SAMSUNG ELECTRONICS Co., Ltd.,
Regulatory Compliance Group
IT R&D Center
416 Maetan3-Dong,
Yeongtong-gu, Suwon city,
Gyeonggi-Do, Korea 442-742

FCC CFR47 PART 24 SUBPART CERTIFICATION REPORT

Model Tested:	**SPH-M250**
FCC ID (Requested):	**A3LSPHM250**
Report No:	**FD-069-R1**
Job No:	**FD-069**
Date issued:	**May 02, 2006**

- Abstract –
All measurement reported herein accordance with FCC Rules, 47CFR Part2, Part24.

Prepared By	YE PARK – Test Engineer	**Date**	2006.05.03
Checked By	WW JANG – Manager	**Date**	2006.05.03
Authorized By	SH PARK – Senior Manager	**Date**	2006.05.03

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MEASUREMENT REPORT

1. FCC Certification Information

The following information is in accordance with FCC Rules, 47CFR Part2, Subpart J, Sections 2.1033 – 2.1055.

1.1 §2.1033 General Information

• Applicant Name:	SAMSUNG ELECRONICS CO., LTD.
• Address:	416 Maetan3-Dong, Yeongtong-gu, Suwon City Gyeonggi-Do, Korea 443-742
• Attention:	SungJoo KIM, Engineering Manager (QA Lab)
• FCC ID:	A3LSPHM250
• Quantity:	Quantity production is planned
• Emission Designators:	1M25F9W
• Tx Freq. Range:	1851.25-1908.75MHz (PCS CDMA)
• Rx Freq. Range:	1931.25-1988.75 MHz (PCS CDMA)
• Max. Power Rating:	0.254 W EIRP PCS CDMA (24.04 dBm)
• FCC Classification(s):	Licensed Portable Tx Held to Ear (PCE)
• Equipment (EUT) Type:	Single-Mode PCS CDMA Phone with Bluetooth
• Modulation(s):	CDMA
• Frequency Tolerance:	±0.00025% (2.5ppm)
• FCC Rule Part(s):	§24(E), §2.
• Dates of Test:	April 25-26, 2006
• Place of Test:	SAMSUNG Lab,
• Test Report S/N:	FD-069-R1

2. INTRODUCTION

2.1 General

These measurement test were conducted at **SAMSUNG ELECTRONICS CO., LTD(SUWON)**.
The site address is 416 Maetan3-Dong, Yeongtong-gu, Suwon City, Gyeonggi-Do, Korea 442-742
The site have 1 Fully-anechoic chamber and measurement facility.

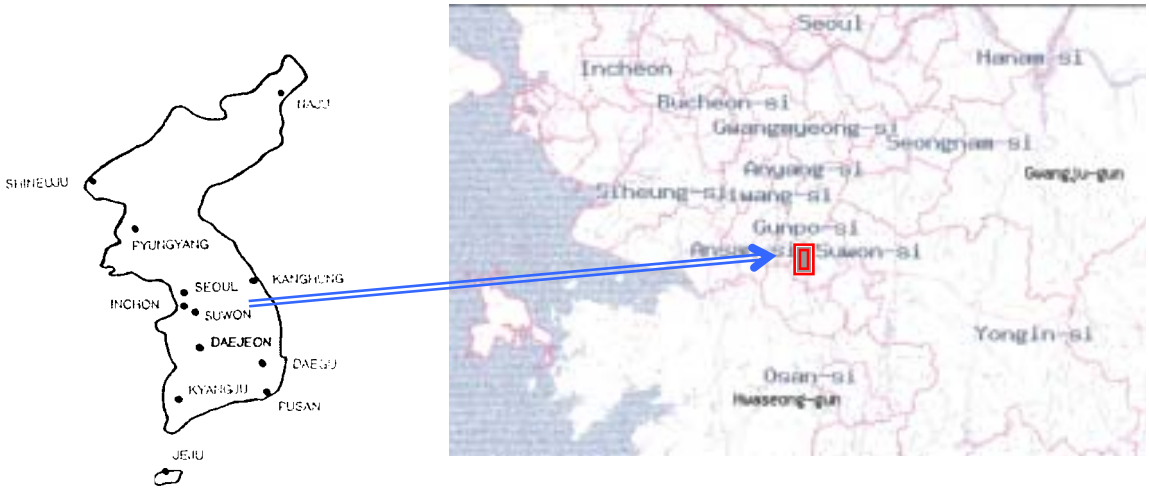


Figure1. Map of the Suwon City area.

Measurement Procedure

The radiated and spurious measurements were made Fully-anechoic chamber at a 3-meter test range (see Figure2). The equipment under testing was placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. The substitution antenna will replace the EUT antenna it the same position and in vertical polarization. The frequency of the signal generator shall be set to the frequencies that were measured on the EUT. The test antenna shall be raised and lowered, if necessary, to ensure that the maximum signal is still being received. The signal generator, output level, shall be adjusted until an equal or a known related level to what was measured from the EUT is obtained in the spectrum analyzer. This level was recorded.
For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic antenna are taken into consideration.

