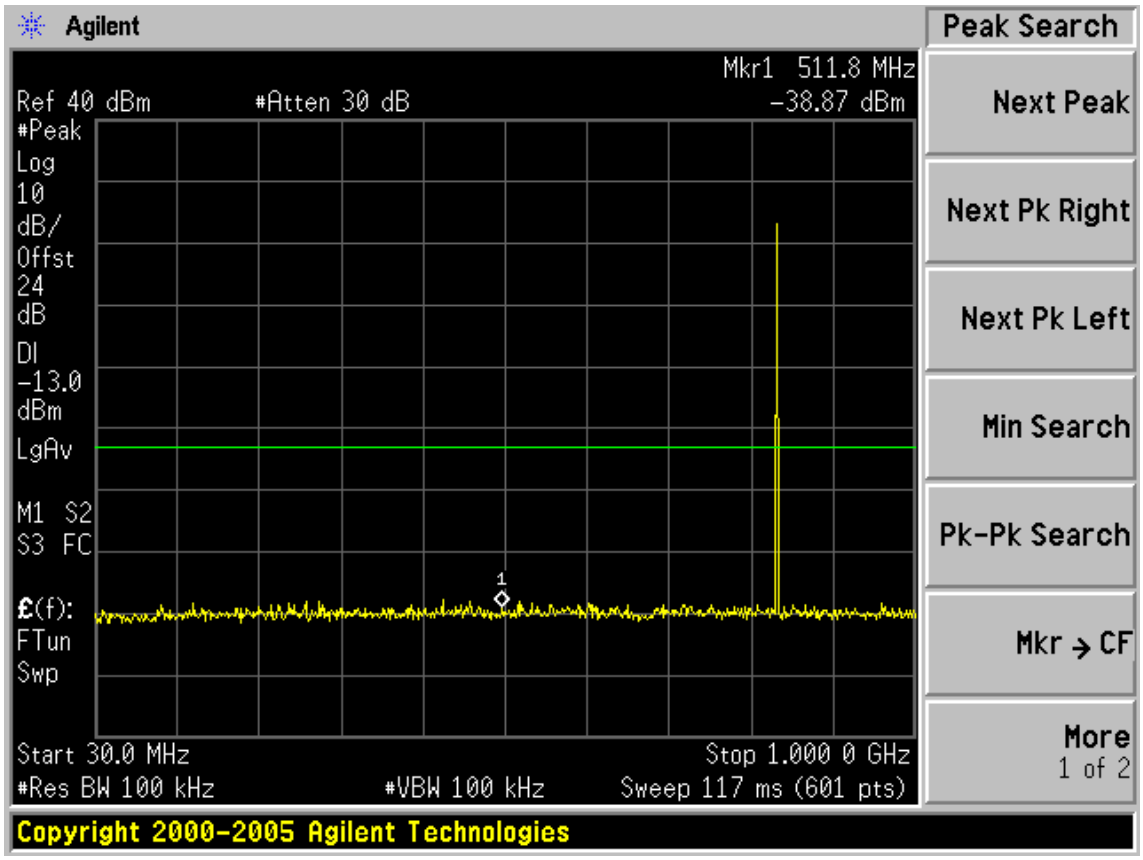
7.4.Test Results

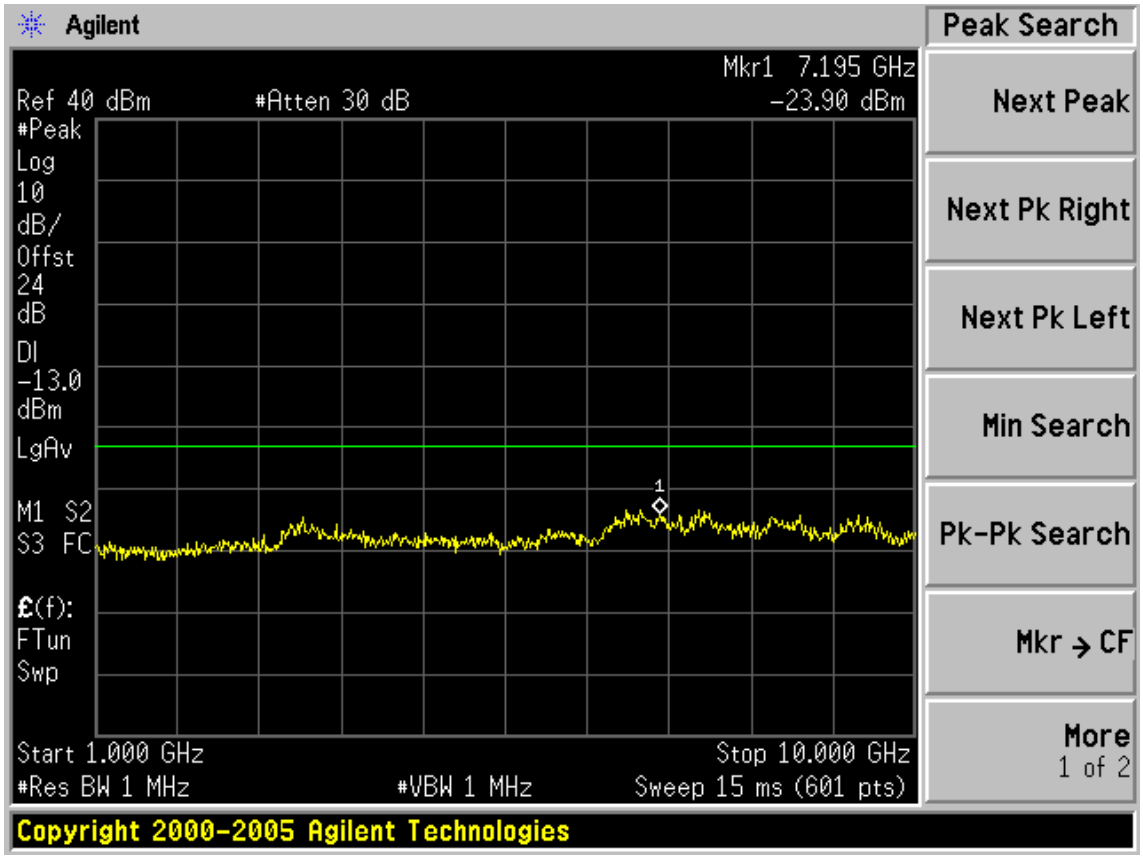
Test Mode: GPRS 850
CH 128



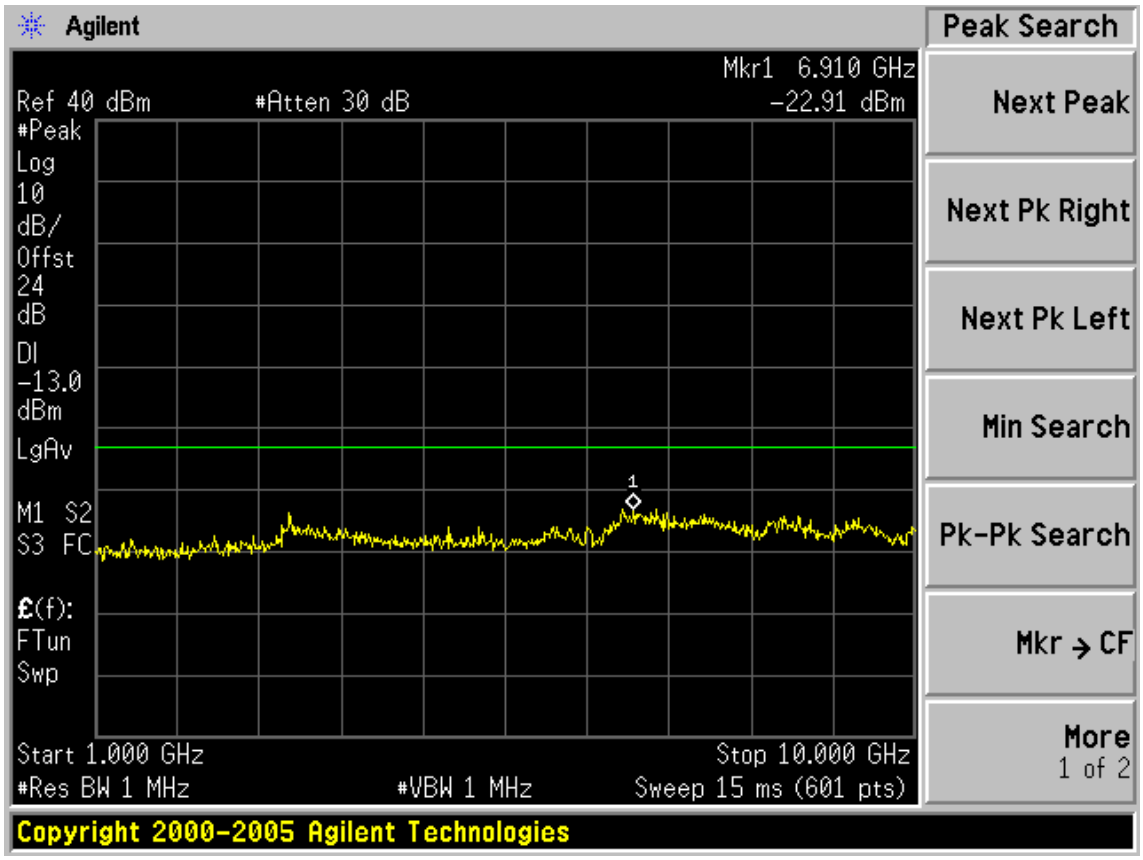


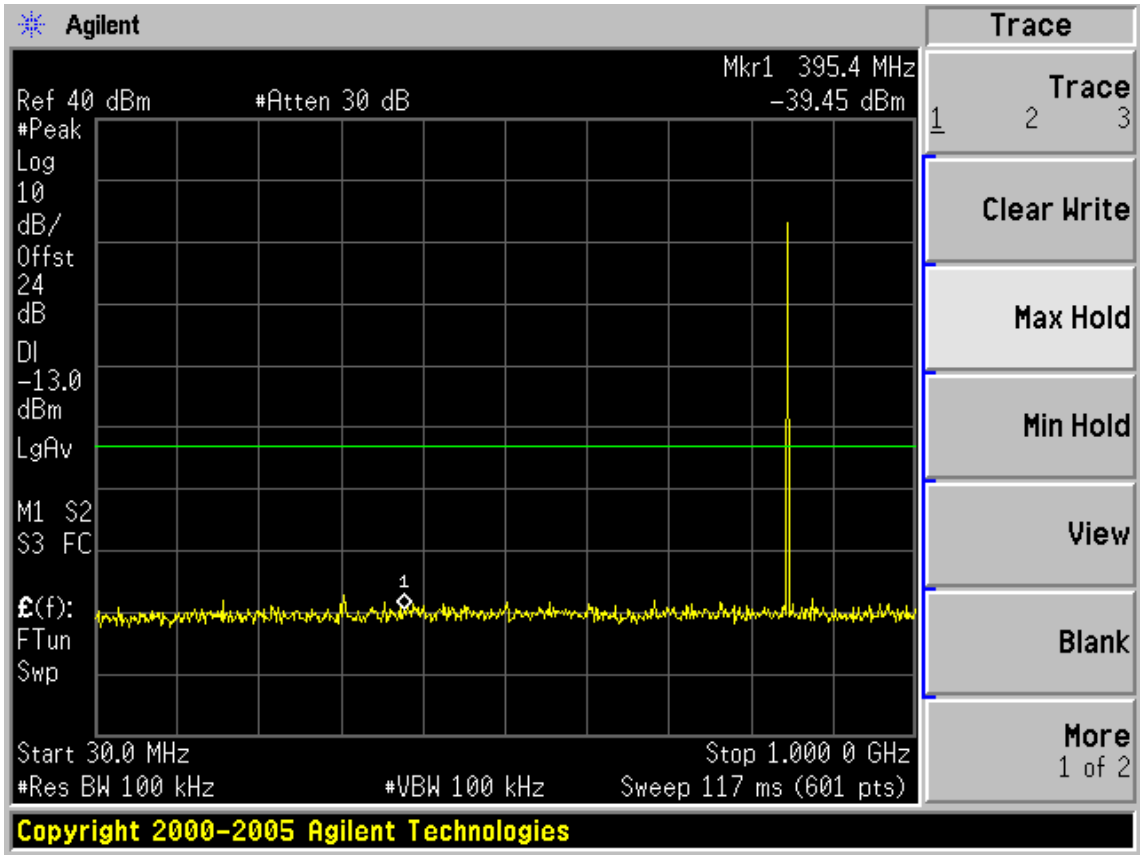
CH 190


Agilent
Peak Search
Mkr1 511.8 MHz
Ref 40 dBm
#Atten 30 dB
-38.87 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 117 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

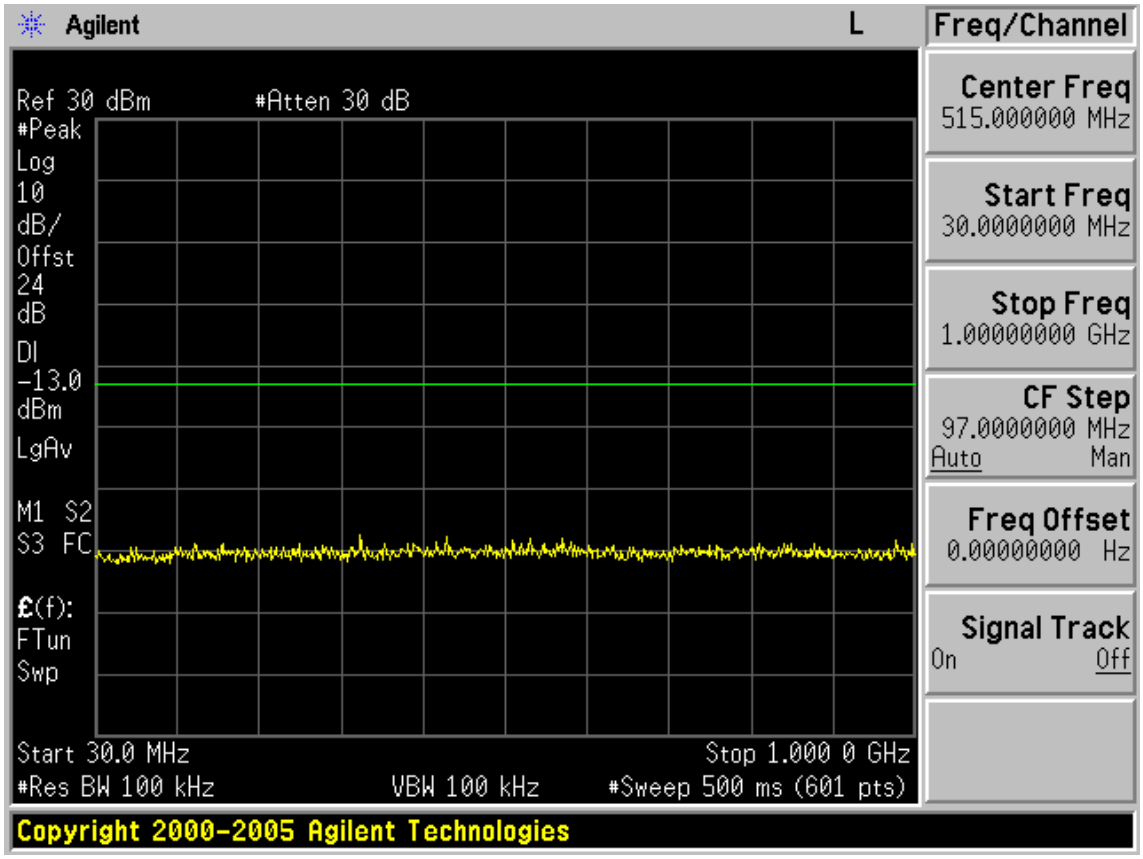

Agilent
Peak Search
Mkr1 7.195 GHz
Ref 40 dBm
#Atten 30 dB
-23.90 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 1.000 GHz
Stop 10.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 15 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

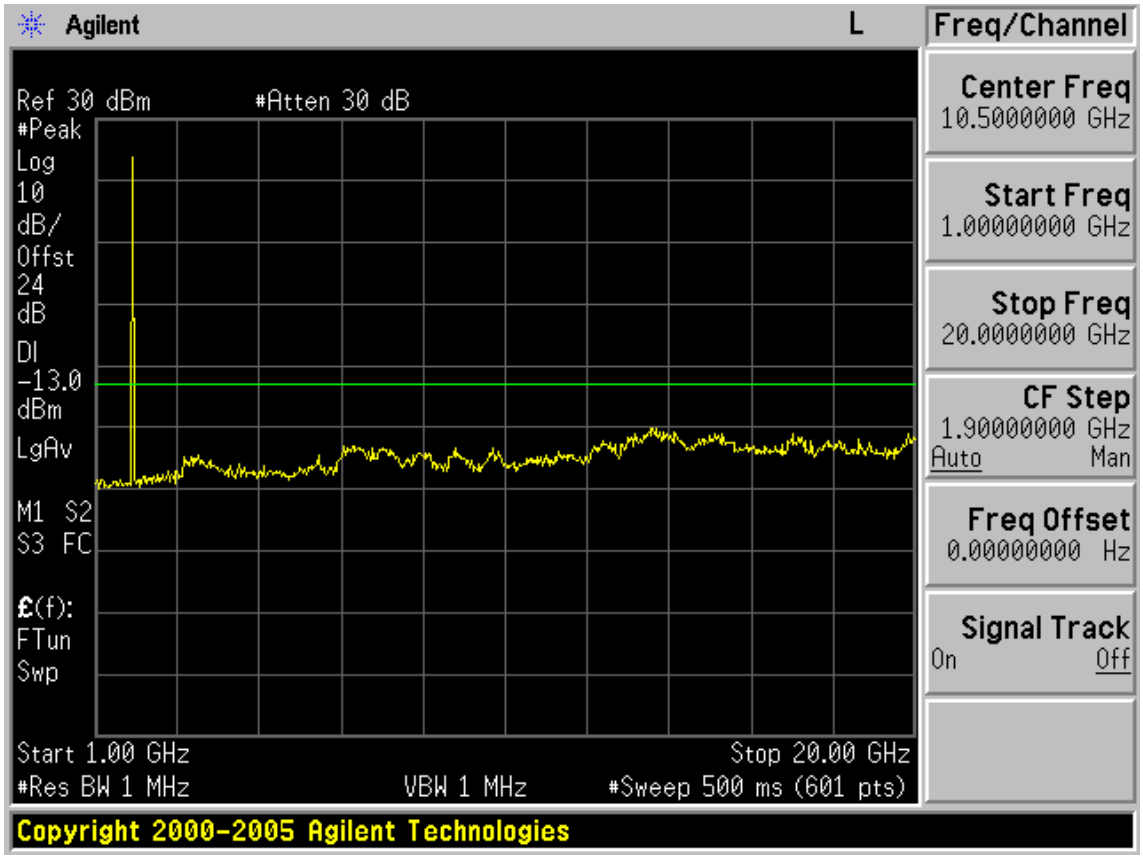
CH 251


Agilent
Peak Search
Mkr1 6.910 GHz
Ref 40 dBm
#Atten 30 dB
-22.91 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 1.000 GHz
Stop 10.000 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 15 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

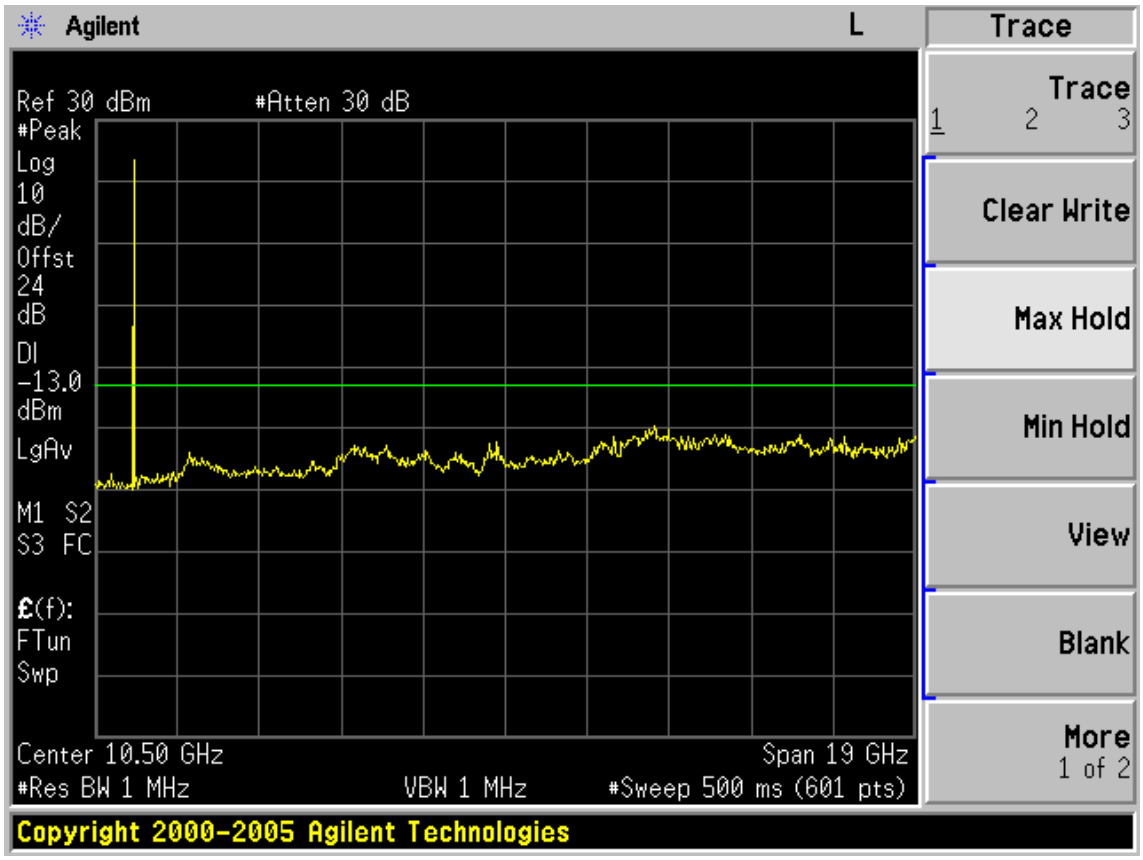

Agilent
Trace
Mkr1 395.4 MHz
Ref 40 dBm
#Atten 30 dB
-39.45 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 117 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

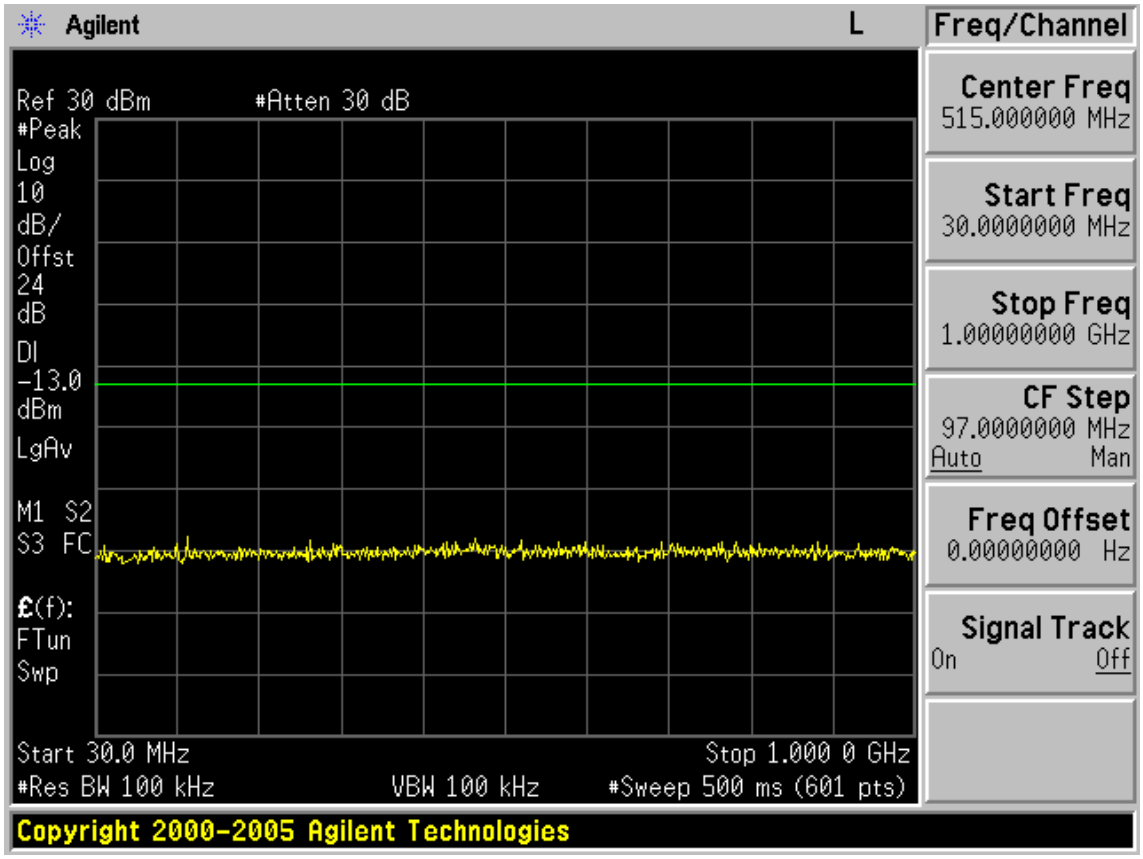
Test Mode: GPRS 1900
CH 512



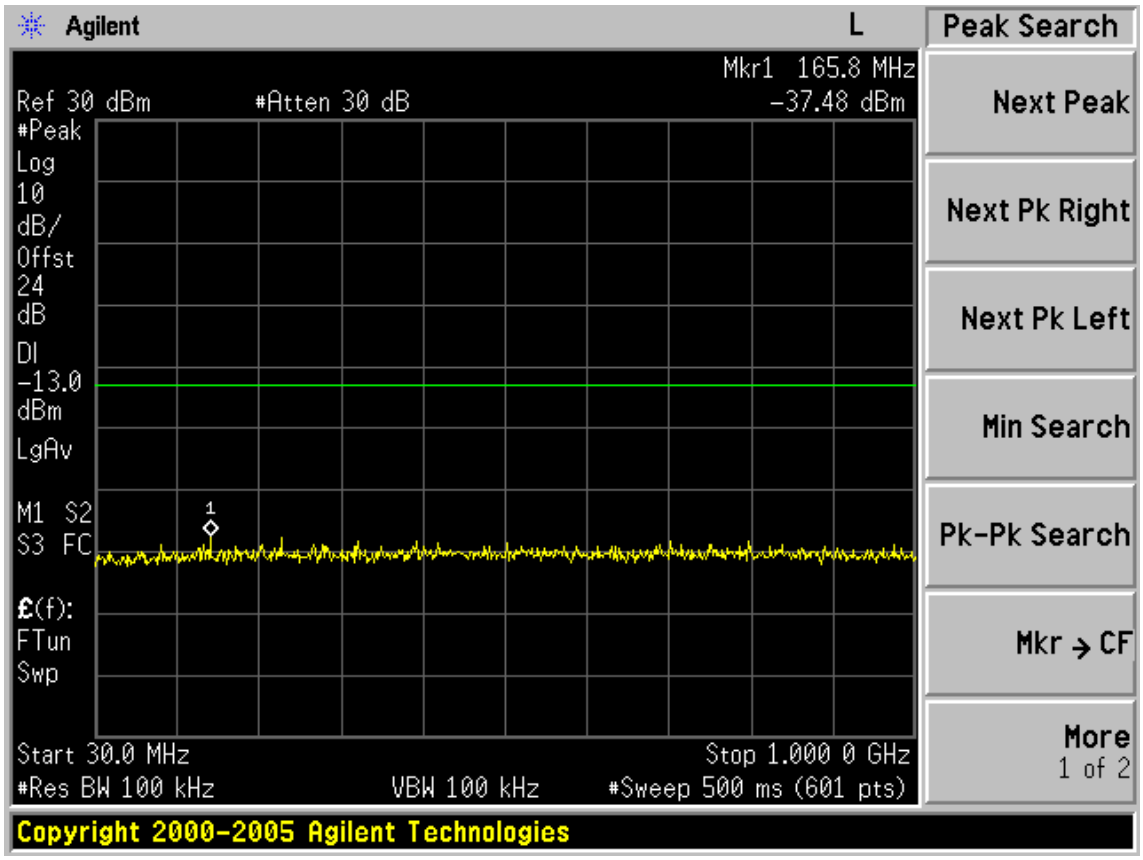


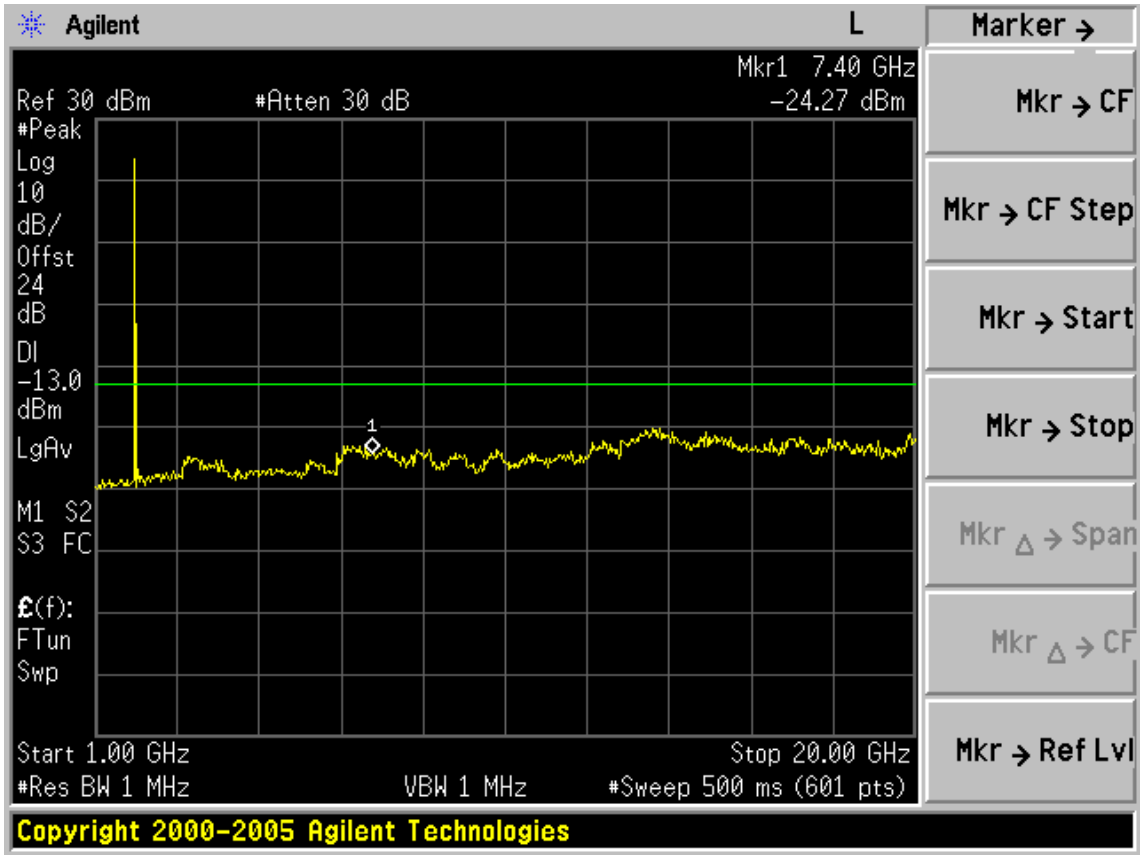
CH 661


Agilent
L
Trace
Ref 30 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Center 10.50 GHz
Span 19 GHz
#Res BW 1 MHz
VBW 1 MHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

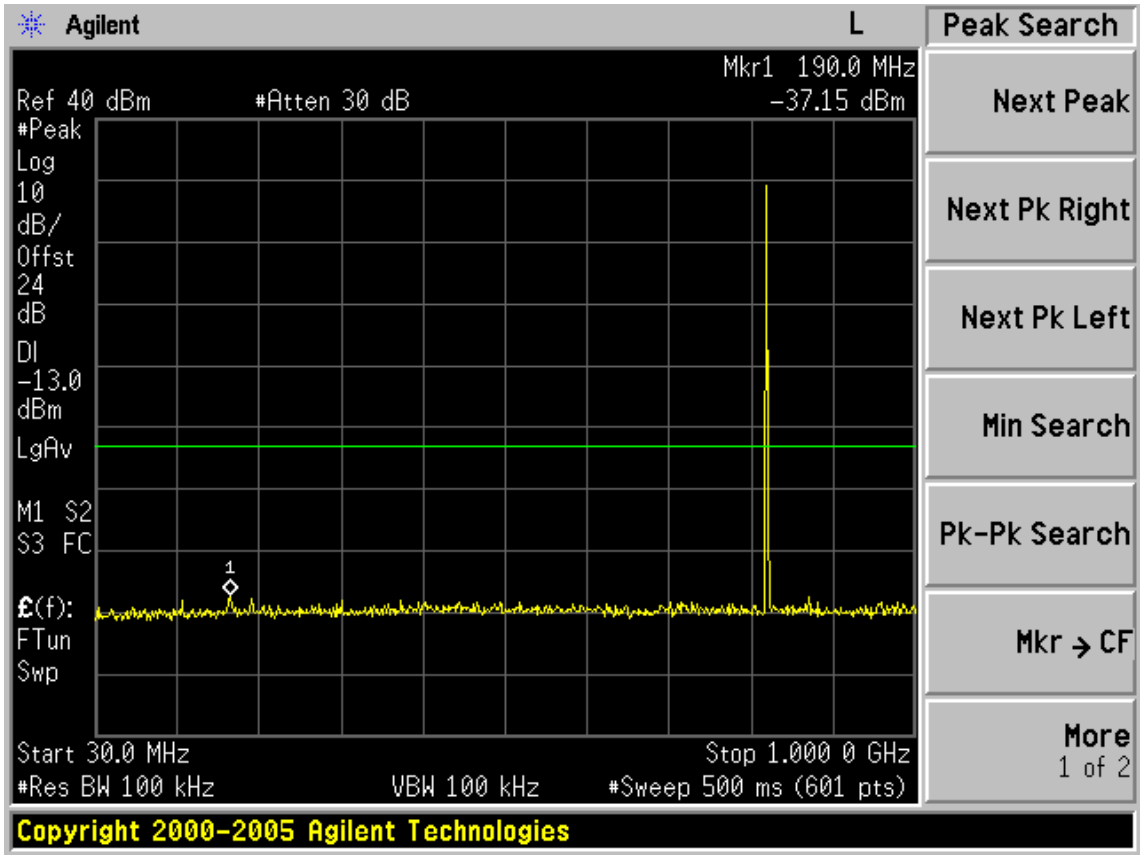

Agilent
L
Freq/Channel
Ref 30 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center Freq
515.000000 MHz
Start Freq
30.0000000 MHz
Stop Freq
1.00000000 GHz
CF Step
97.0000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
VBW 100 kHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

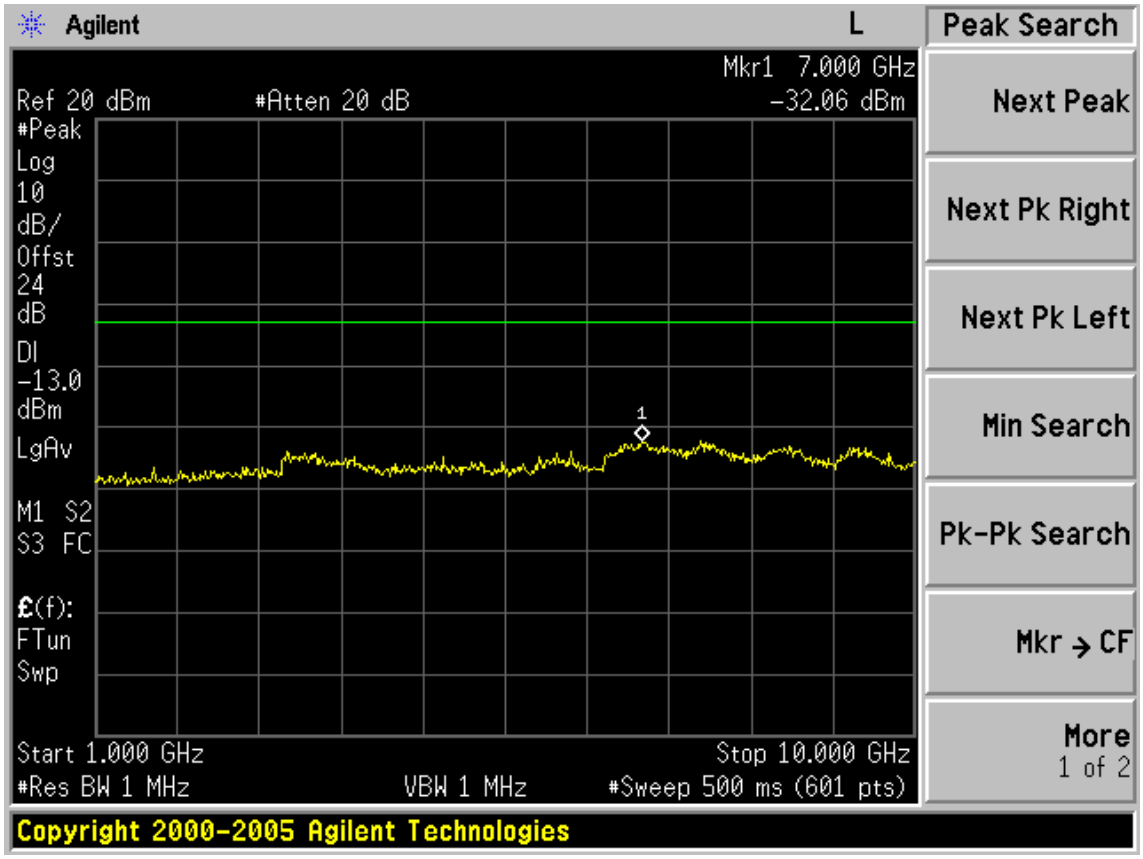
CH 810


Agilent
L
Peak Search
Mkr1 165.8 MHz
Ref 30 dBm
#Atten 30 dB
-37.48 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
VBW 100 kHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

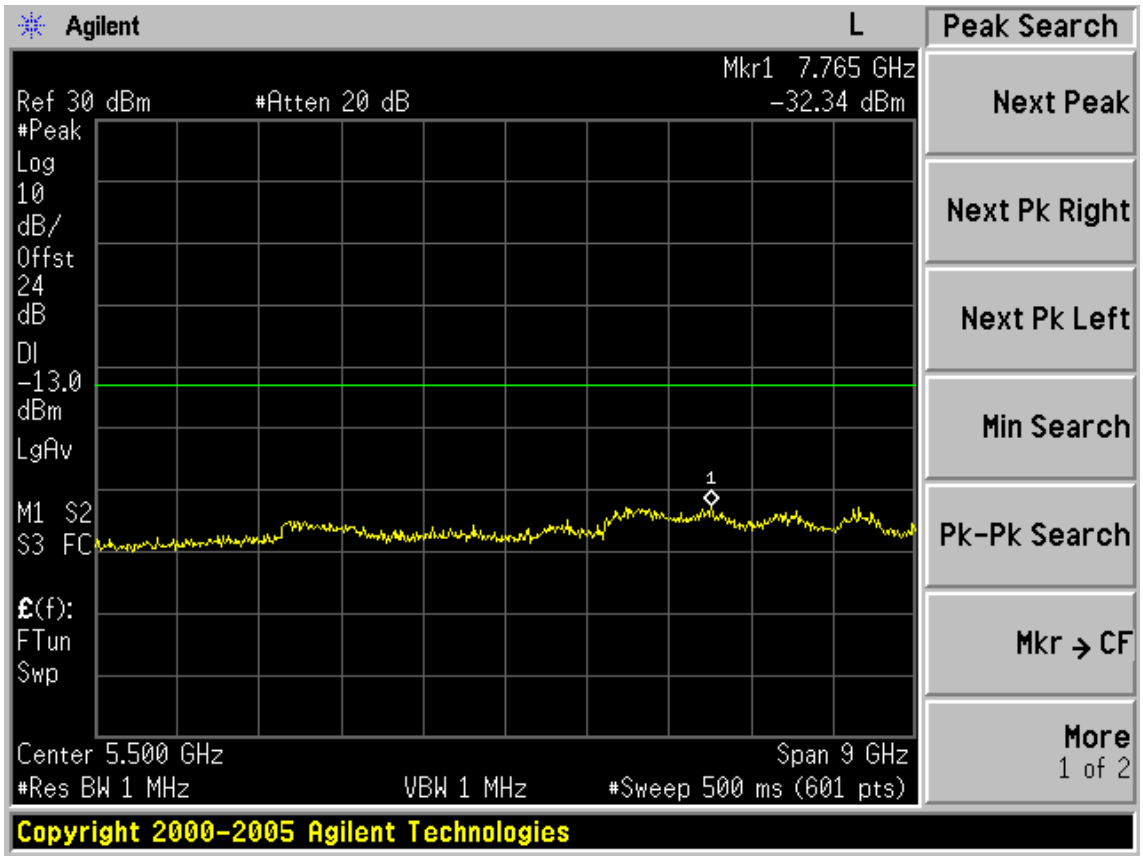

Agilent
L
Marker →
Mkr1 7.40 GHz
Ref 30 dBm
#Atten 30 dB
-24.27 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Mkr → CF
Mkr → CF Step
Mkr → Start
Mkr → Stop
Mkr Δ → Span
Mkr Δ → CF
Mkr → Ref Lvl
Start 1.00 GHz
Stop 20.00 GHz
#Res BW 1 MHz
VBW 1 MHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