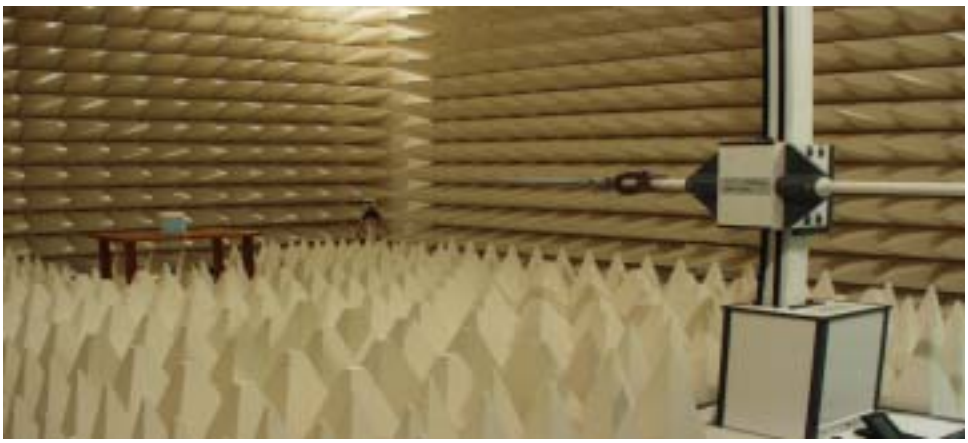


Figure2. Photograph of 3m Fully-Anechoic Chamber

3. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards**.**

- End of page -

4. TEST EQUIPMENT LIST

Name Of Equipment	Model	Serial No.	Due Date
Spectrum Analyzer	ESI26	836119/010	2006-09-26
	E4440A(3Hz~26.5GHz)	MY41000236	2006-10-13
	E4440A(3Hz~26.5GHz)	MY41000233	2006-12-21
Signal Generator	SMIQ03B	83824/021	2006-12-07
	SMR20	835197/030	2007-01-10
Power Meter	E4419B	GB41293846	2006-09-07
Power Sensor	8481B	3318A10325	2006-09-08
	8485A	3318A19924	2006-09-08
Amplifier	5S1G4	304866	2006-10-18
Pre-Amplifier	8449B	3008A00691	2007-01-02
Communication test set	8960	GB42230535	2007-01-02
	8960	GB42360886	2007-02-28
Antenna Master	MA240	240/618	Not Required
Controller	HD100	100/756	Not Required
Environmental Chamber	SH-241	92000548	2006-11-22
	SH-241	92000549	2006-11-22
Horn Antenna	HF906	360306/011	2007-03-31
Dipole Antenna	3121C-DB4	9007-587	2006-12-02
	3121C-DB4	9007-588	2006-06-04
Receive Antenna	HL040	353255/019	2006-08-24
	HL040	353255/020	2006-06-21
Divider	11636B	51941	Not Required
	11636B	51942	Not Required
	11636B	51946	Not Required
High Pass Filter	WHK1.0/15G-10SS	1	Not Required
	WHK/3.5/18G-10SS	4	Not Required
Shielded Fully Anechoic Chamber	CHAMBER	ANT0001	Not Required

5. DESCRIPTION OF TESTS

5.1 Output Power Variation

Test Condition to measure the Output Power

This device was tested under all R.C.s and S.O.s and worst case is reported with RC3/SO55, with “All Up” power control bits.

The following procedures were followed according to FCC “SAR Measurement Procedures for 3G Devices”, May 2006.

1. If the mobile station (MS) supports Reverse TCH RC 1 and Forward TCH RC 1, set up a call using Fundamental Channel Test Move 1 (RC=1/1) with 9600 bps data rate only.
2. Under RC1, C.S0011 Table 4.4.5.2-1, Table 5-1 parameters were applied.
3. If the MS supports the RC 3 Reverse FCH, RC3 Reverse SCH0 and demodulation of RC 3,4 or 5, set up a call using Supplemental Channel Test Mode 3 (RC 3/3) with 9600 bps Fundamental Channel and 9600 bps SCH0 data rate.
4. Under RC3, C.S0011 Table 4.4.5.2-2, Table 5-2 was applied.
5. FCHs were configured at full rate for maximum SAR with “All Up” power control bits.

Parameter	Units	Value
$\hat{I}$or	dBm/1.23MHz	-104
Pilot Ec/Ior	dB	-7
Traffic Ec/Ior	dB	-7.4

Table 5-1
Parameters for Max. Power for RC1

Parameter	Units	Value
$\hat{I}$or	dBm/1.23MHz	-86
Pilot Ec/Ior	dB	-7
Traffic Ec/Ior	dB	-7.4

Table 5-2
Parameters for Max. Power for RC1

Band	Channel	1x EV-DO	CDMA2000 RC	SO2	SO55	TDSO SO32
PCS	25	24.96	RC1	24.91	24.90	-
			RC3	24.94	25.01	24.96
	600	24.92	RC1	24.80	24.87	-
			RC3	24.86	24.92	24.89
	1175	24.93	RC1	24.90	24.85	-
			RC3	24.91	24.95	24.93

Table 5-3
Maximum Power Output Table for SPH-M250

5.2 Effective Radiated Power / Equivalent Isotropic Radiated Power

Test Set-up for the ERP/EIRP TEST

Effective Radiated Power Output and Equivalent Isotropic Radiated Power output Measurements by Substitution Method according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