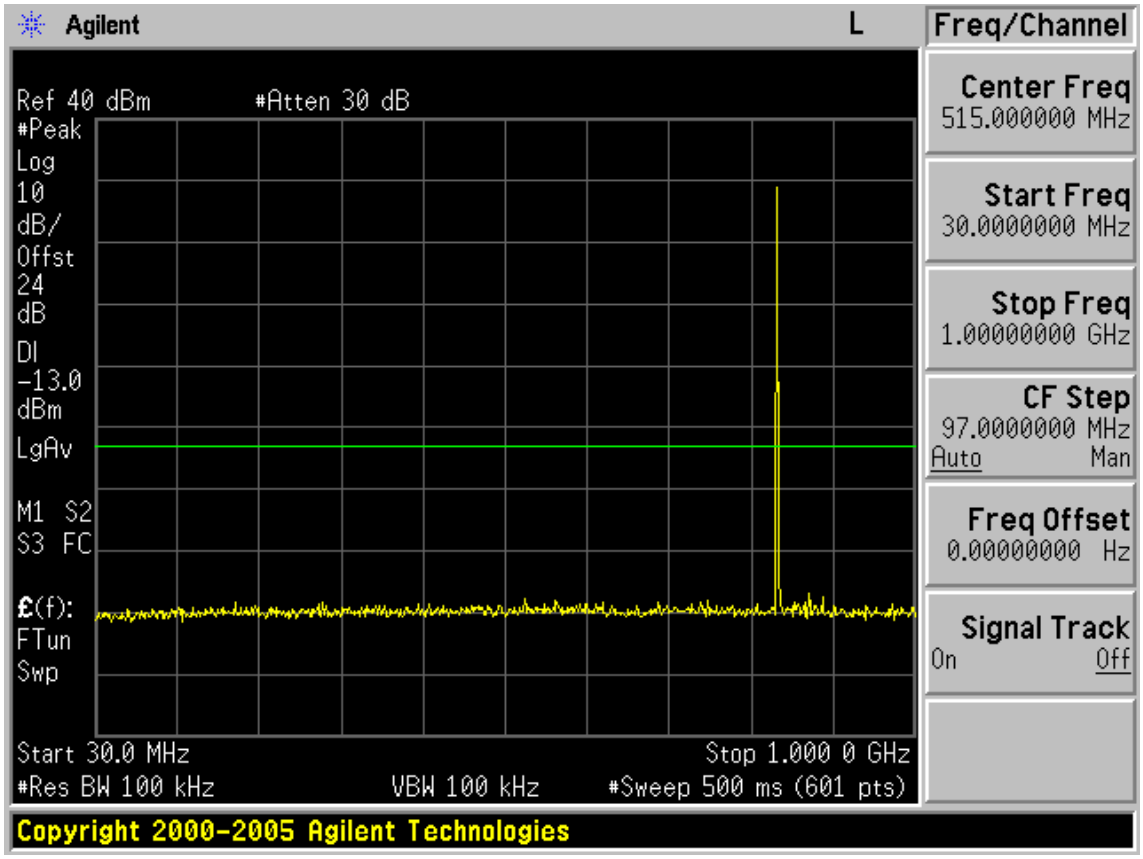
Test Mode: EDGE 850
CH 128



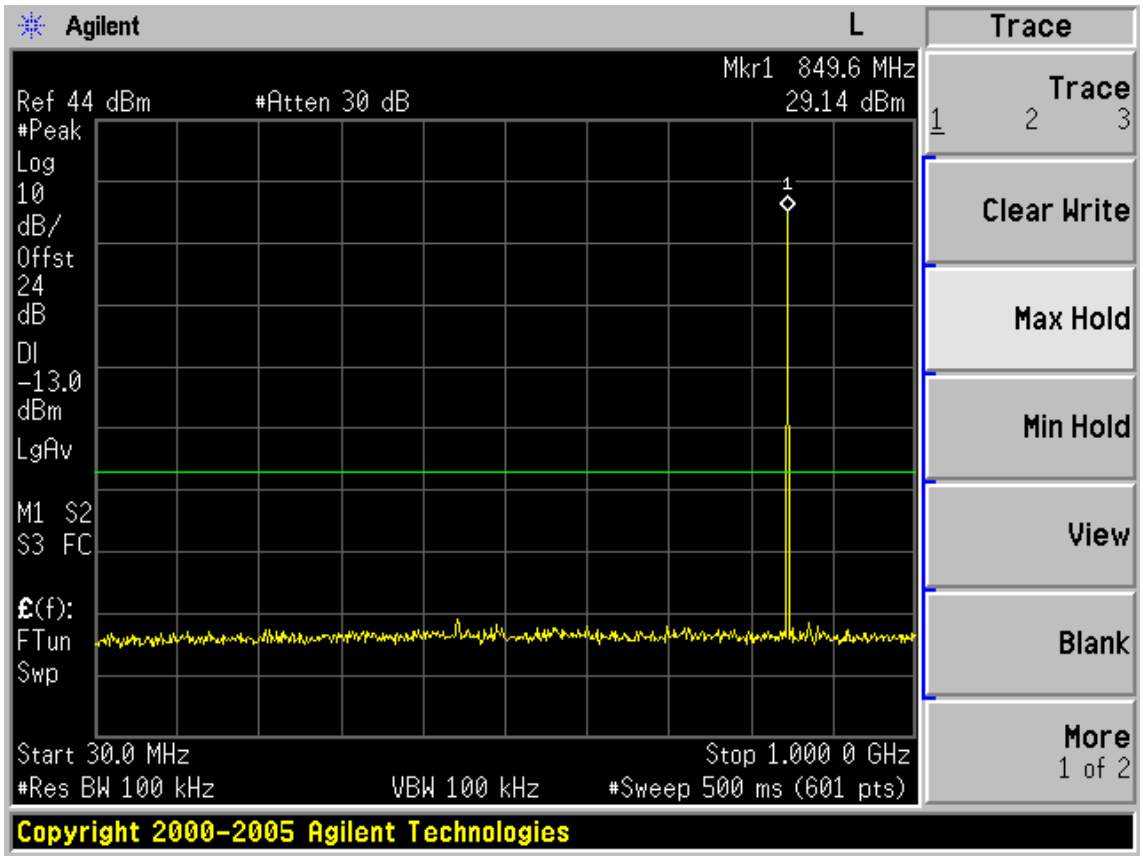


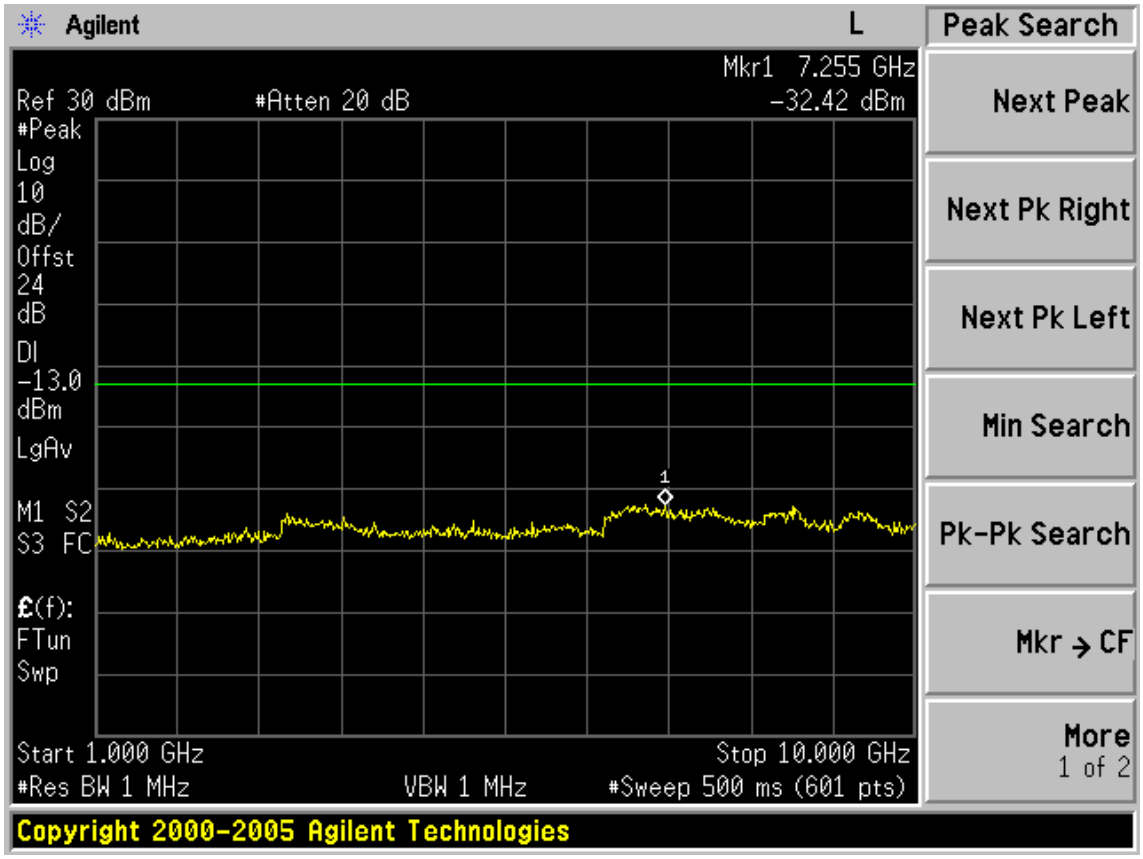
CH 190


Agilent
L
Peak Search
Mkr1 7.765 GHz
Ref 30 dBm
#Atten 20 dB
-32.34 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Center 5.500 GHz
Span 9 GHz
#Res BW 1 MHz
VBW 1 MHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

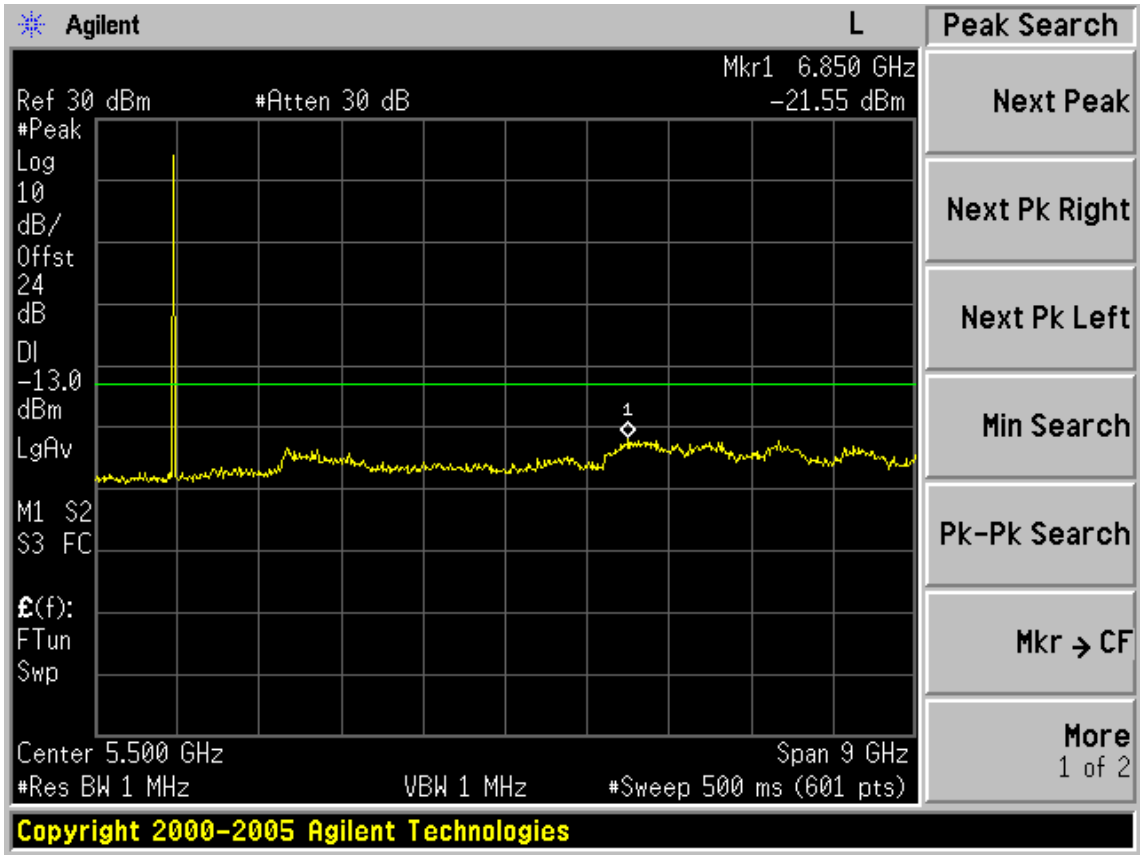

Agilent
L
Freq/Channel
Ref 40 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center Freq
515.000000 MHz
Start Freq
30.0000000 MHz
Stop Freq
1.00000000 GHz
CF Step
97.0000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
VBW 100 kHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

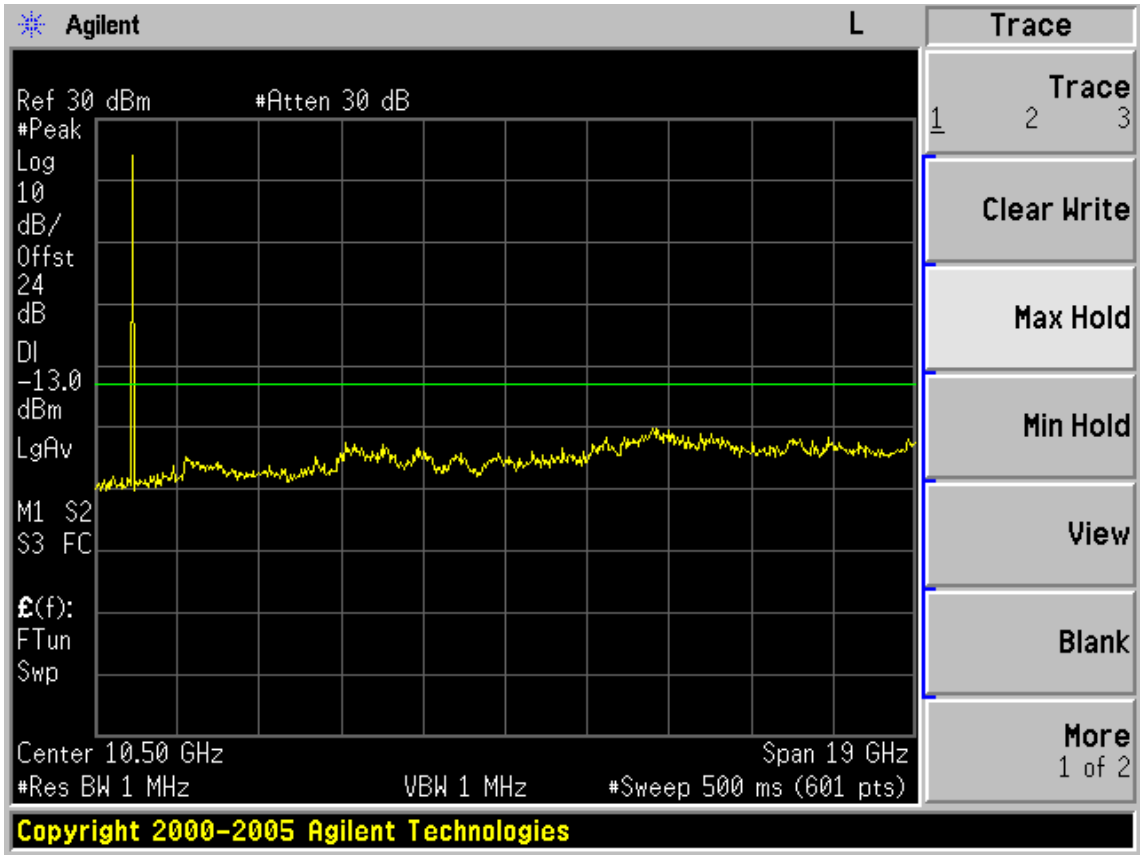
CH 251


Agilent
L
Trace
Mkr1 849.6 MHz
Ref 44 dBm
#Atten 30 dB
29.14 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
VBW 100 kHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

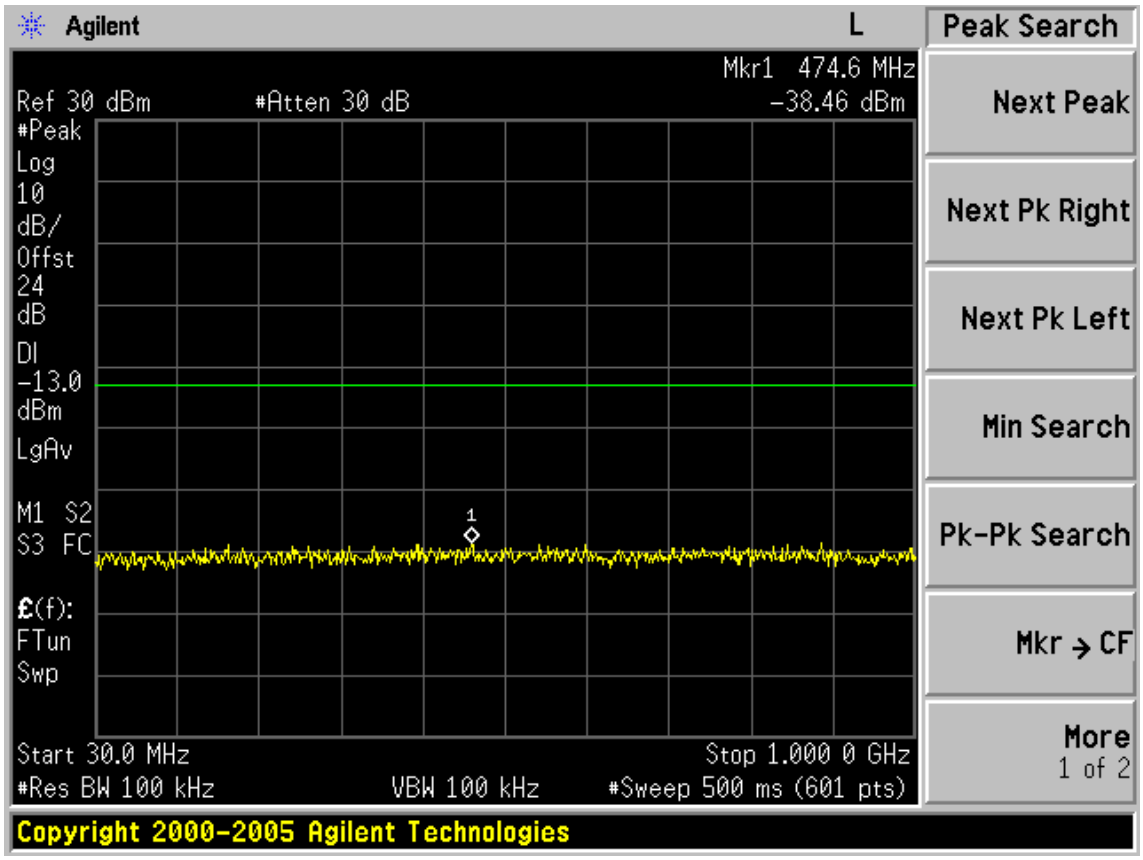

Agilent
L
Peak Search
Mkr1 7.255 GHz
Ref 30 dBm
#Atten 20 dB
-32.42 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 1.000 GHz
Stop 10.000 GHz
#Res BW 1 MHz
VBW 1 MHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

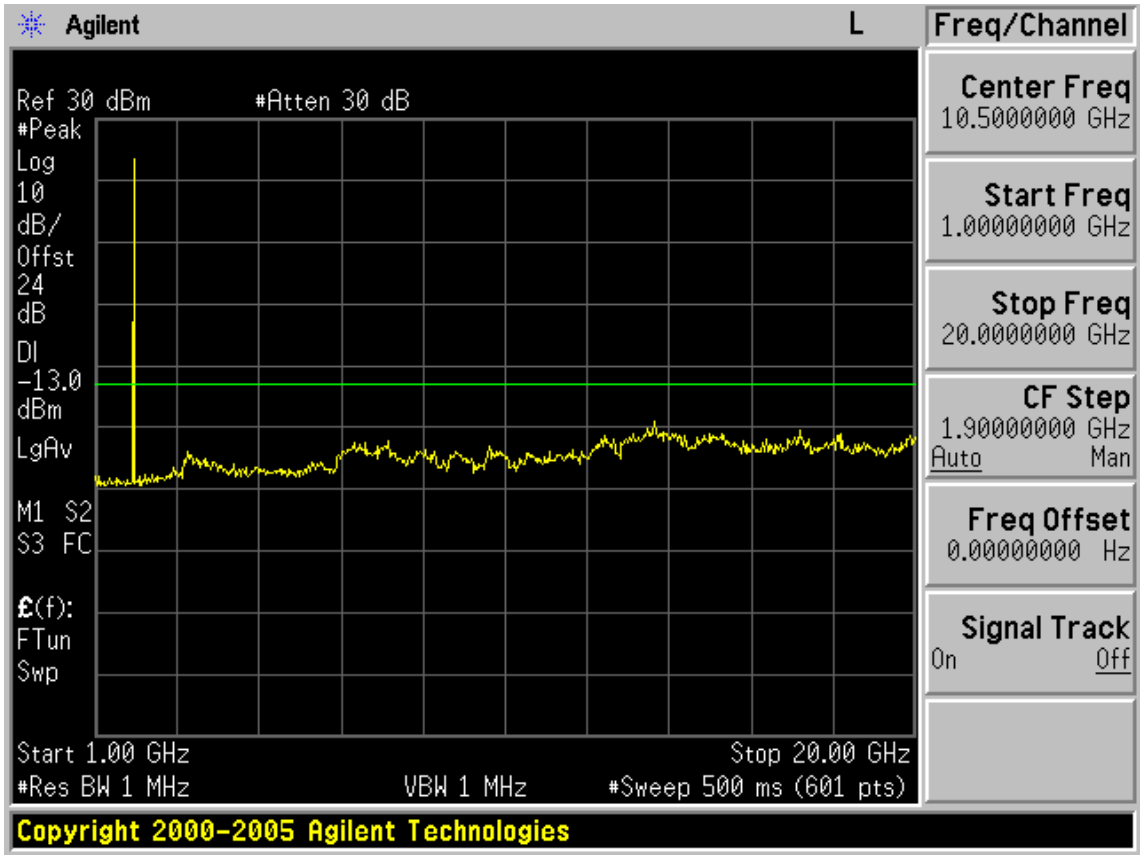
Test Mode: EDGE 1900
CH 512



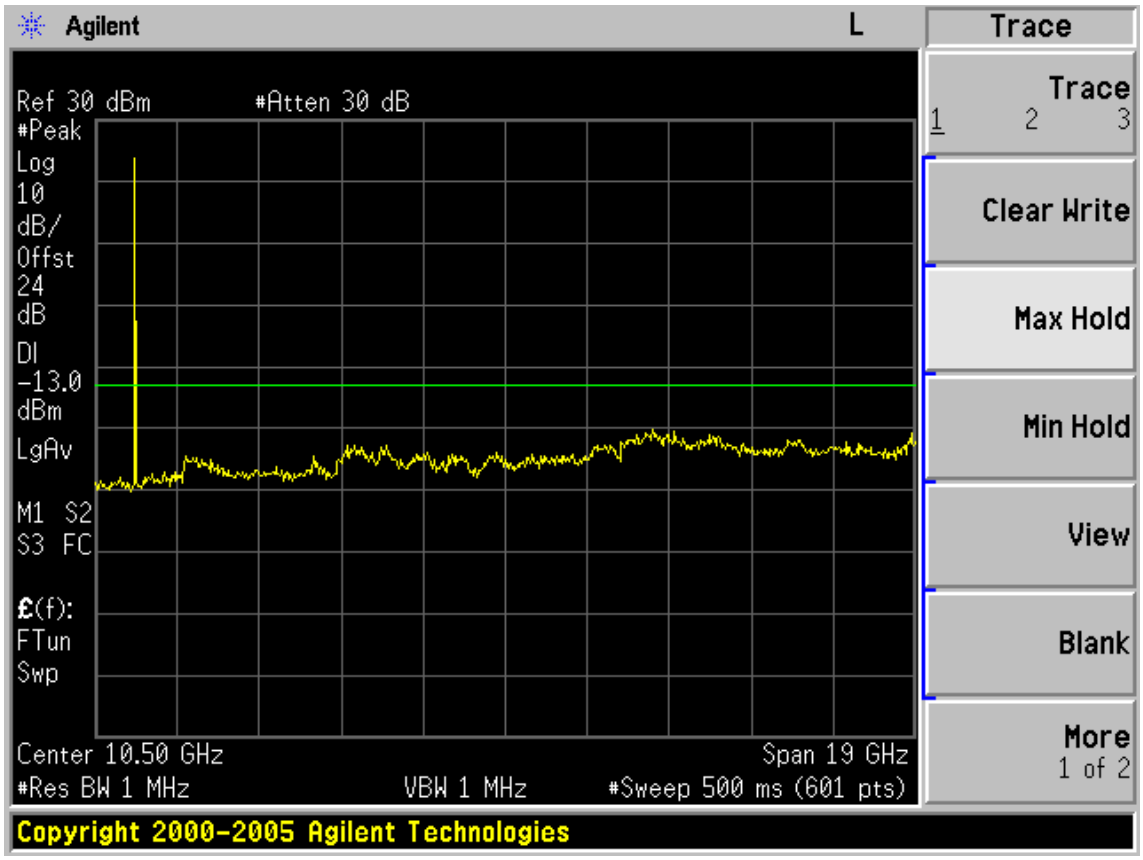


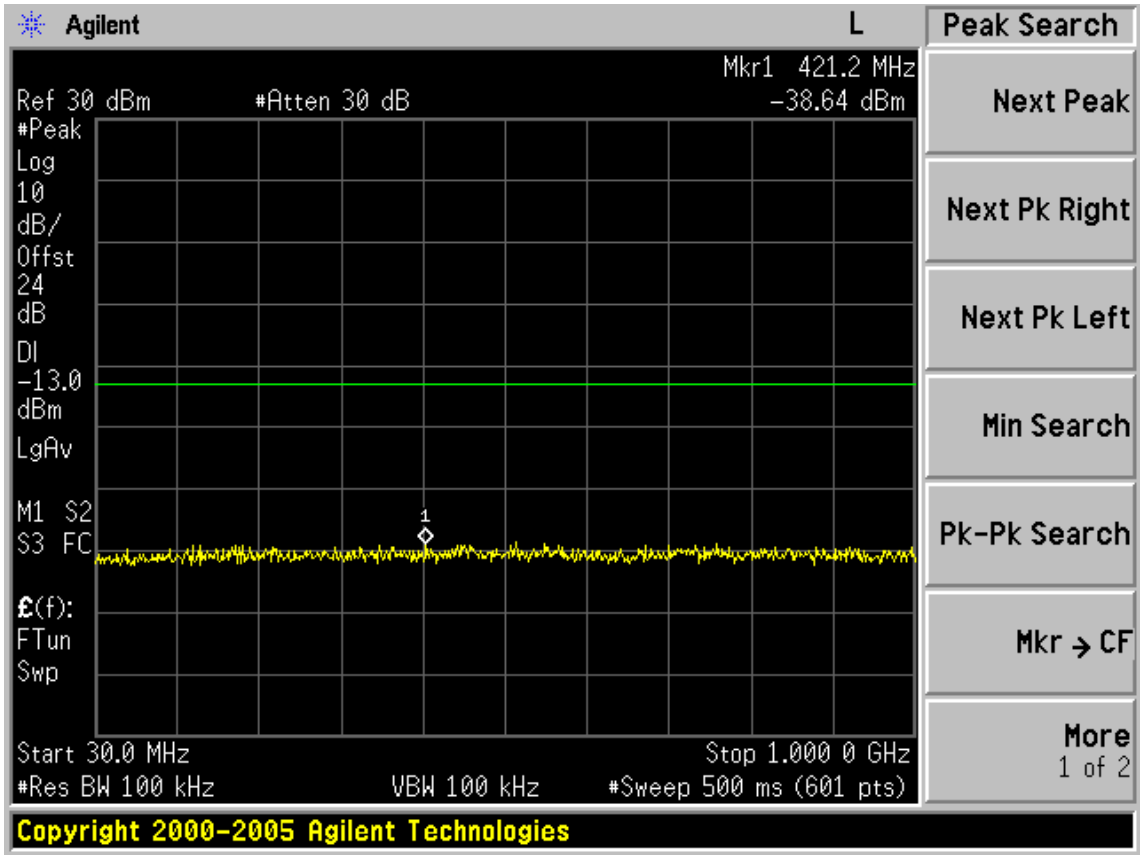
CH 661


Agilent
L
Peak Search
Mkr1 474.6 MHz
Ref 30 dBm
#Atten 30 dB
-38.46 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
VBW 100 kHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

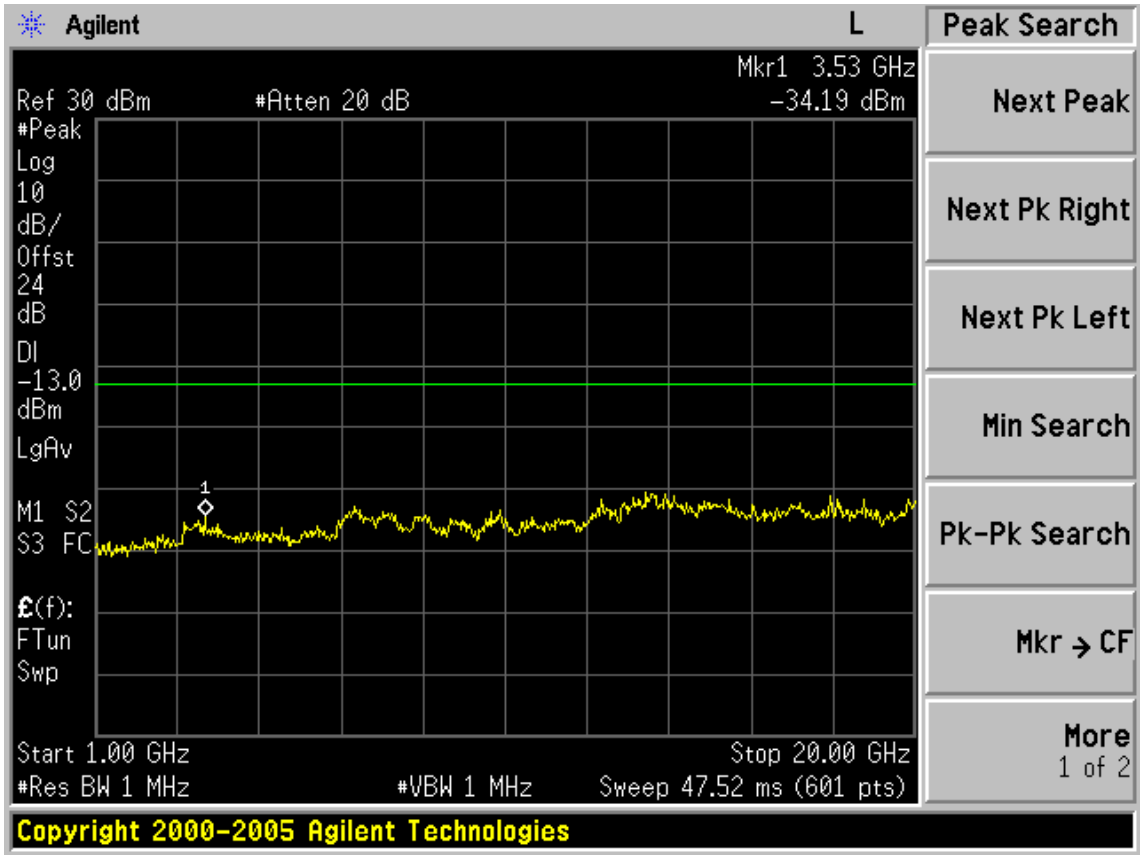

Agilent
L
Freq/Channel
Ref 30 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center Freq
10.5000000 GHz
Start Freq
1.00000000 GHz
Stop Freq
20.0000000 GHz
CF Step
1.90000000 GHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Start 1.00 GHz
Stop 20.00 GHz
#Res BW 1 MHz
VBW 1 MHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

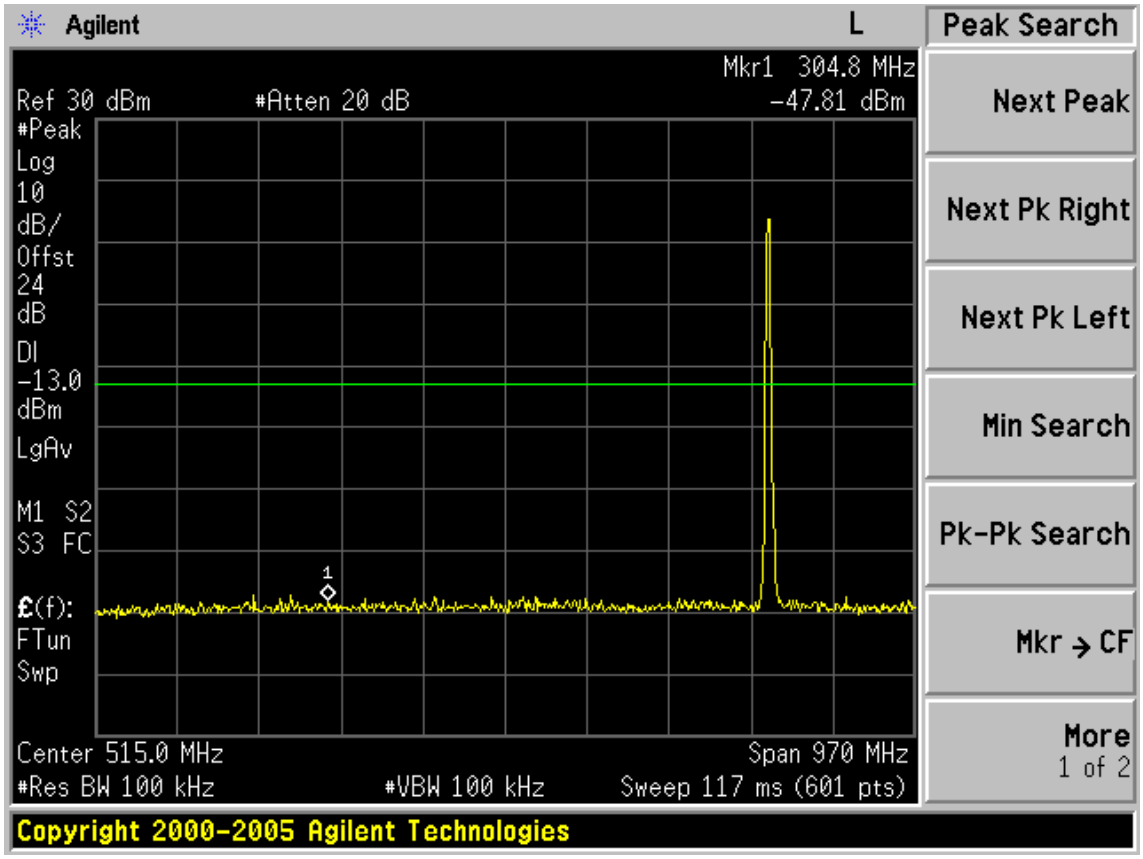
CH 810


Agilent
L
Trace
Ref 30 dBm
#Atten 30 dB
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Center 10.50 GHz
Span 19 GHz
#Res BW 1 MHz
VBW 1 MHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

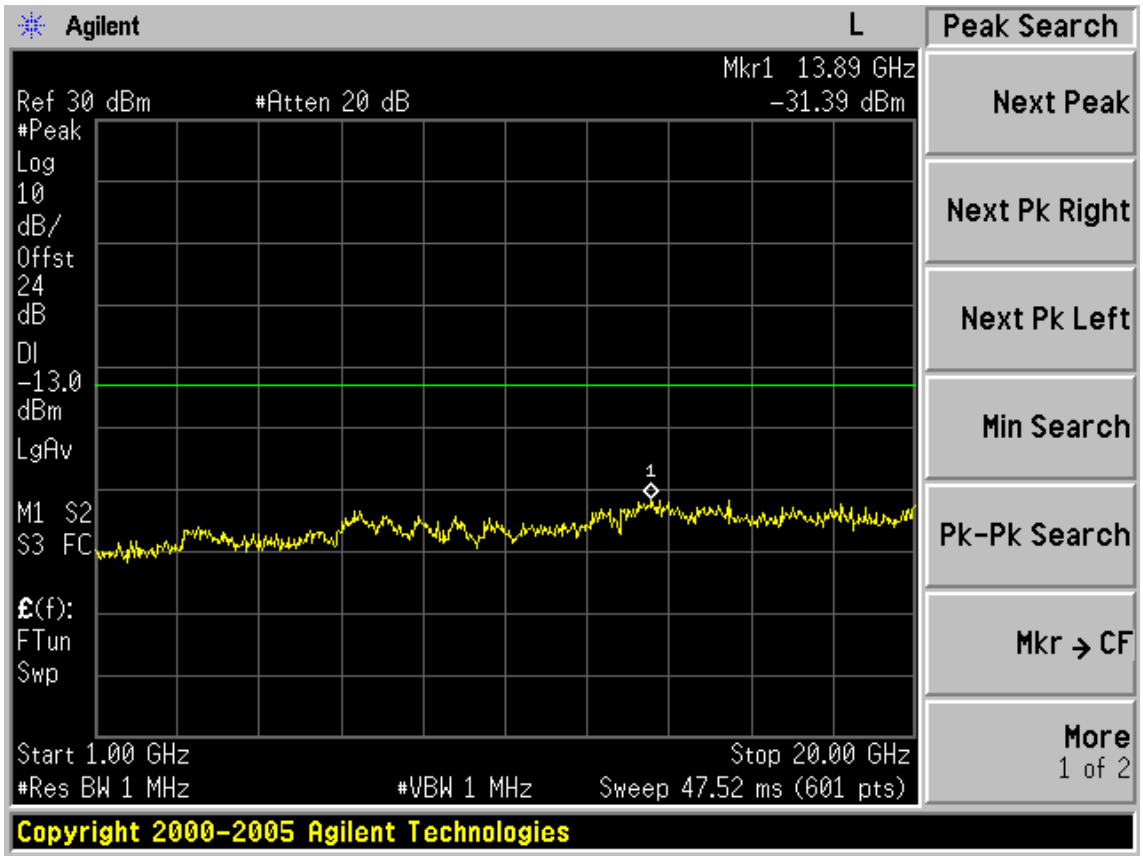

Agilent
L
Peak Search
Mkr1 421.2 MHz
Ref 30 dBm
#Atten 30 dB
-38.64 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
1
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
VBW 100 kHz
#Sweep 500 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