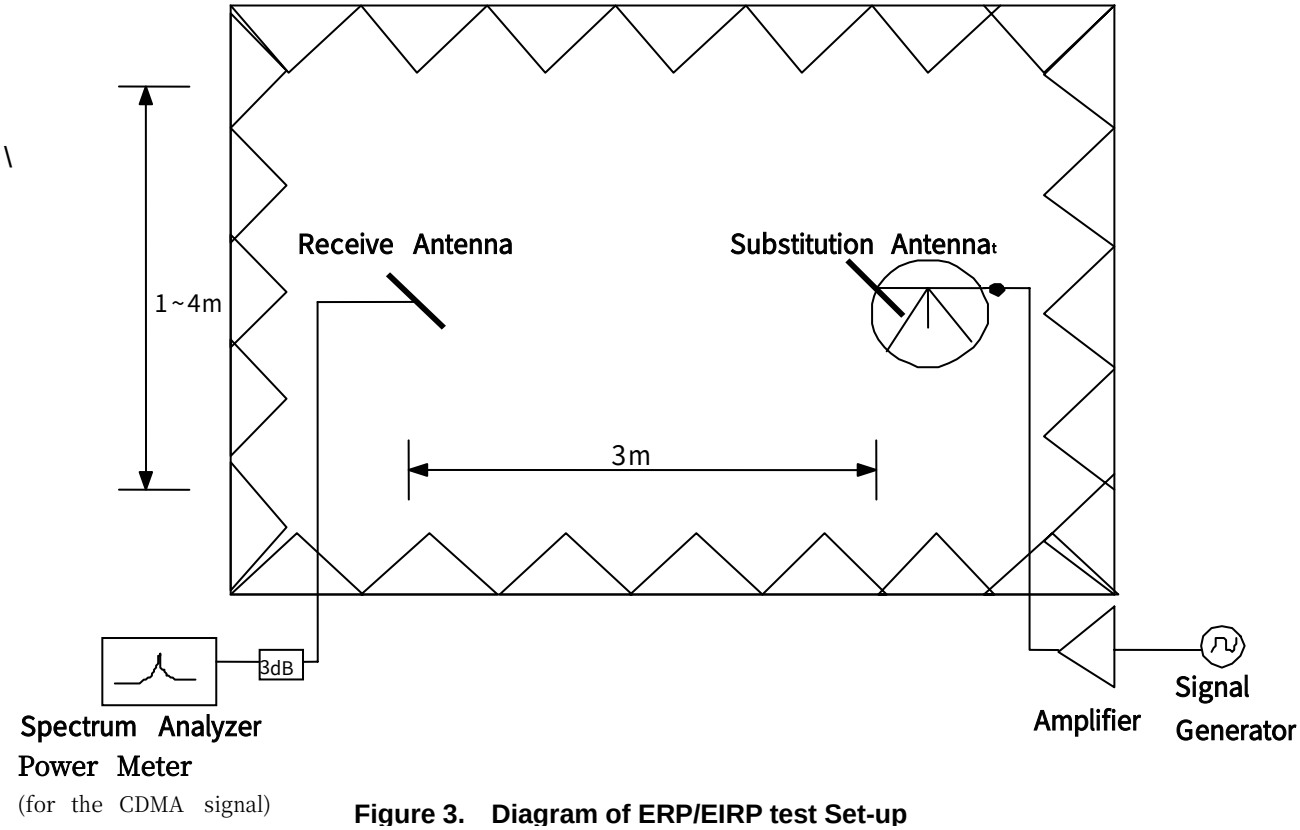


Figure 3. Diagram of ERP/EIRP test Set-up

The EUT was placed on a Non-conducted turntable 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA & PCS signals, an average detector is used, with RBW=VBW=3MHz, SPAN=10MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of dipole is measured. The ERP is recorded.

5.3 Radiated Spurious & Harmonic Emission

Test Set-up for the Radiated Emission TEST

Radiated Spurious Emission Measurements by Substitution Method according to

ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001

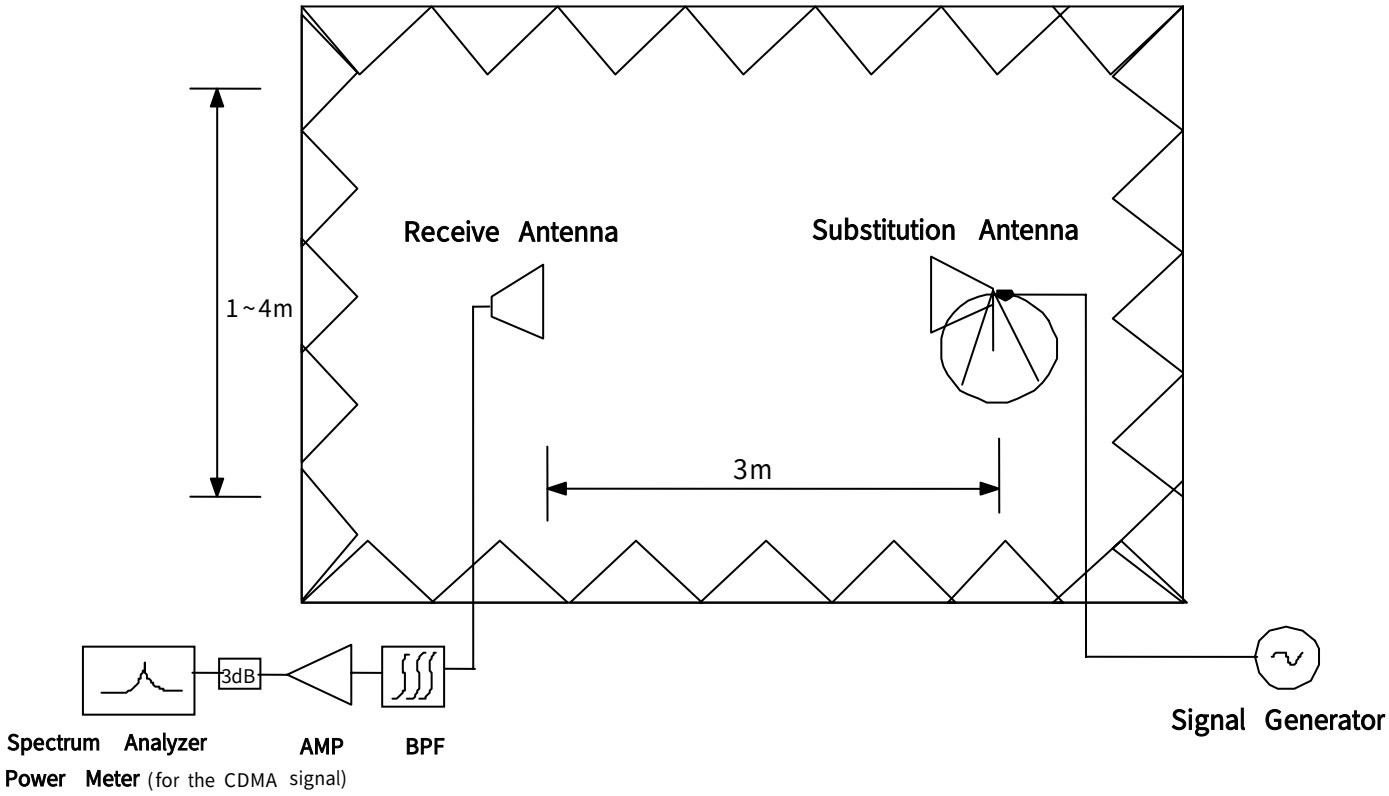


Figure 4. Diagram of Radiated Spurious & Harmonic test Set-up

The EUT was placed on a Non-conducted turntable 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. The Spectrum was investigated from 30MHz to the 10th Harmonic of the fundamental. A peak detector is used, with RBW=VBW=1MHz. The value that we could measure was only reported A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

SAMPLE CALCULATION

Example: Channel 600 PCS Mode 2nd Harmonic(3760MHz)

The receive analyzer reading at 3meters with the EUT on the turntable was –81.0dBm. The gain of the substituted antenna is 8.1dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of –81.0dBm of the receive analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0dB at 3760MHz. So 6.1dB is added to the signal generator reading of –30.9dBm yielding –24.8dBm. The fundamental EIRP was 25.5dBm so this harmonic was 25.5dBm –(-24.8)= 50.3dBc .