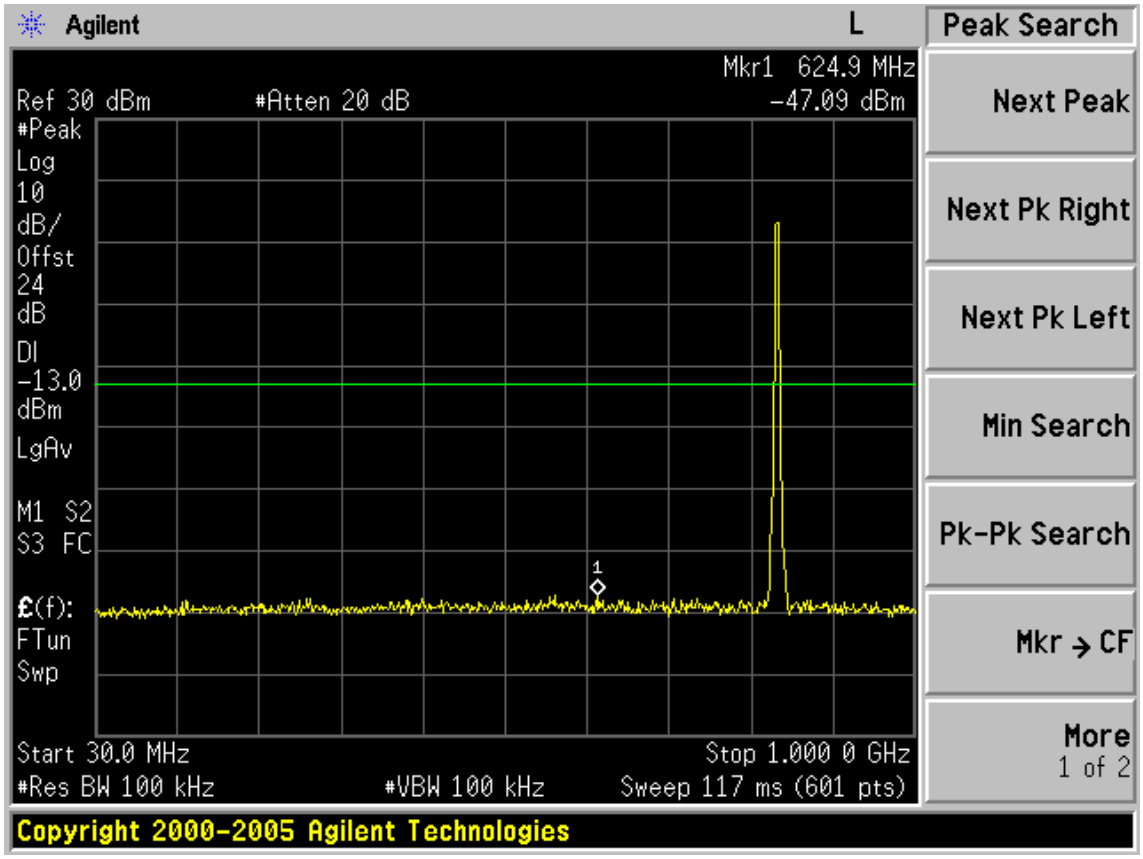
Test Mode: WCDMA 850
CH 4132



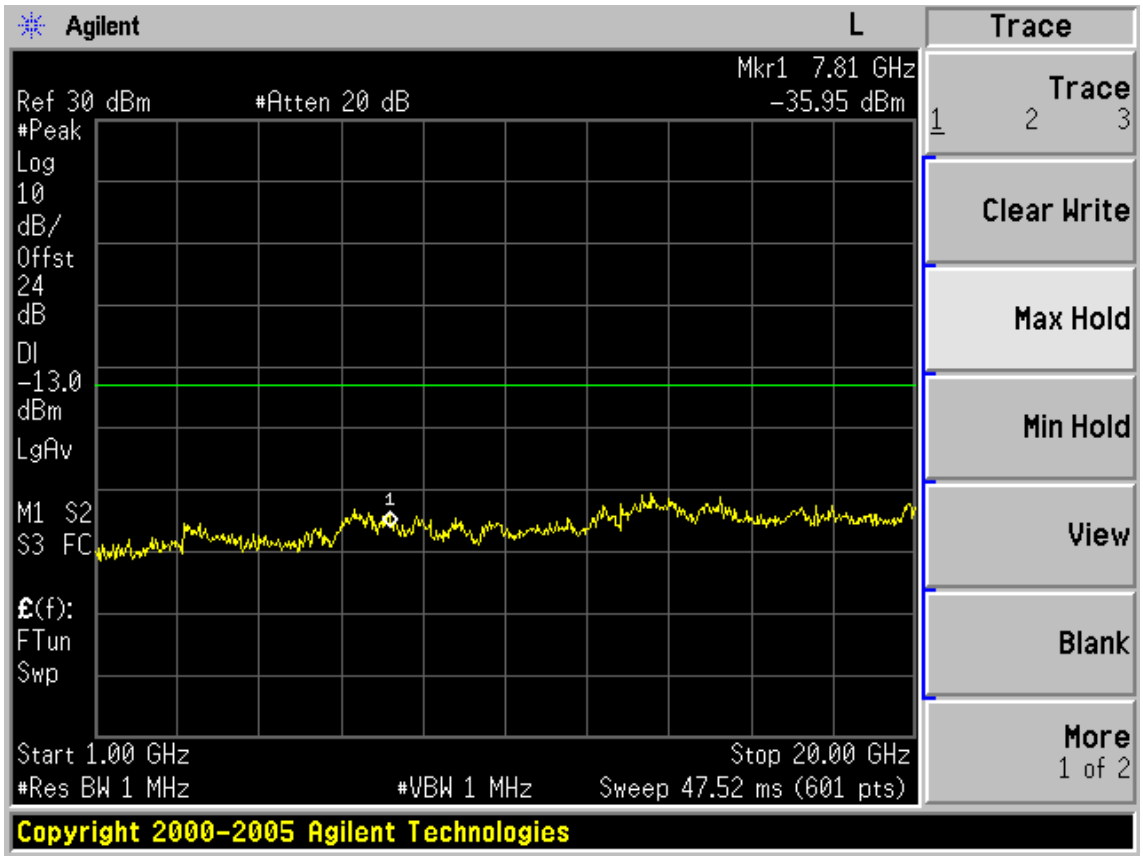


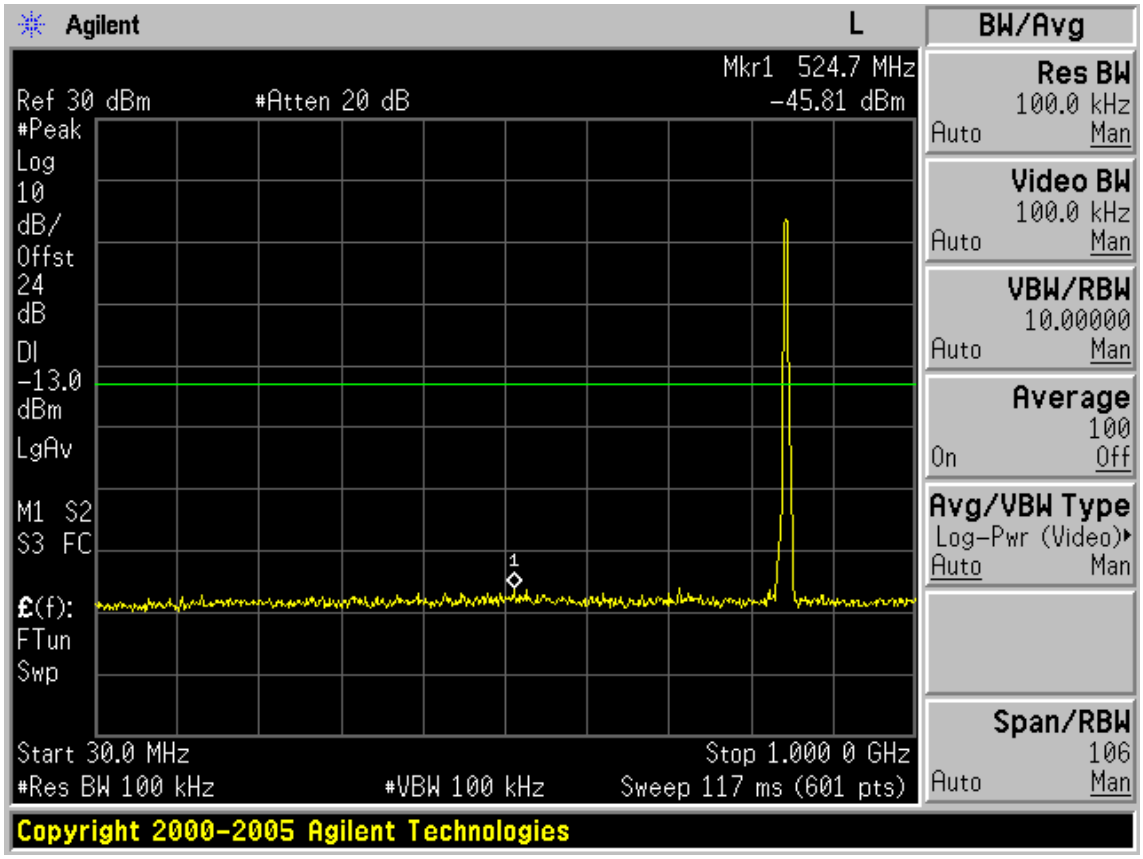
CH 4182


Agilent
L
Peak Search
Mkr1 13.89 GHz
Ref 30 dBm
#Atten 20 dB
-31.39 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 1.00 GHz
Stop 20.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 47.52 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

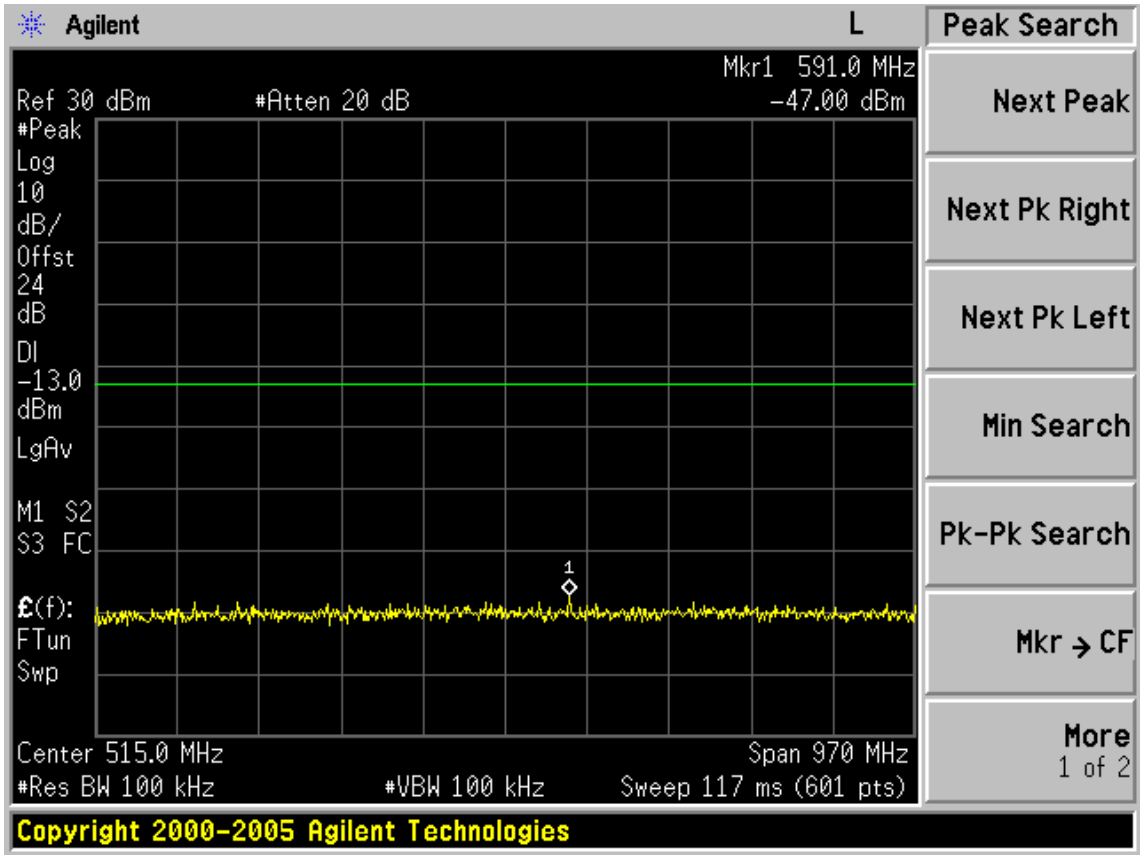

Agilent
L
Peak Search
Mkr1 624.9 MHz
Ref 30 dBm
#Atten 20 dB
-47.09 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 117 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

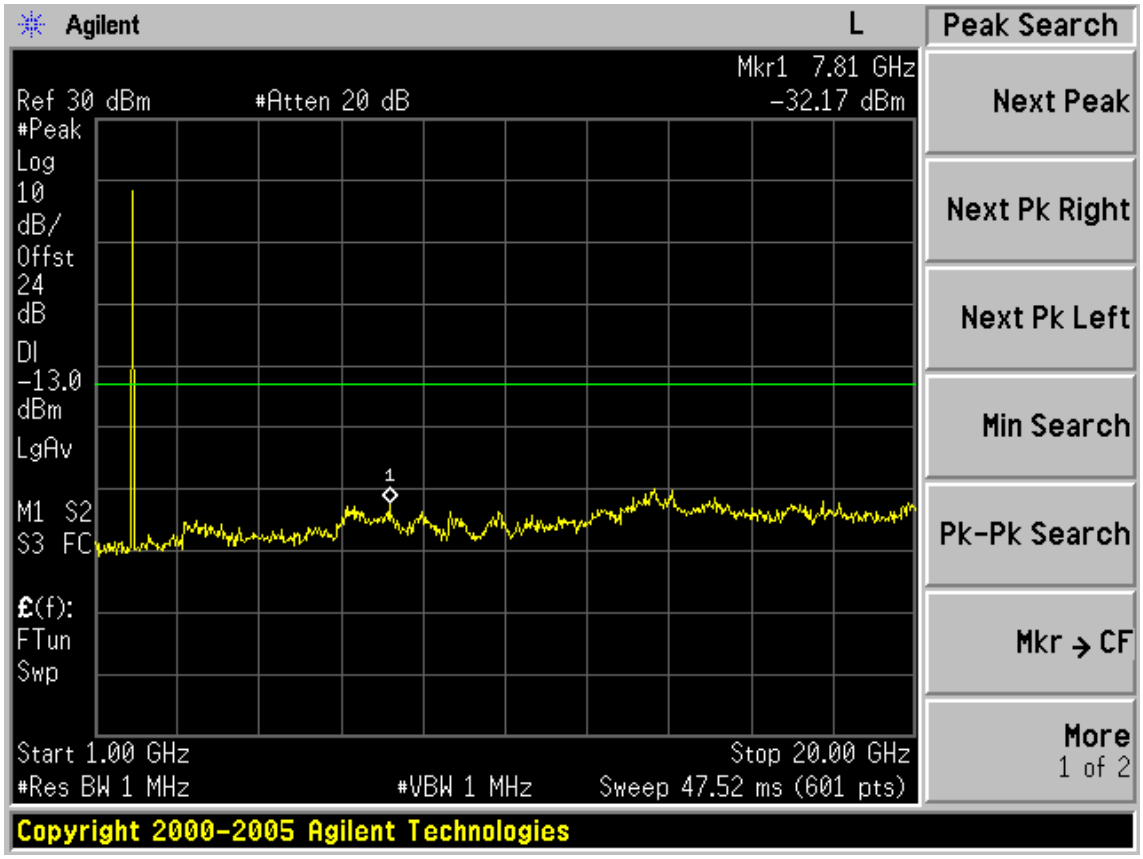
CH 4233


Agilent
L
Mkr1 7.81 GHz
Ref 30 dBm
#Atten 20 dB
-35.95 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Start 1.00 GHz
Stop 20.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 47.52 ms (601 pts)
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
More
1 of 2
Copyright 2000-2005 Agilent Technologies

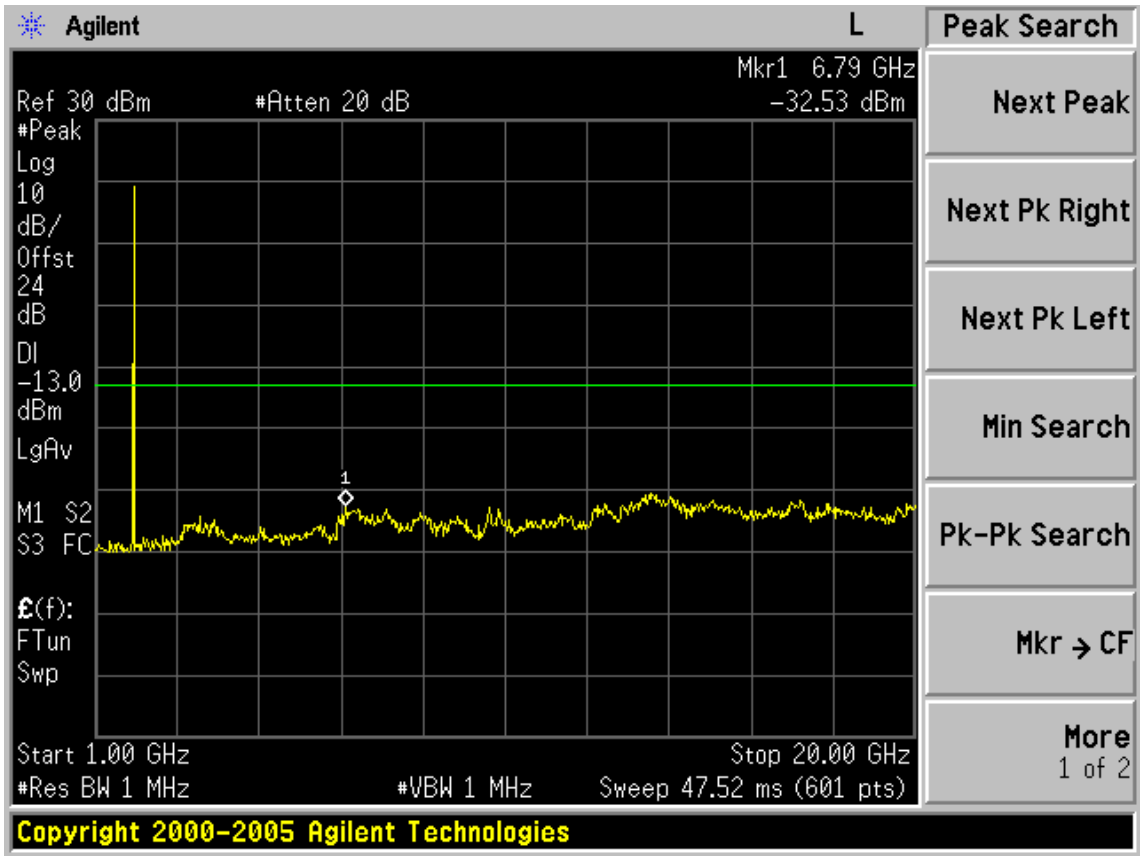

Agilent
L
Mkr1 524.7 MHz
Ref 30 dBm
#Atten 20 dB
-45.81 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 117 ms (601 pts)
BW/Avg
Res BW
100.0 kHz
Auto Man
Video BW
100.0 kHz
Auto Man
VBW/RBW
10.00000
Auto Man
Average
100
On Off
Avg/VBW Type
Log-Pwr (Video)
Auto Man
Span/RBW
106
Auto Man
Copyright 2000-2005 Agilent Technologies