- End of page -

5.4 Occupied Bandwidth

Test Procedure

The EUT was setup to maximum output power at its lowest channel. The occupied bandwidth was measured using a spectrum analyzer. The measurements are repeated for the highest and a middle channel. The EUT's occupied bandwidth is measured as the width of the signal between two points, one below the carrier center frequency and one above the carrier frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power.
Plots of the EUT's occupied bandwidth are shown herein.

5.5 Spurious and Harmonic Emissions at Antenna Terminal

5.5.1 Occupied Bandwidth Emission Limits

(a) On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB.

(b) Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

(c) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.

(d) The measurement of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

- End of page -

BLOCK	Freq. Range (MHz) Transmitter (Tx)	Freq. Range (MHz) Receiver (Rx)
A	1850 – 1865	1930 – 1945
B	1870 – 1885	1950 – 1965
C	1895 – 1910	1975 – 1990
D	1865 – 1870	1945 – 1950
E	1885 – 1890	1965 – 1970
F	1890 – 1895	1970 – 1975

Table 1. Broadband PCS Service Frequency Blocks

BLOCK	Freq. Range (MHz) Transmitter (Tx)	Freq. Range (MHz) Receiver (Rx)
A* Low + A	824 – 835	869 – 880
B	835 – 845	880 – 890
A* High	845 – 846.5	890 – 891.5
B*	846.5 – 849	891.5 – 894

Table 2. Cellular Service Frequency Blocks

5.5.2 Conducted Spurious Emission

Minimum standard:
On any frequency outside a license frequency block, the power of any emission shall be attenuated below the transmitter power(P) by at least 43+10log (P)dB. Limit equivalent to –13dBm, calculation shown below.

43 + 10log (0.240 W) = 36.80dB
23.80 dBm –36.80 dB = -13 dBm

Test Procedure:

The EUT was setup to maximum output power at its lowest channel. The Resolution BW of the analyzer is set to 1% of the emission bandwidth to show compliance with the –13dBm limit, in the 1MHz bands immediately outside and adjacent to the edge of the frequency block. The measurements are repeated for the EUT's highest channel. For the Out-of-Band measurements a 1MHz RBW was used to scan from 10MHz to 10GHz. (PCS Mode : 10MHz to 20GHz). A display line was placed at –13dBm to show compliance. The high, lowest and a middle channel were tested for out of band measurements.
Plots are shown herein.

5.6 Frequency Stability / Temperature Variation

The frequency stability of the transmitter is measured by:

a.) Temperature: The temperature is carried from -30°C to +60°C using an environmental chamber.
b.) Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the voltage normally at the input to the device or at the power supply terminals if cables are not normally supplied.

Specification- The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025 (±2.5ppm) of the center frequency.

Time Period and Procedure:

1. The carrier frequency of the transmitter and the individual oscillators is measured at room temperature(25°C to 27°C to provide a reference).
2. The equipment is subjected to an overnight “soak” at -30°C without any power applied.
3. After the overnight “soak” at -30°C (Usually 14~16 hours), the equipment is turned on in a “standby” condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter and the individual oscillators is made within a three minute interval after applying to the transmitter.
4. Frequency measurements are made at 10°C interval up to room temperature. At least a period of one and one half-hour is provided to allow stabilization of the equipment at each temperature level.
5. Again the transmitter carrier frequency and the individual oscillators is measured at room temperature to begin measurement of the upper temperature levels.
6. Frequency measurements are at 10 intervals starting at -30°C up to +60°C allowing at least two hours at each temperature for stabilization. In all measurements the frequency is measured within three minutes after re-applying power to the transmitter.
7. The artificial load is mounted external to the temperature chamber.

NOTE : The EUT is tested down to the battery endpoint.

- End of page -

6. TEST DATA

6.1 Equivalent Isotropic Radiated Power(E.I.R.P.)

Supply Voltage : 3.7VDC

Modulation : PCS

■Reference level

Frequency (MHz)	Output (dBm)	Polarization	P/M (dBm)	Ant gain (dBi)	Ref level (dBm)
1851.25	24.00	H	-17.33	8.42	-25.75
		V	-17.37	8.42	-25.79
1880.00	24.00	H	-17.71	8.25	-25.96
		V	-17.92	8.25	-26.17
1908.75	24.00	H	-17.53	8.40	-25.93
		V	-17.58	8.40	-25.98

■Result

Frequency (MHz)	From EUT Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	EIRP (dBm)	EIRP (W)	Battery
1851.25	-27.78	H1	58	21.97	0.157	Standard
1880.00	-26.16	H1	39	23.80	0.240	Standard
1908.75	-27.27	H1	37	22.66	0.185	Standard

NOTE : Standard batteries are the only battery options for this phone

Radiated measurements at 3 meters by Substitution Method

6.2 PCS CDMA Radiated Spurious & Harmonic measurement

Field Strength of SPURIOUS Radiation

Operating Frequency : 1851.25 MHz(Low), 1880.00 MHz(Middle), 1908.75MHz(High)

Measured Output Power : 23.80 dBm = 0.240 W

Modulation Signal : PCS

Limit : 43 + 10log$_{10}$(P) = 36.80 dBc

■ **Result**

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	POL (H/V)	Result (dBc)
25	2	3702.50	-47.51	H2	44.09
	3	5553.75	-56.20	H1	47.56
	4	7405.55	-65.75	H2	53.85
	5	9256.25	-68.28	H1	52.77
	6	11107.50	-	-	-
	7	12958.75	-	-	-
600	2	3760.00	-42.68	H2	39.99
	3	5640.00	-56.70	H2	48.68
	4	7520.00	-66.19	H2	54.40
	5	9400.00	-68.68	H2	53.20
	6	11280.00	-	-	-
	7	13160.00	-	-	-
1175	2	3817.50	-45.08	H2	40.20
	3	5726.25	-63.21	H2	54.08
	4	7635.00	-68.21	H2	54.98
	5	9543.75	-68.83	H2	53.23
	6	11452.50	-	-	-
	7	13361.25	-	-	-