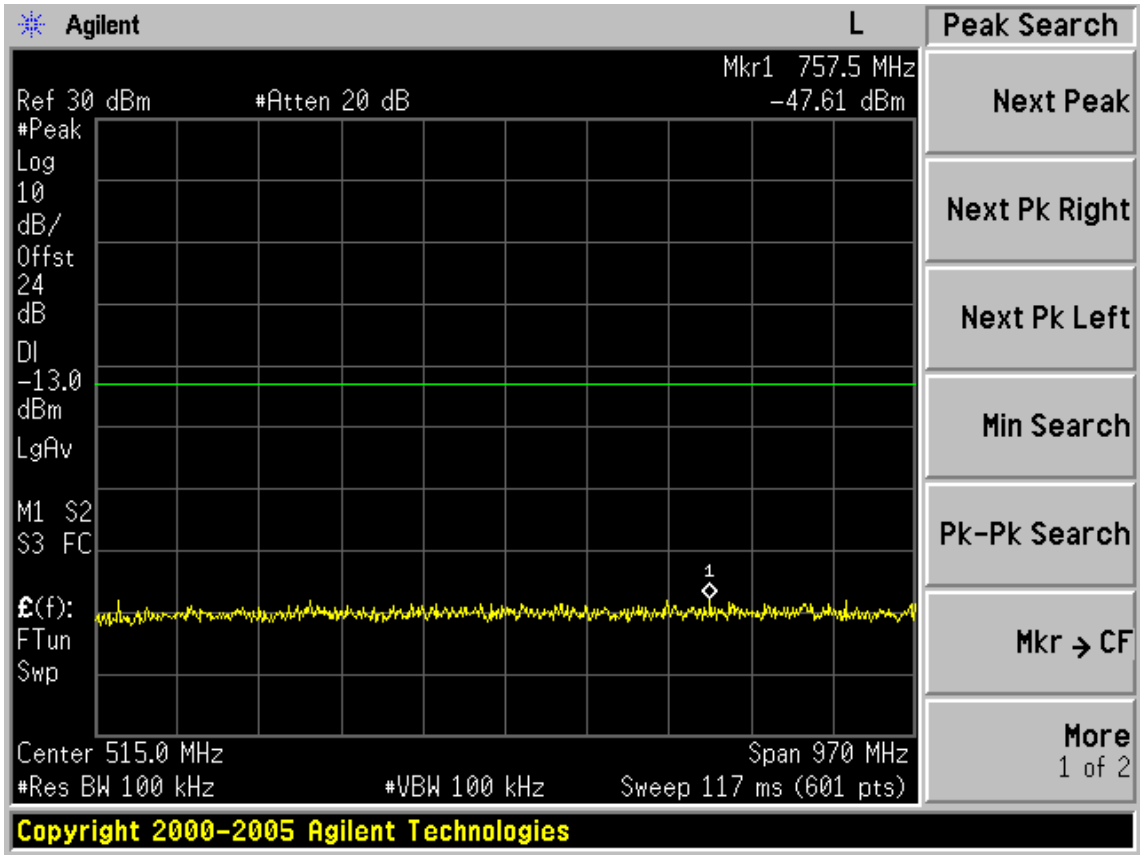
Test Mode: WCDMA 1900
CH 9262



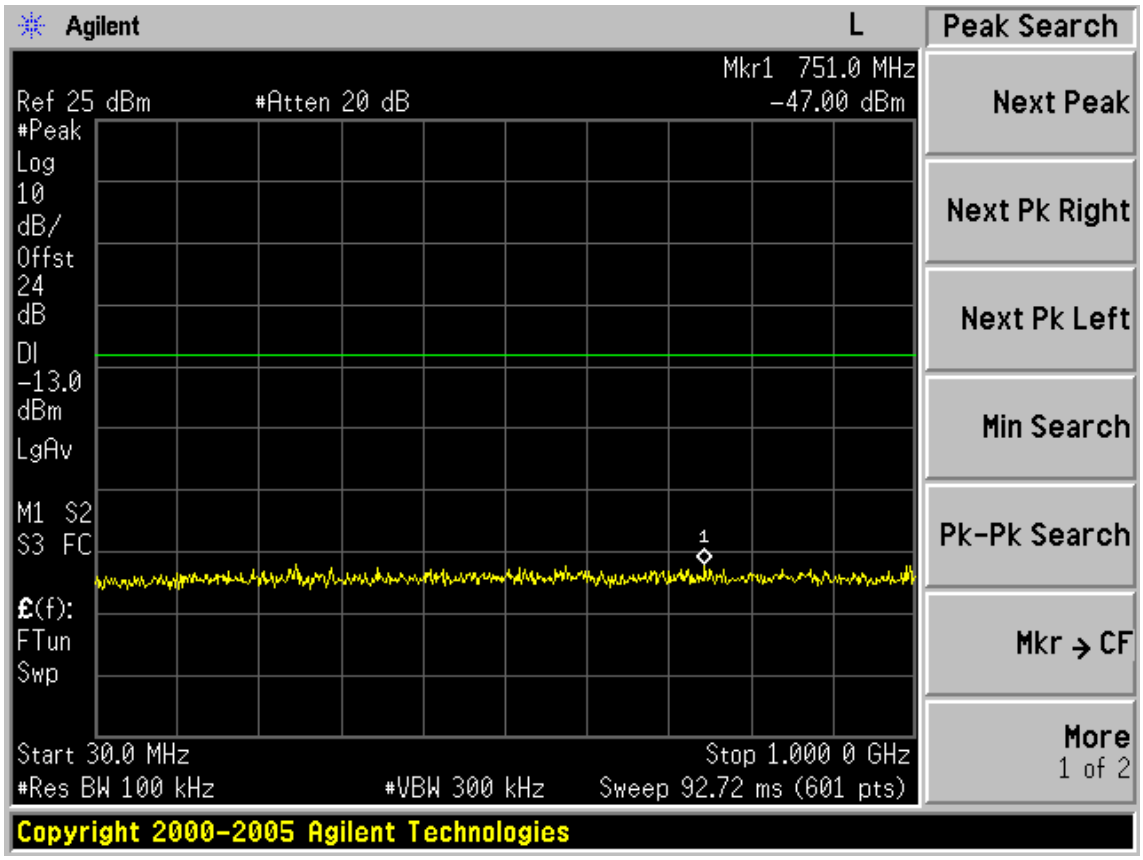


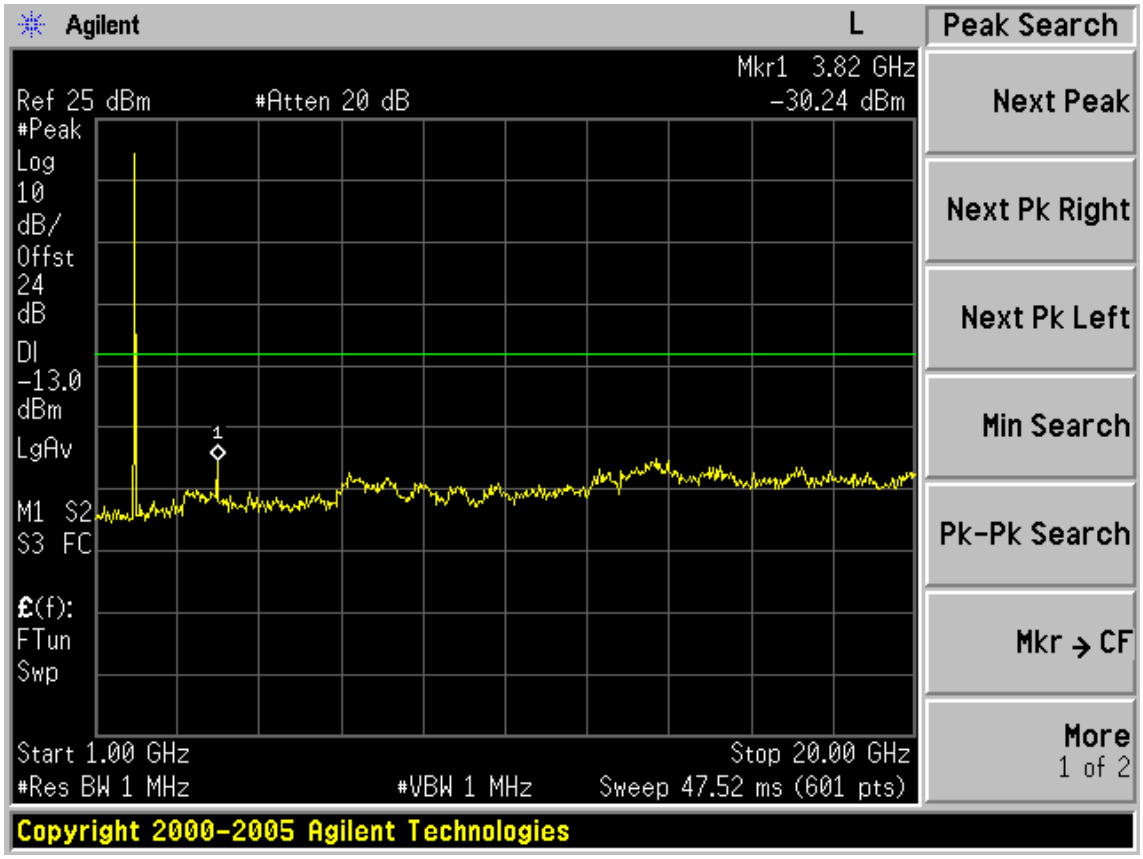
CH 9400


Agilent
L
Peak Search
Mkr1 6.79 GHz
Ref 30 dBm
#Atten 20 dB
-32.53 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 1.00 GHz
Stop 20.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 47.52 ms (601 pts)
Copyright 2000-2005 Agilent Technologies


Agilent
L
Peak Search
Mkr1 757.5 MHz
Ref 30 dBm
#Atten 20 dB
-47.61 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Center 515.0 MHz
Span 970 MHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 117 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

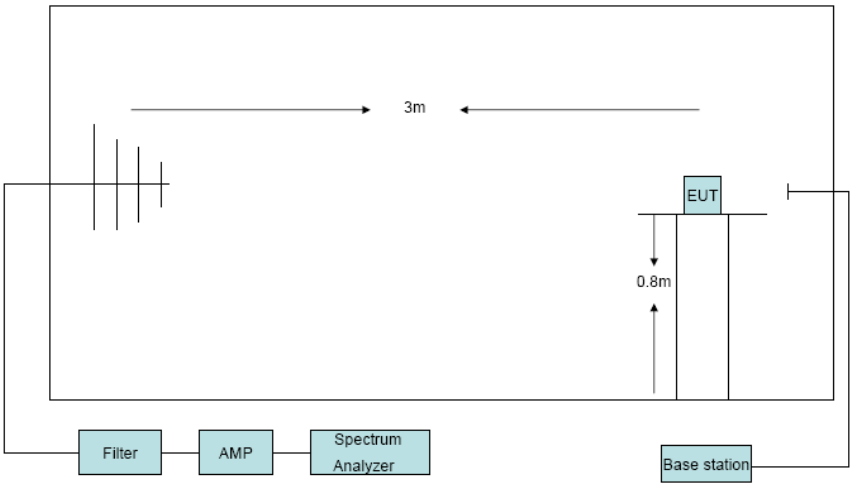
CH 9530


Agilent
L
Peak Search
Mkr1 751.0 MHz
Ref 25 dBm
#Atten 20 dB
-47.00 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)
Copyright 2000-2005 Agilent Technologies


Agilent
L
Peak Search
Mkr1 3.82 GHz
Ref 25 dBm
#Atten 20 dB
-30.24 dBm
#Peak
Log
10
dB/
Offst
24
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Start 1.00 GHz
Stop 20.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 47.52 ms (601 pts)
Copyright 2000-2005 Agilent Technologies

8. RADIATED SPURIOUS EMISSIONS

8.1.Block Diagram of Test Setup



8.2.Limit

The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency outside the frequency band by at least (43 + 10 log P) dB, in this case, -13dBm.

8.3.Test Procedure

1. The EUT was placed on an non-conductive rotating platform with 0.8 meter height in an anechoic chamber. The radiated spurious emissions from 30MHz to 10^{th} harmonious of fundamental frequency were measured at 3m with a test antenna and a spectrum analyzer with RBW= 1MHz,VBW= 1MHz ,peak detector settings.
2. During the measurement, the EUT was enforced in maximum power and linked with a base station.All the spurious emissions(record as LVL) at 3m were measured by rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations and EUT in X,Y,Z position.
3. Final spurious emissions levels were measured by substitution method according to TIA/EIA-603-C. The EUT was replaced by dipole antenna (for frequency lelow 1GHz) or Horn antenna(for frequecny above 1GHz) at same location with same polarize of reveiver antenna and then a known power of each measure frequency from S.G. was applied into the dipole antenna or Horn antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain –Substitution antenna Loss(only for Dipole antenna) - Analyzer reading. Then final spurious emissions were calculated with the correction factor, EIRP= LVL + Correction factor and ERP = EIRP – 2.15

8.4.Test Results

EUT: BNRZ100 M/N:BNRZ100						
Power: DC 5V from Adapter						
Test Date: 2009-08-29		Test site: RF Chamber		Tested by: Sunny-lu		
Ambient Temperature: 24℃		Relative Humidity: 60%				
Test result						
Test Mode：GPRS 850 CH128						
Frequency (MHz)	Antenna polarization	LVL (dBm)	Correction factor(dB)	Result (ERP)(dBm)	Limit (dBm)	Margin (dB)
1648.4	H	-61.67	11.50	-52.32	-13	39.32
1648.4	V	-56.86	10.56	-48.45	-13	35.45
Test Mode： GPRS 850 CH190						
1673.2	H	-64.22	10.94	-55.43	-13	42.43
2509.8	H	/	/	/	-13	/
1673.2	V	-62.07	10.90	-53.32	-13	40.32
2509.8	V	/	/	/	-13	/
Test mode: GPRS 850 CH251						
1697.6	H	-62.95	11.67	-53.43	-13	40.43
2546.4	H	/	/	/	-13	/
1697.6	V	-58.30	11.13	-49.32	-13	36.32
2546.4	V	/	/	/	-13	/
Test mode: EDGE 850 CH128						
1648.4	H	/	/	/	-13	/
2472.6	H	/	/	/	-13	/
1648.4	V	/	/	/	-13	/
2472.6	V	/	/	/	-13	/

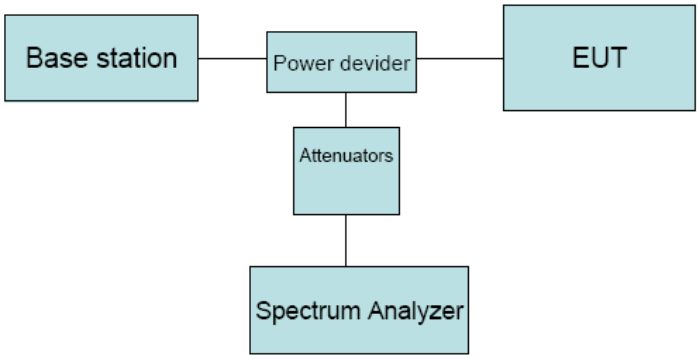
EUT: BNRZ100 M/N:BNRZ100						
Power: DC 3.7V						
Test Date: 2009-08-29		Test site: RF Chamber		Tested by: Sunny-lu		
Ambient Temperature: 24℃		Relative Humidity: 60%				
Test result						
Test Mode：GPRS 850 CH128						
Frequency (MHz)	Antenna polarization	LVL (dBm)	Correction factor(dB)	Result (ERP)(dBm)	Limit (dBm)	Margin (dB)
1648.4	H	-61.67	11.50	-52.32	-13	39.32
2472.6	H	/	/	/	-13	/
1648.4	V	-56.86	10.56	-48.45	-13	35.45
2472.6	V	/	/	/	-13	/
Test Mode： GPRS 850 CH190						
1673.2	H	-64.22	10.94	-55.43	-13	42.43
2509.8	H	/	/	/	-13	/
1673.2	V	-62.07	10.90	-53.32	-13	40.32
2509.8	V	/	/	/	-13	/
Test mode: GPRS 850 CH251						
1697.6	H	-62.95	11.67	-53.43	-13	40.43
2546.4	H	/	/	/	-13	/
1697.6	V	-58.30	11.13	-49.32	-13	36.32
2546.4	V	/	/	/	-13	/
Test mode: EDGE 850 CH128						
1648.4	H	/	/	-13	/	-13
2472.6	H	/	/	-13	/	-13
1648.4	V	/	/	-13	/	-13
2472.6	V	/	/	-13	/	-13

Test Mode：GPRS 1900 CH512						
Frequency (MHz)	Antenna polarization	LVL (dBm)	Correction factor(dB)	Result (EIRP)(dBm)	Limit (dBm)	Margin (dB)
3700.4	H	-53.89	8.57	-45.32	-13	32.32
5550.6	H	/	/	/	-13	/
3700.4	V	-51.60	8.37	-43.23	-13	30.23
5550.6	V	/	/	/	-13	/
Test Mode： GPRS 1900 CH661						
3760	H	-55.07	8.75	-46.32	-13	33.32
5640	H	/	/	/	-13	/
3760	V	-52.67	8.55	-44.12	-13	31.12
5640	V	/	/	/	-13	/
Test mode: GPRS 1900 CH810						
3819.6	H	-56.28	8.94	-47.34	-13	34.34
5729.4	H	/	/	/	-13	/
3819.6	V	-54.38	8.72	-45.66	-13	32.66
5729.4	V	/	/	/	-13	/
Test mode: EDGE 1900 CH512						
3700.4	H	/	/	/	-13	/
5550.6	H	/	/	/	-13	/
3700.4	V	/	/	/	-13	/
5550.6	V	/	/	/	-13	/

Test mode: EDGE 1900 CH661						
3760	H	/	/	/	-13	/
5640	H	/	/	/	-13	/
3760	V	/	/	/	-13	/
5640	V	/	/	/	-13	/
Test mode: EDGE 1900 CH810						
3819.6	H	/	/	/	-13	/
5729.4	H	/	/	/	-13	/
3819.6	V	/	/	/	-13	/
5729.4	V	/	/	/	-13	/
Test mode: UMTS 1900 CH9262						
3704.8	H	/	/	/	-13	/
5557.2	H	/	/	/	-13	/
3704.8	V	/	/	/	-13	/
5557.2	V	/	/	/	-13	/
Test mode: UMTS 1900 CH9400						
3760	H	/	/	/	-13	/
5640	H	/	/	/	-13	/
3760	V	/	/	/	-13	/
5640	V	/	/	/	-13	/
Test mode: UMTS 1900 CH9538						
3815.2	H	/	/	/	-13	/
5722.8	H	/	/	/	-13	/
3815.2	V	/	/	/	-13	/
5722.8	V	/	/	/	-13	/

9. BLOCK EDGE COMPLIANCE

9.1.Block Diagram of Test Setup



9.2.Limit

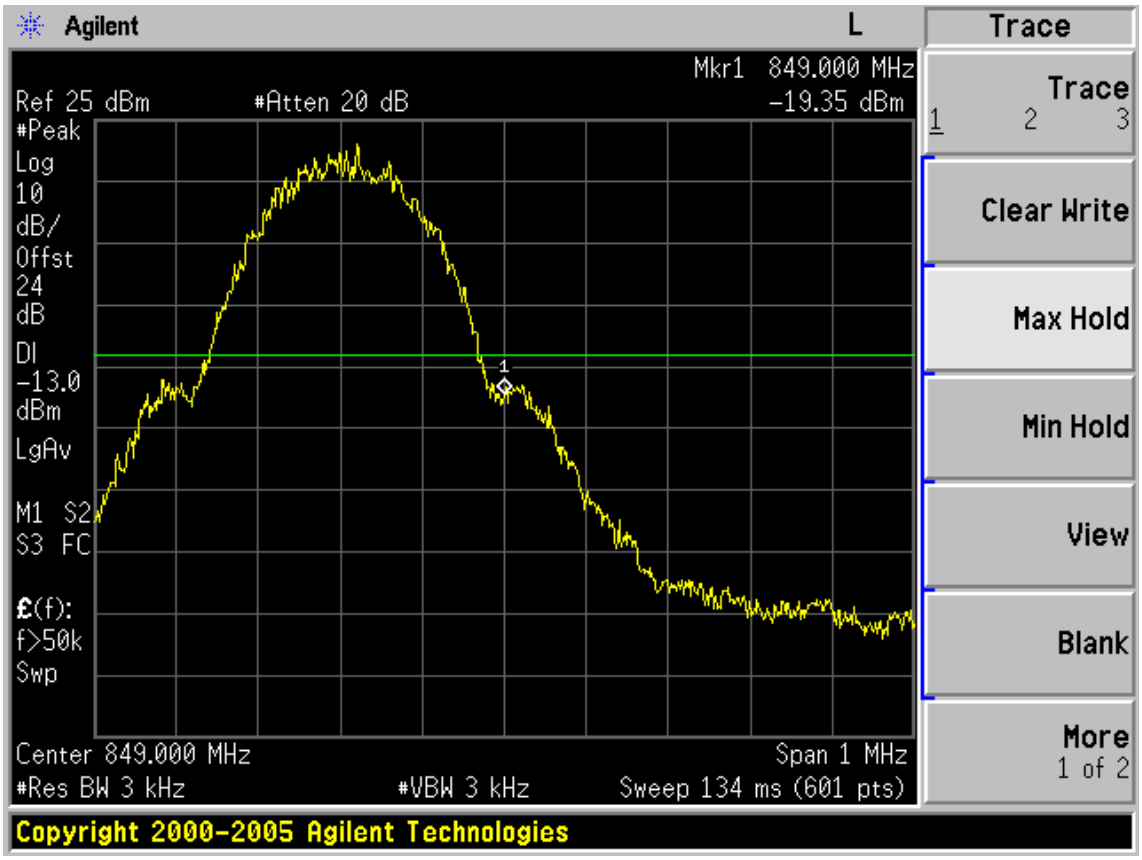
The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency outside the frequency band by at least (43 + 10 log P) dB, in this case, -13dBm.

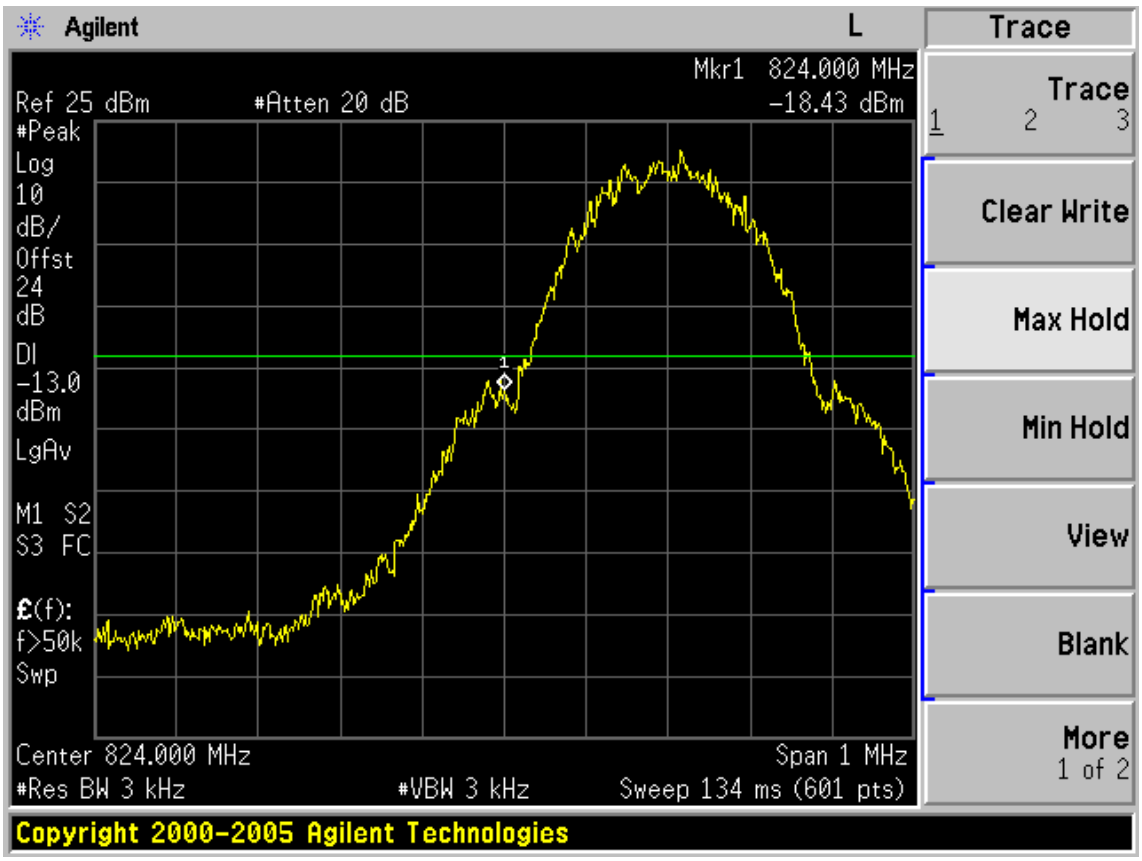
9.3.Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The band edges of low and high channels for the highest RF powers were measured.