Radiated Spurious Emission measurements at 3 meters by Substitution Method

6.3 PCS Radiated Spurious & Harmonic Conversion Table

Date : 2006 . 04. 25

Test Engineer : YE PARK

① Tx Cable loss
② Tx Horn Ant Gain
③ Rx Cable loss + HPF Insertion loss + Attenuator
④ Pre-Amp gain
⑤ Air loss
⑥ Tested Level from EUT
⑦ = ⑥ + ⑤ + ③ - ④
⑧ = EIRP - ⑦

CH	Har	Frequency (MHz)	① Tx CL (dB)	② Horn Gain (dB)	Tx Level @ (S/G 10dBm)	⑥ Tested Level EUT : H (dBm)	⑥ Tested Level EUT : V (dBm)	⑦ Amplitude of Emission EUT : H (dBm)	⑦ Amplitude of Emission EUT : V (dBm)	⑧ Result EUT : H (dBc)	⑧ Result EUT : V (dBc)
25	2	3702.50	11.76	9.73	7.97	-47.51	-50.69	-20.29	-23.51	44.09	47.31
	3	5553.75	15.94	11.15	5.21	-56.20	-60.57	-23.76	-28.53	47.56	52.33
	4	7405.00	19.12	11.44	2.32	-65.75	-65.48	-30.05	-30.49	53.85	54.29
	5	9256.25	22.94	12.17	-0.77	-68.28	-68.46	-28.97	-30.07	52.77	53.87
	6	11107.50	26.65	13.66	-2.99	-	-	-	-	-	-
	7	12958.75	32.98	13.27	-9.71	-	-	-	-	-	-
600	2	3760.00	11.65	9.73	8.08	-42.68	-49.54	-16.19	-22.34	39.99	46.14
	3	5640.00	15.71	11.15	5.44	-56.70	-60.38	-24.88	-27.65	48.68	51.45
	4	7520.00	19.77	11.44	1.67	-66.19	-67.08	-30.60	-31.96	54.40	55.76
	5	9400.00	23.56	12.17	-1.39	-68.68	0.00	-29.40	38.08	53.20	-14.28
	6	11280.00	27.16	13.66	-3.50	-	-	-	-	-	-
	7	13160.00	33.38	13.27	-10.11	-	-	-	-	-	-
1175	2	3817.50	11.94	9.73	7.79	-45.08	-53.60	-16.40	-24.45	40.20	48.25
	3	5726.25	16.01	11.15	5.14	-63.21	-63.61	-30.28	-30.86	54.08	54.66
	4	7635.00	20.04	11.44	1.40	-68.21	-68.52	-31.18	-31.96	54.98	55.76
	5	9543.75	23.57	12.17	-1.40	-68.83	-69.38	-29.43	-30.22	53.23	54.02
	6	11452.50	26.91	13.66	-3.25	-	-	-	-	-	-
	7	13361.25	33.76	13.27	-10.49	-	-	-	-	-	-

6.4 Frequency Stability

6.4.1 PCS Frequency Stability Table

Operating Frequency : 1,880,000,000 Hz

Channel : 600

Reference Voltage : 3.7VDC

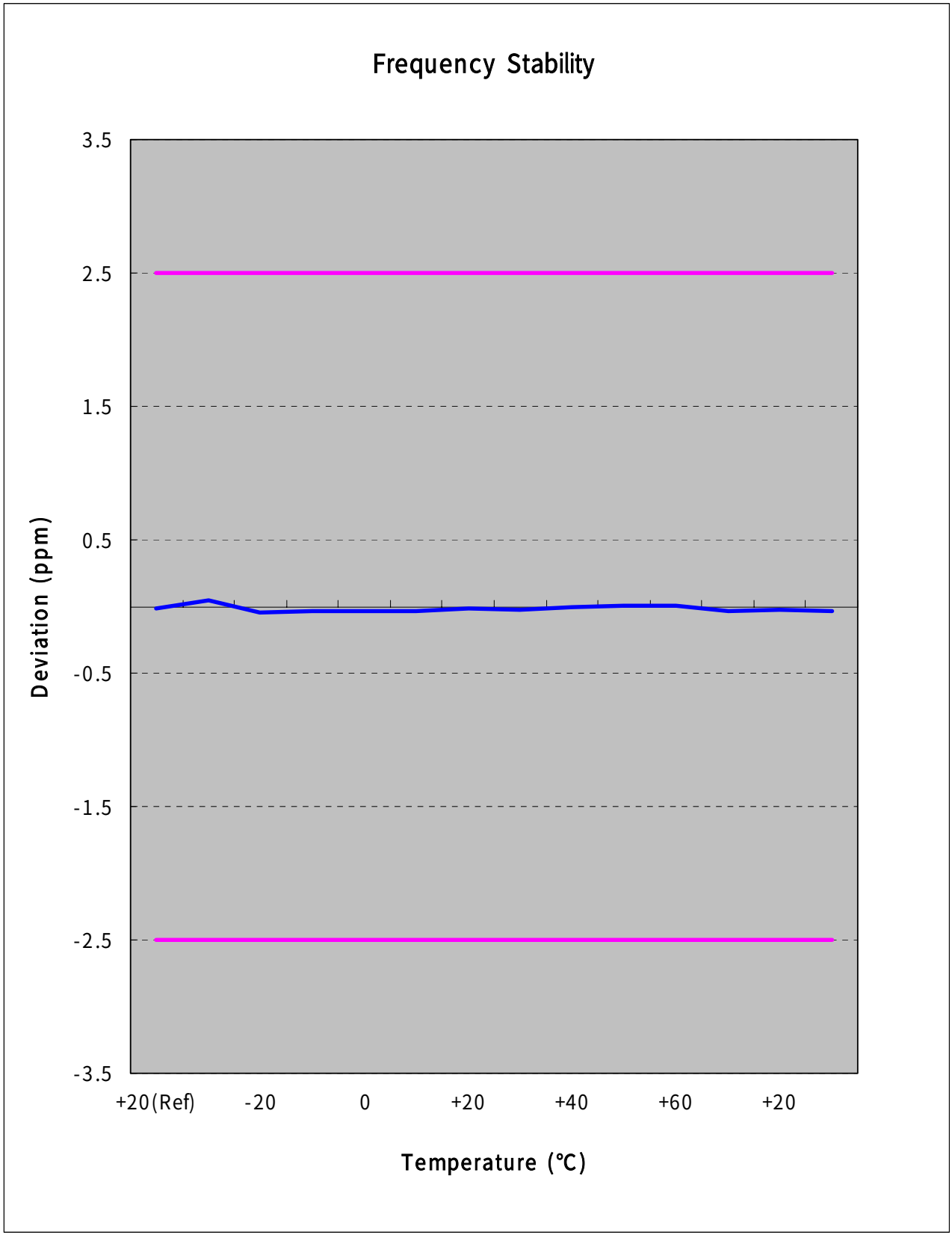
Deviation Limit : ±0.00025 % or 2.5ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency Error (Hz)	Frequency (Hz)	Deviation (%)	ppm
100%	3.70	+20(Ref)	-34.26	1,879,999,966	-0.000002	-0.018
100%		-30	79.97	1,880,000,080	0.000004	0.043
100%		-20	-83.44	1,879,999,917	-0.000004	-0.044
100%		-10	-74.94	1,879,999,925	-0.000004	-0.040
100%		0	-59.96	1,879,999,940	-0.000003	-0.032
100%		+10	-61.60	1,879,999,938	-0.000003	-0.033
100%		+20	-34.26	1,879,999,966	-0.000002	-0.018
100%		+30	-41.13	1,879,999,959	-0.000002	-0.022
100%		+40	-14.26	1,879,999,986	-0.000001	-0.008
100%		+50	3.26	1,880,000,003	0.000000	0.002
100%		+60	8.58	1,880,000,009	0.000000	0.005
85%	3.35	+20	-65.07	1,879,999,935	-0.000003	-0.035
115%	4.26	+20	-45.25	1,879,999,955	-0.000002	-0.024
Batt.Endpoint	3.35	+20	-65.07	1,879,999,935	-0.000003	-0.035

Note : The temperature is varied from -30 °C to +60 °C using an environmental chamber.

The EUT is tested down to the battery end point

6.4.2 PCS Frequency Stability Graph



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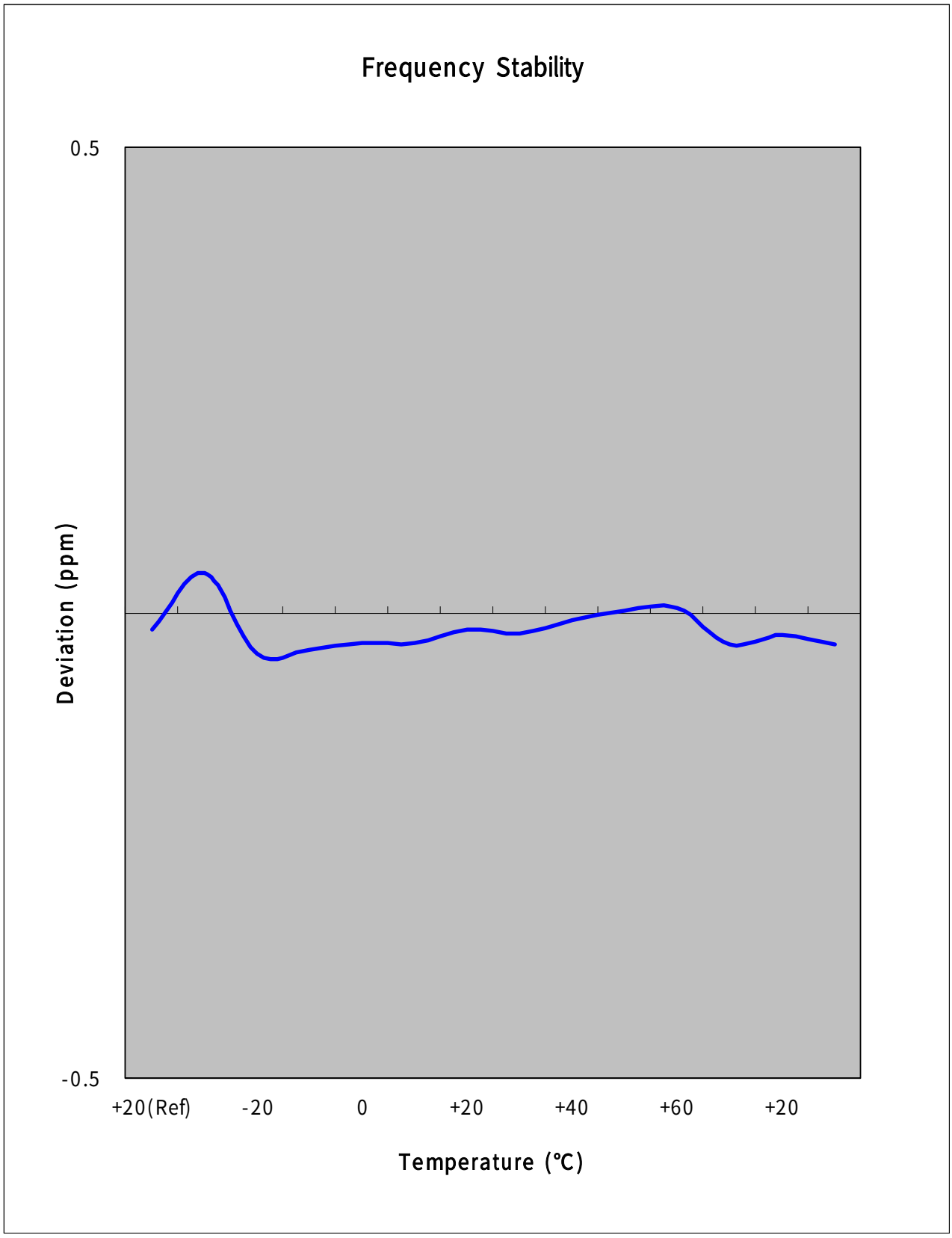
Zoom In