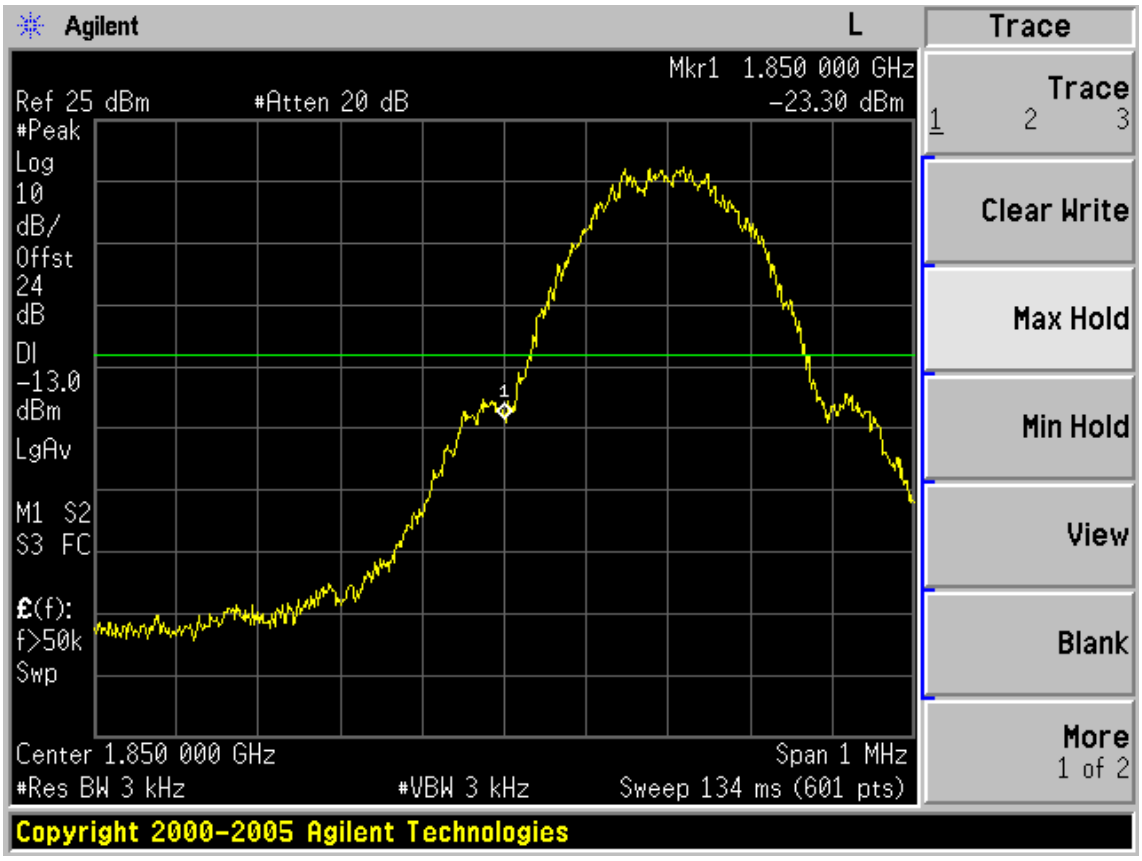
9.4.Test Results

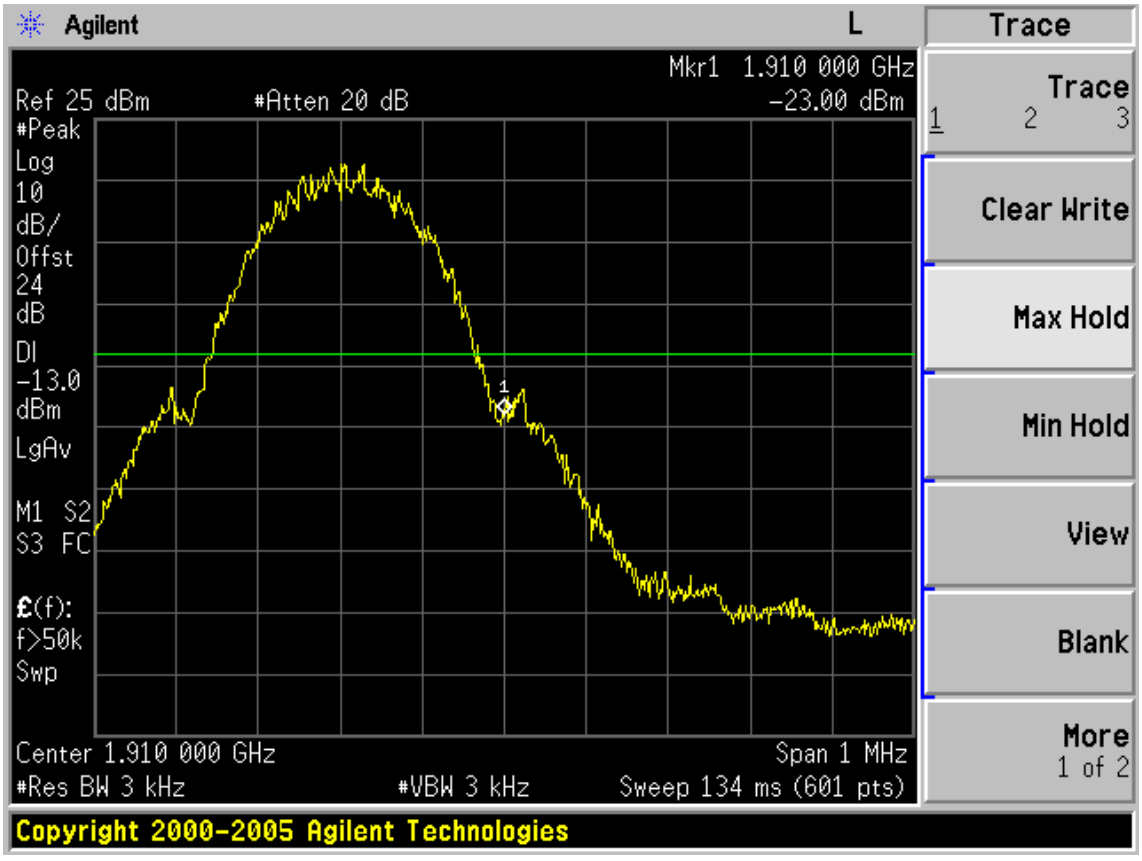
Test Mode: GPRS 850



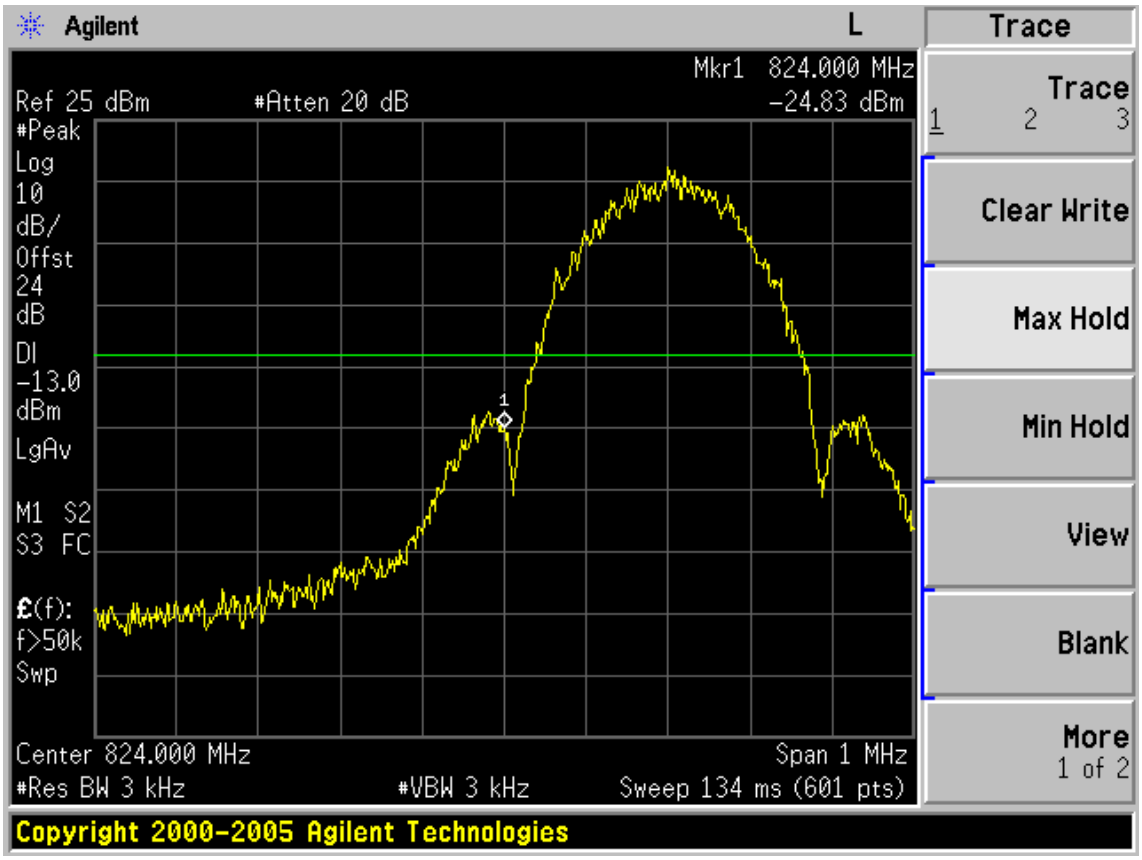


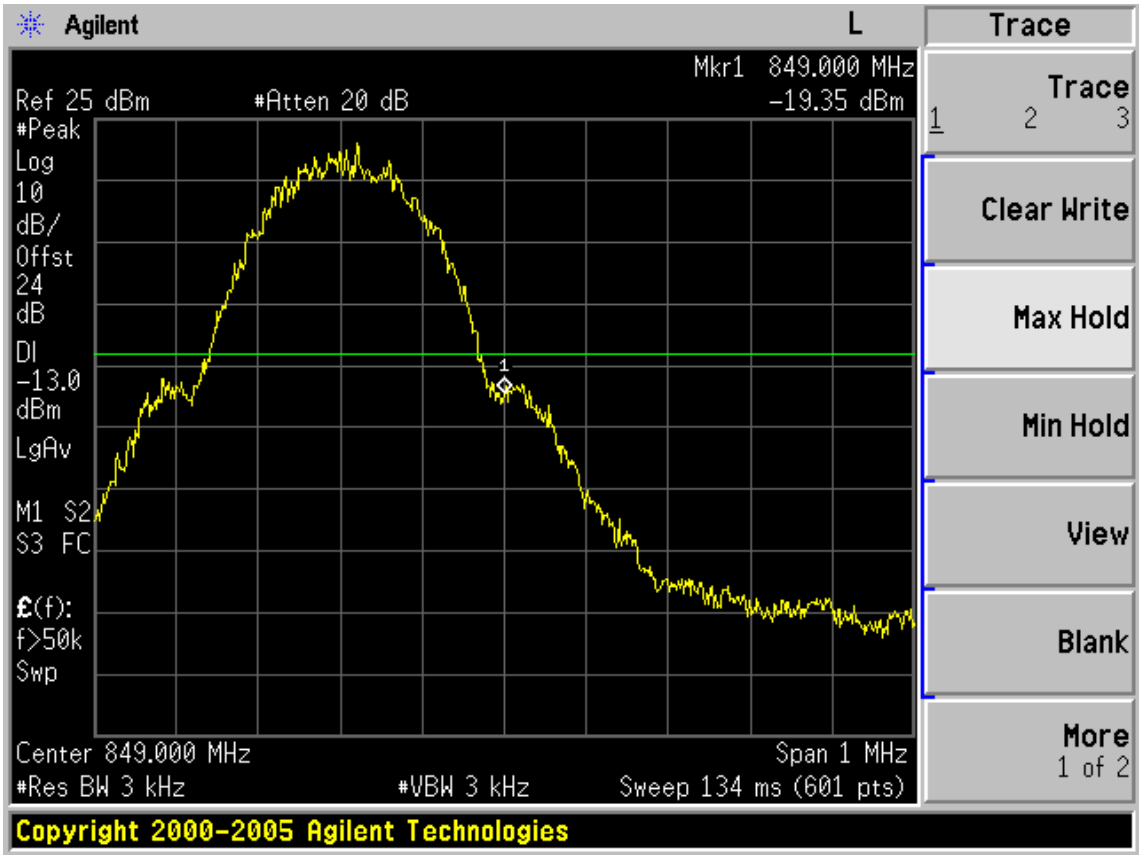
Test Mode: GPRS 1900



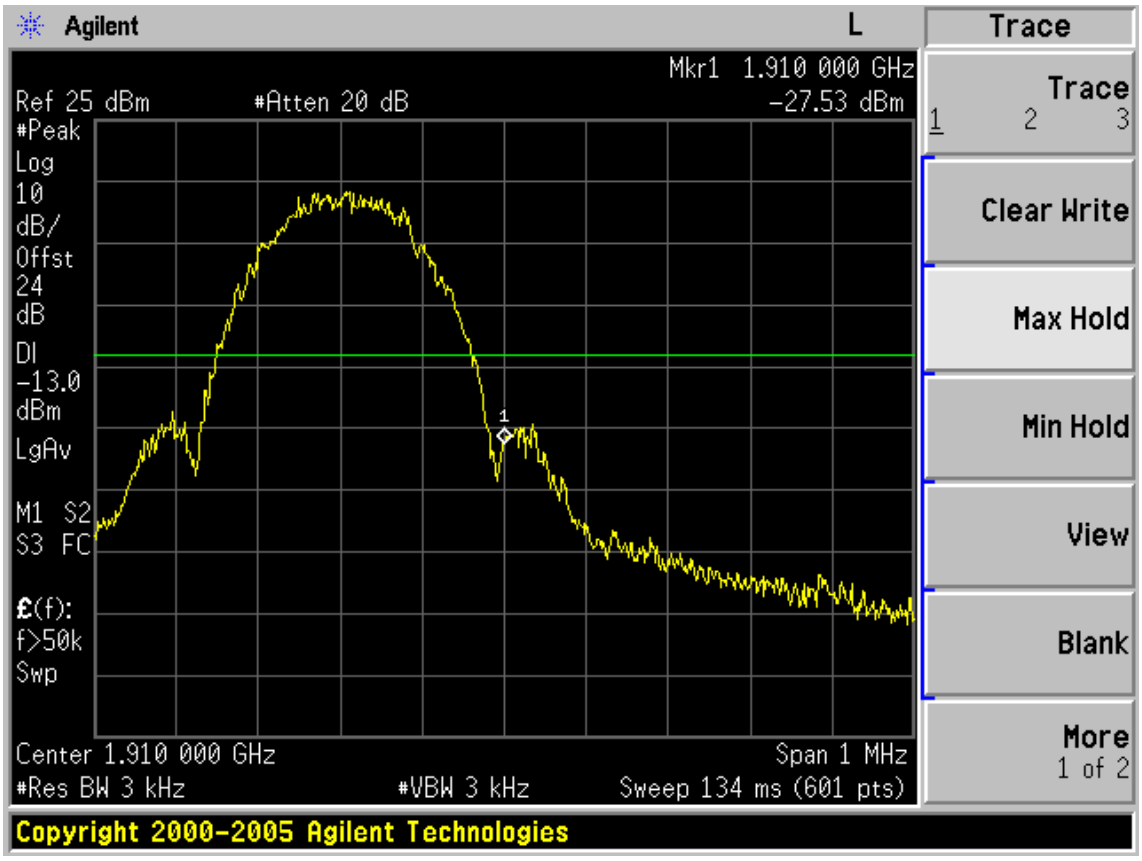


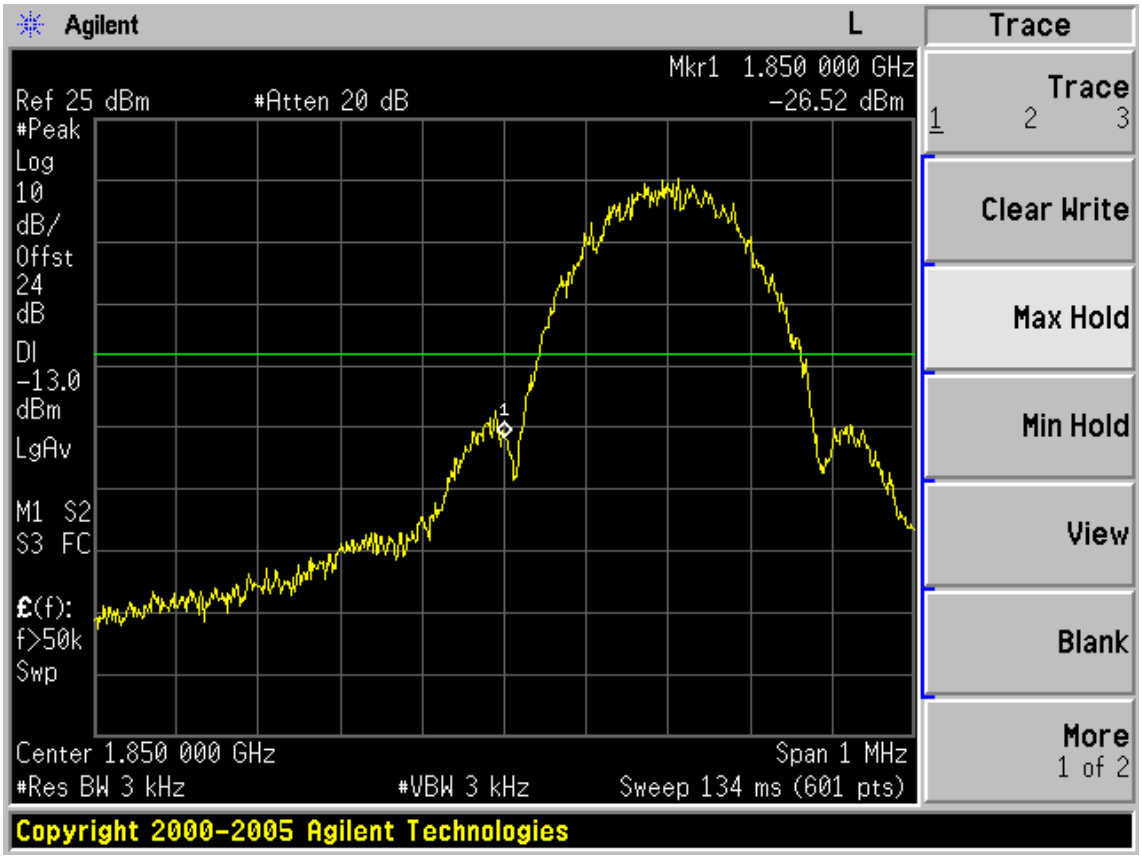
Test Mode: EDGE 850



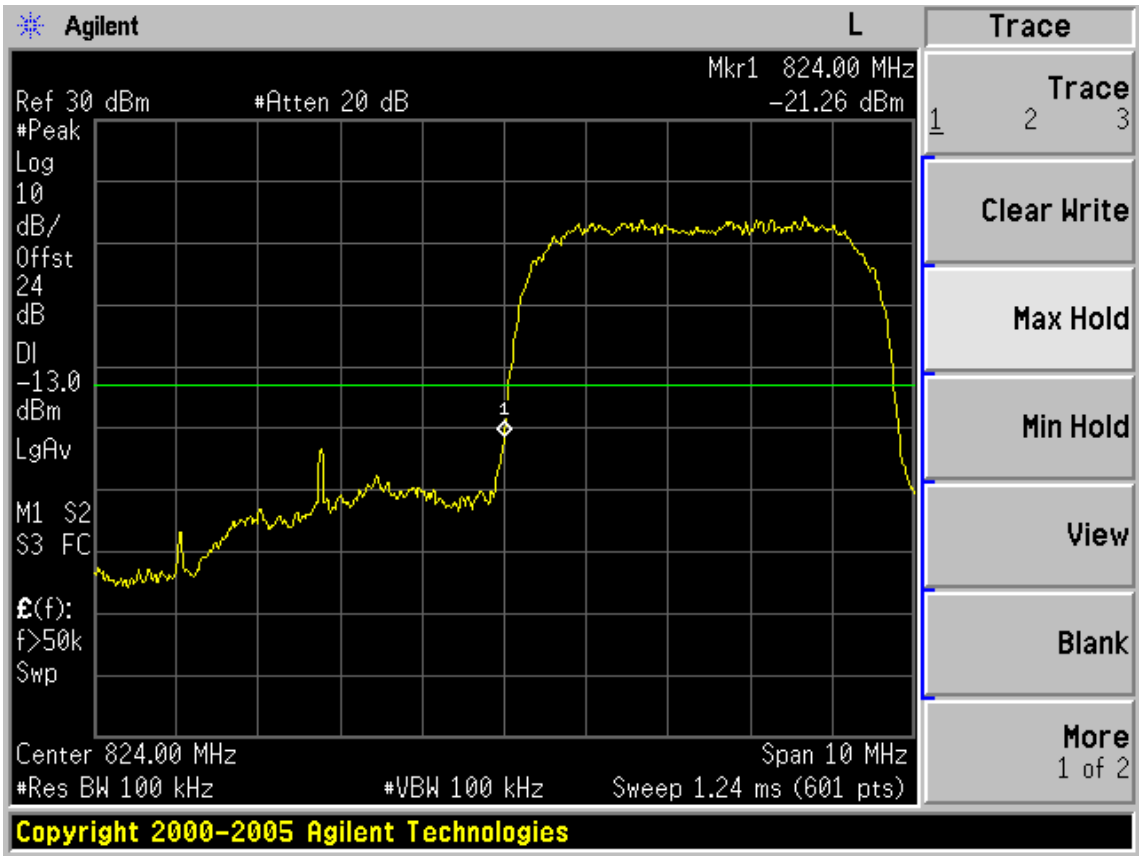


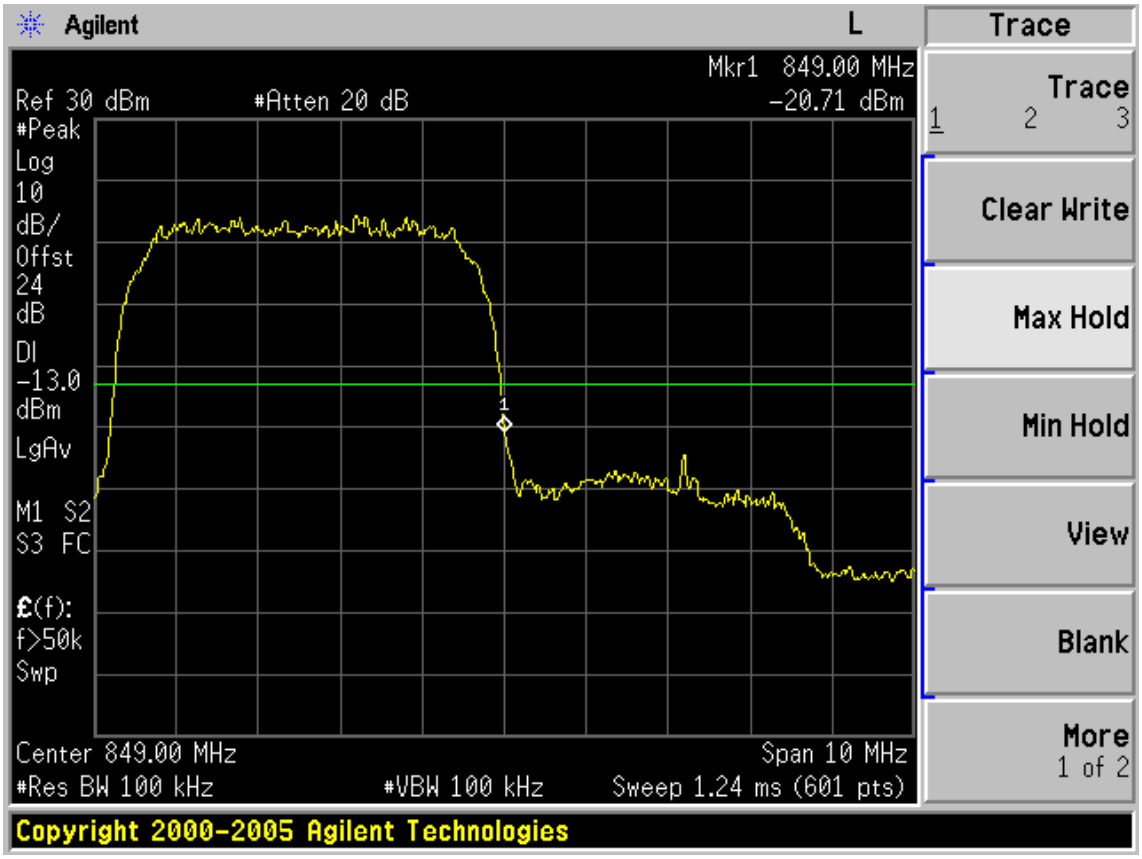
Test Mode: EDGE 1900



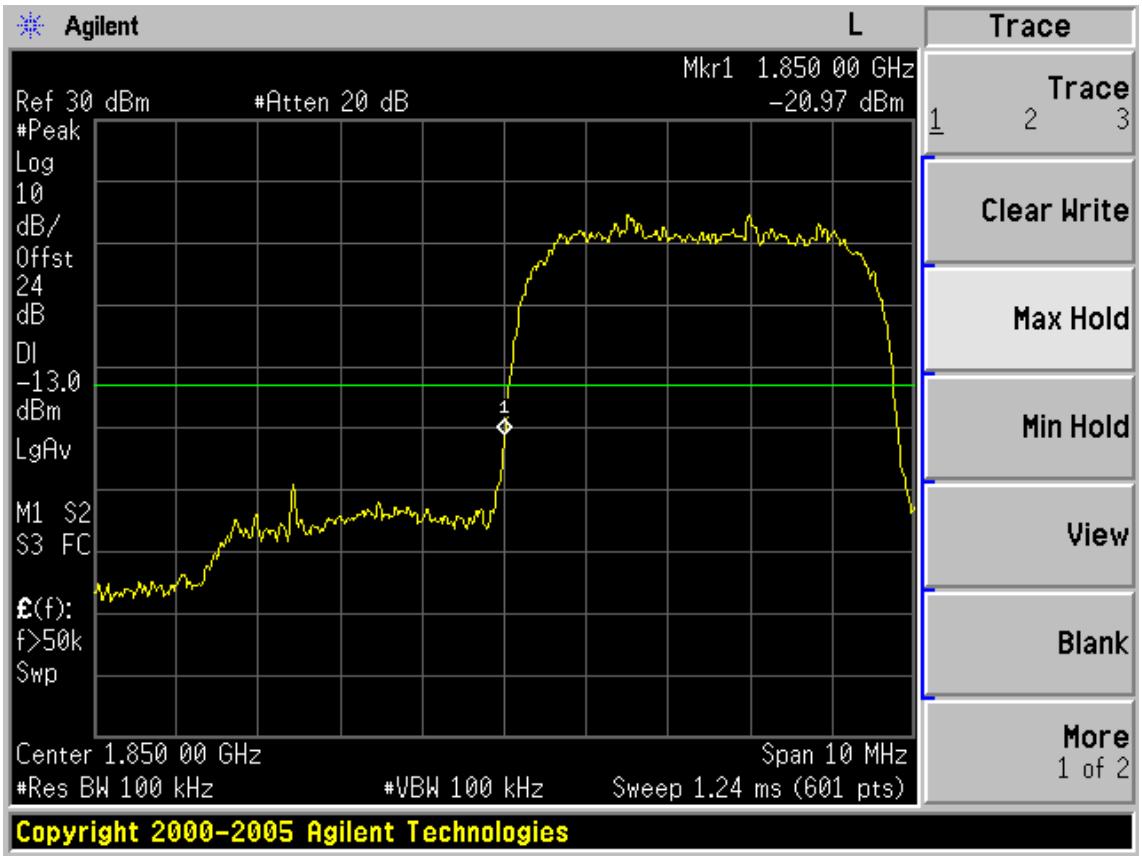


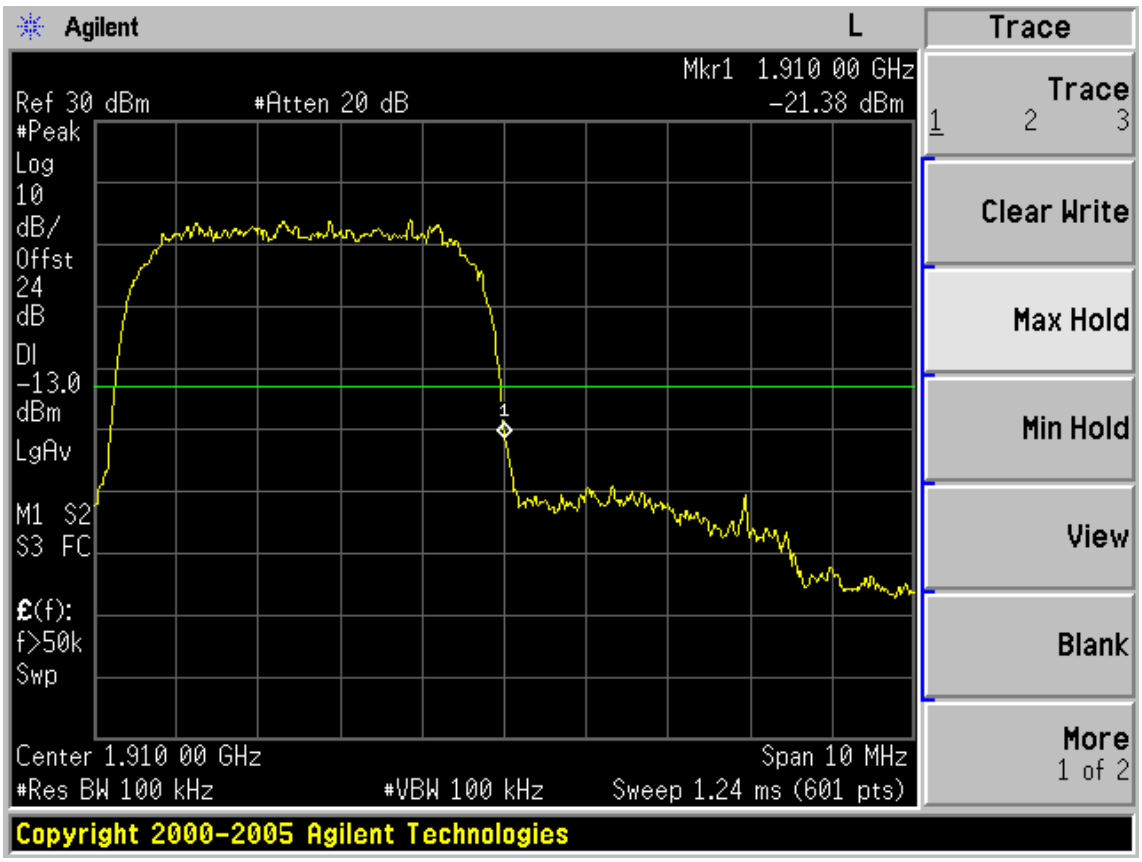
Test Mode: WCDMA 850





Test Mode: WCDMA 1900

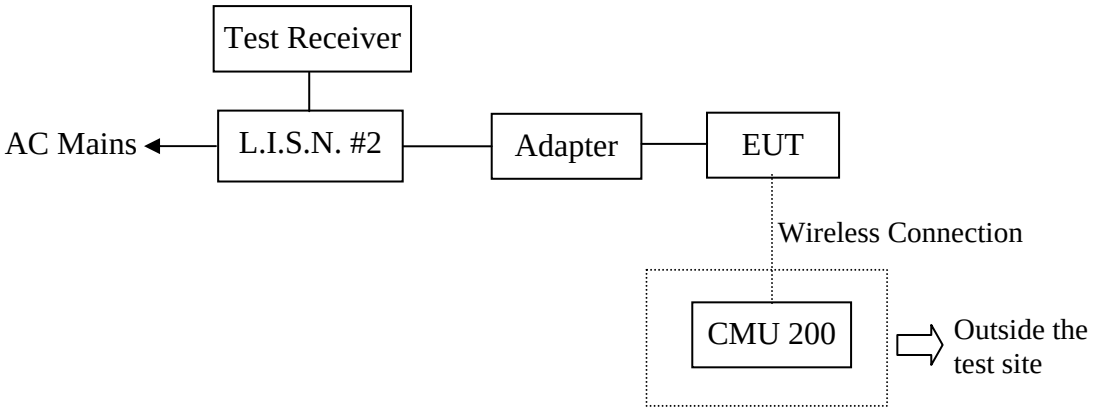




10.POWER LINE CONDUCTED EMISSION TEST

10.1.Block Diagram of Test Setup

Block diagram of connection between the EUT and Supporting System



(EUT: BNRZ100)

10.2.Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

10.3.Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

10.4.Operating Condition of EUT

10.4.1.Setup the EUT and simulator as shown as Section 3.2.

10.4.2.Turned on the power of all equipment.

10.4.3.Base station control EUT work in Tx mode.

10.5.Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via Adapter connected to the power mains through a line impedance stabilization network (L.I.S.N. 2#). The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2003 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS20) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

The test result are reported on Section 3.7.,

10.6.Power Line Conducted Emission Test Results

PASS.

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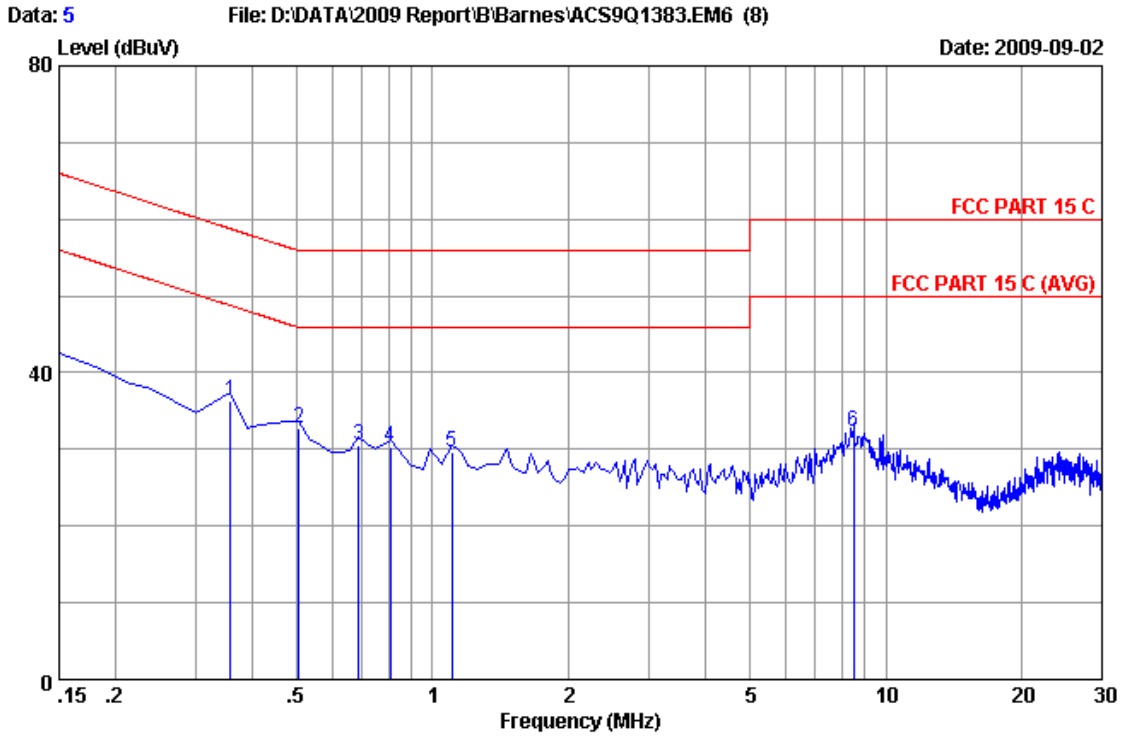
Postcode:518057



Site no :Audix No.1 Conduction Data no :5
Dis./Ant. :** 2009 KNW407 VA
Limit :FCC PART 15 C
Env./Ins. :Temp:23'C Humi:54% Engineer :Paul Tian
EUT :BNRZ100 M/N:BNRZ100
Power Rating :DC 5V From Adapter input 120V/60Hz
Test Mode :Tx

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.35895	0.36	9.89	26.09	36.34	58.75	22.41	QP
2	0.50820	0.34	9.89	22.44	32.67	56.00	23.33	QP
3	0.68730	0.36	9.89	20.35	30.60	56.00	25.40	QP
4	0.80670	0.35	9.89	20.01	30.25	56.00	25.75	QP
5	1.105	0.33	9.89	19.41	29.63	56.00	26.37	QP
6	8.508	0.41	9.94	22.07	32.42	60.00	27.58	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)+Reading
2.If the average limit is met when useing a quasi-peak detector.
the EUT shall be deemed to meet both limits and measurement
with average detector is unnecessary.

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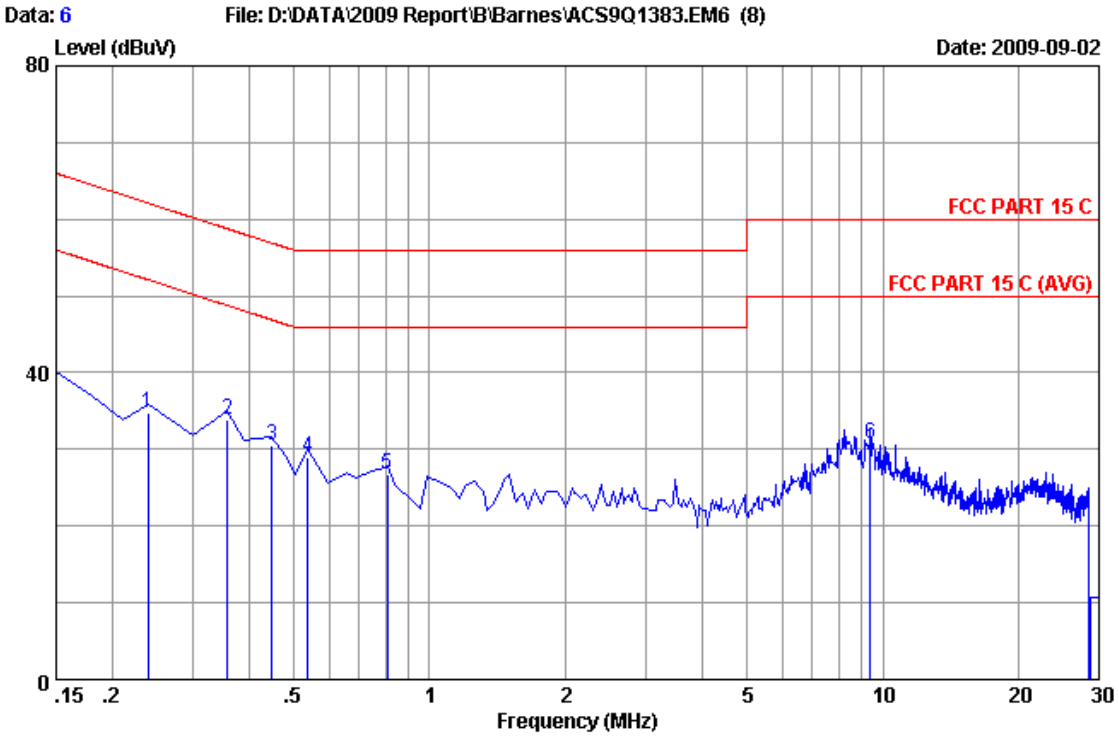

Site no :Audix No.1 Conduction Data no :6
Dis./Ant. :** 2009 KNW407 VB
Limit :FCC PART 15 C
Env./Ins. :Temp:23'C Humi:54% Engineer :Paul Tian
EUT :BNRZ100 M/N:BNRZ100
Power Rating :DC 5V From Adapter input 120V/60Hz
Test Mode :Tx

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.23955	0.43	9.88	24.55	34.86	62.11	27.25	QP
2	0.35895	0.37	9.89	23.63	33.89	58.75	24.86	QP
3	0.44850	0.35	9.89	20.37	30.61	56.90	26.29	QP
4	0.53805	0.35	9.89	18.74	28.98	56.00	27.02	QP
5	0.80670	0.35	9.89	16.54	26.78	56.00	29.22	QP
6	9.404	0.44	9.94	20.39	30.77	60.00	29.23	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)+Reading
2.If the average limit is met when useing a quasi-peak detector.
the EUT shall be deemed to meet both limits and measurement
with average detector is unnecessary.

11.DEVIATION TO TEST SPECIFICATIONS

[NONE]