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7. SAMPLE CALCULATION

7.1 Emission Designator

Emission Designator = 1M25F9W

Calculation : 2M + 2DK
CDMA BW = 1.25MHz
F = Frequency Modulation
9 = Composite Digital Info
W = Combination(Audio/Data)
(Measured at the 99.75% power bandwidth)

- End of page -

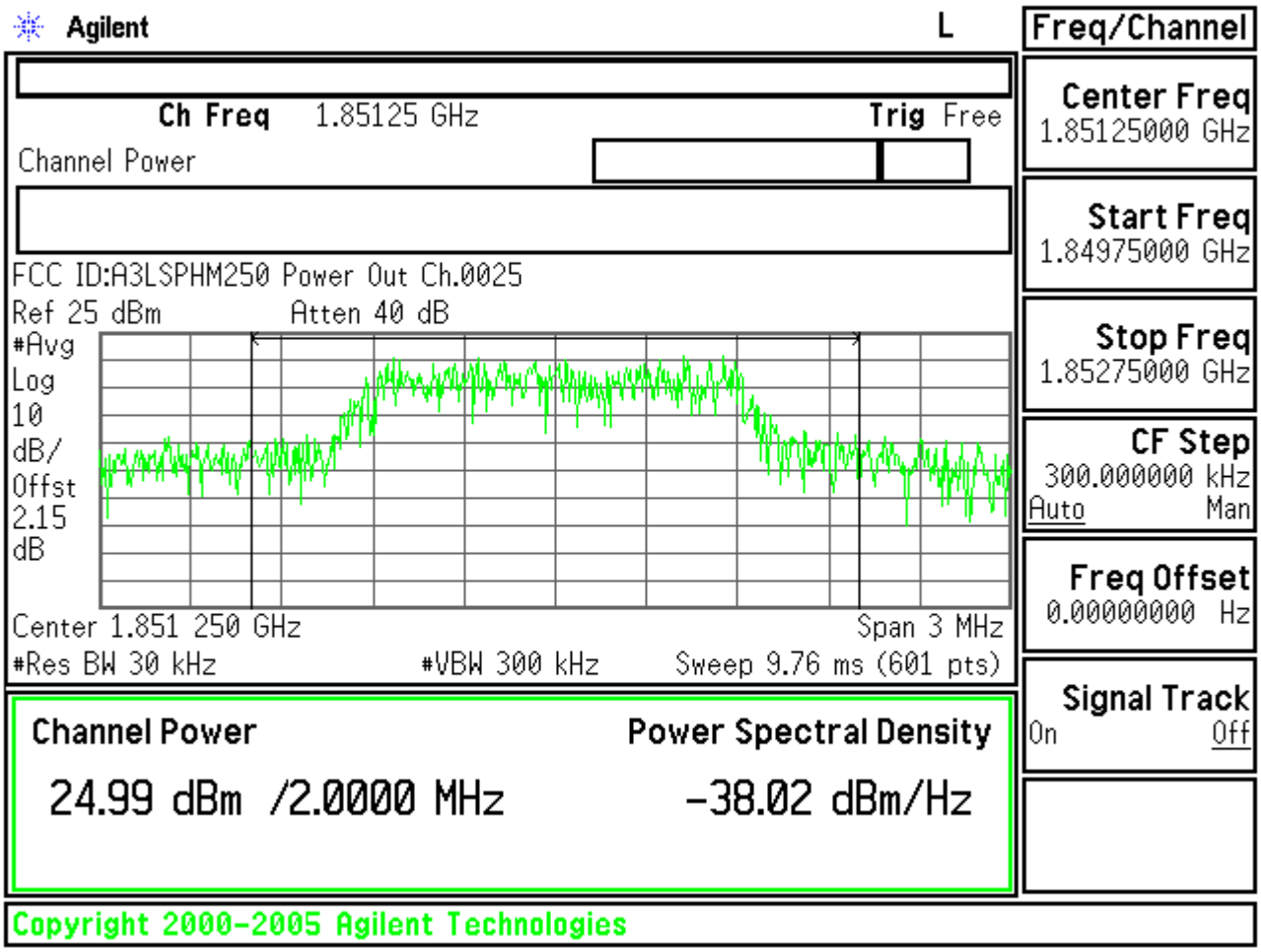
8. CONCLUSION

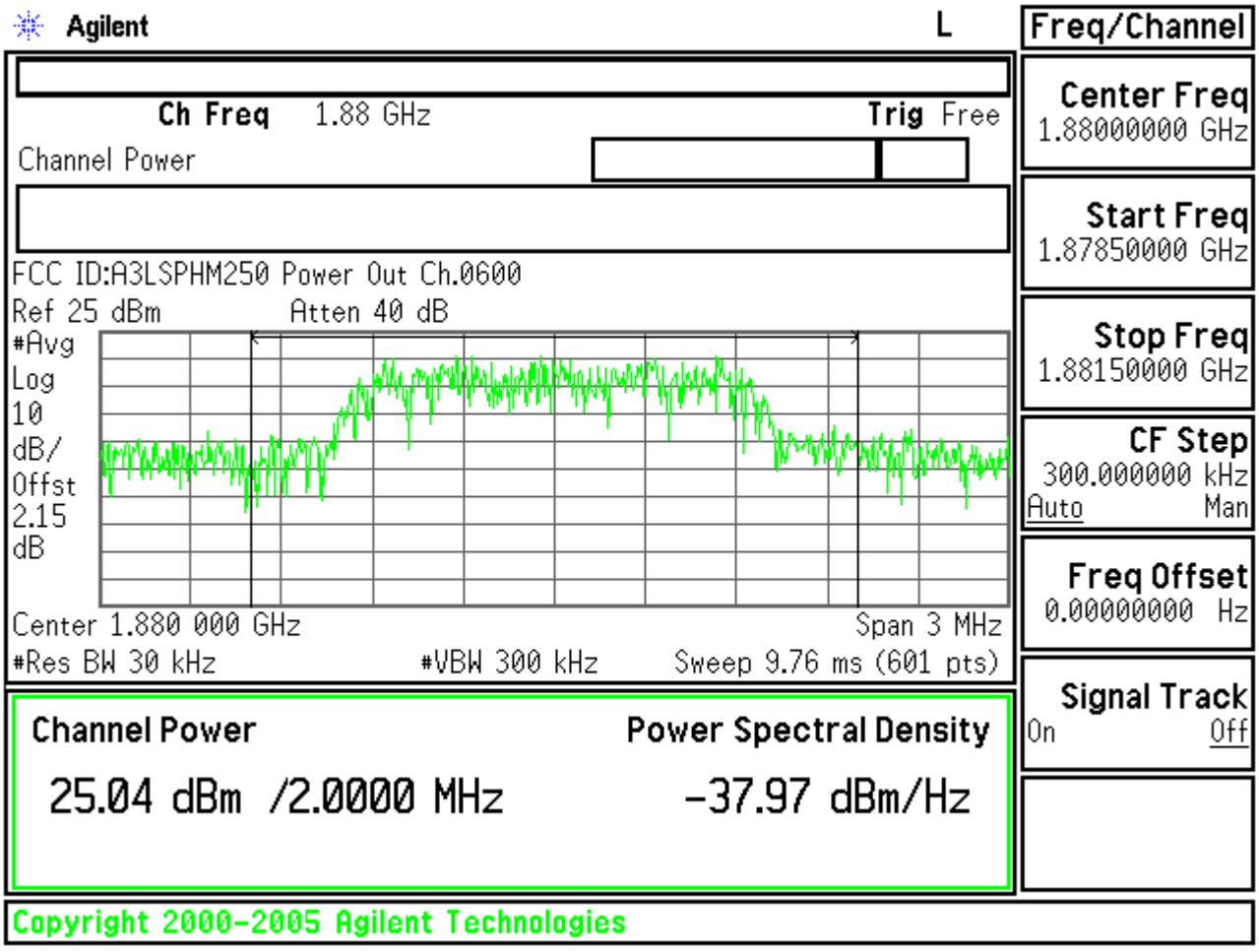
The data collected shows that the SAMSUNG Single-Mode PCS CDMA Phone with Bluetooth. FCC ID : A3LSPHM250 complies with all the requirements of Parts 2,24 of the FCC Rules.

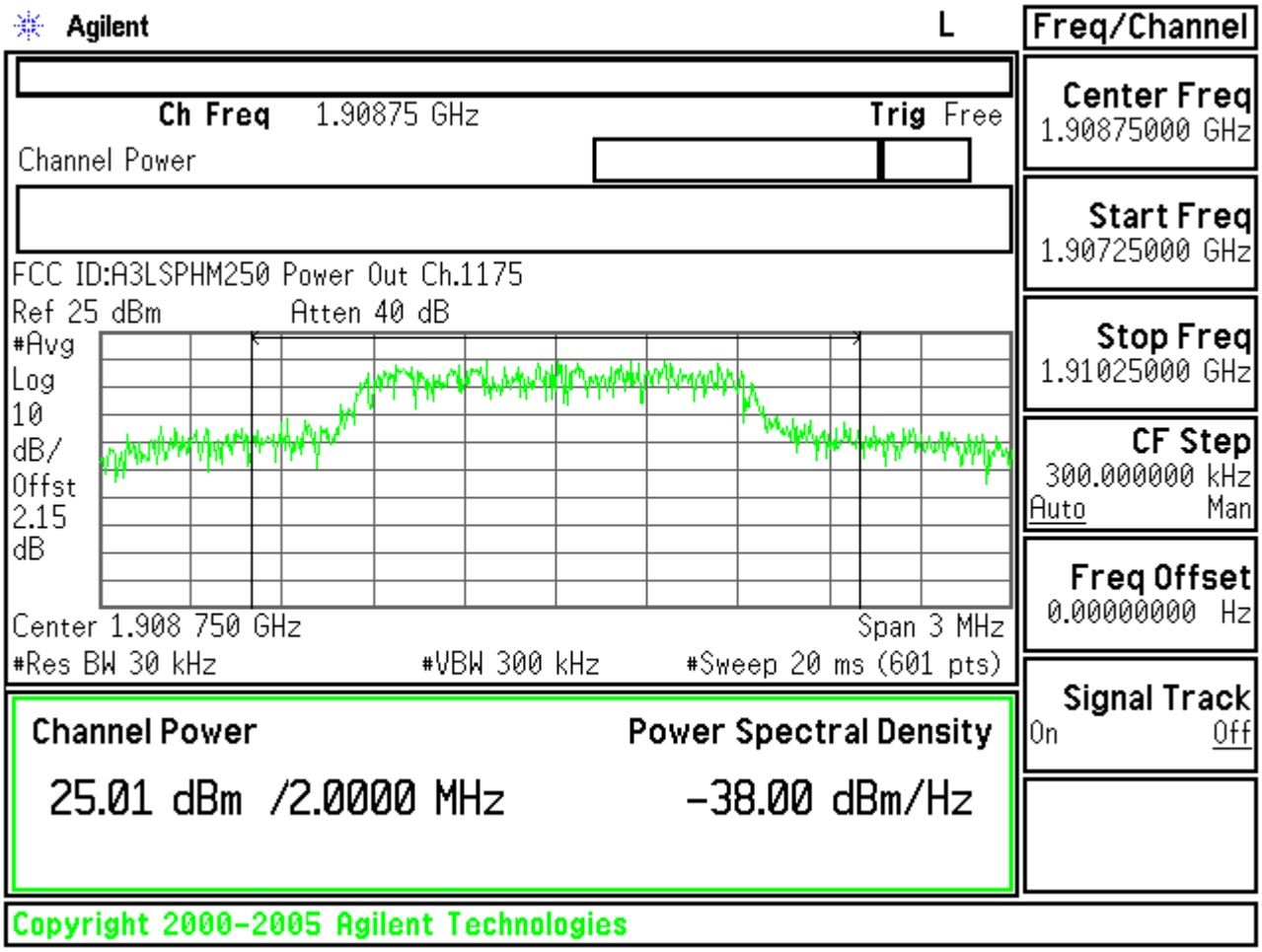
- End of page -

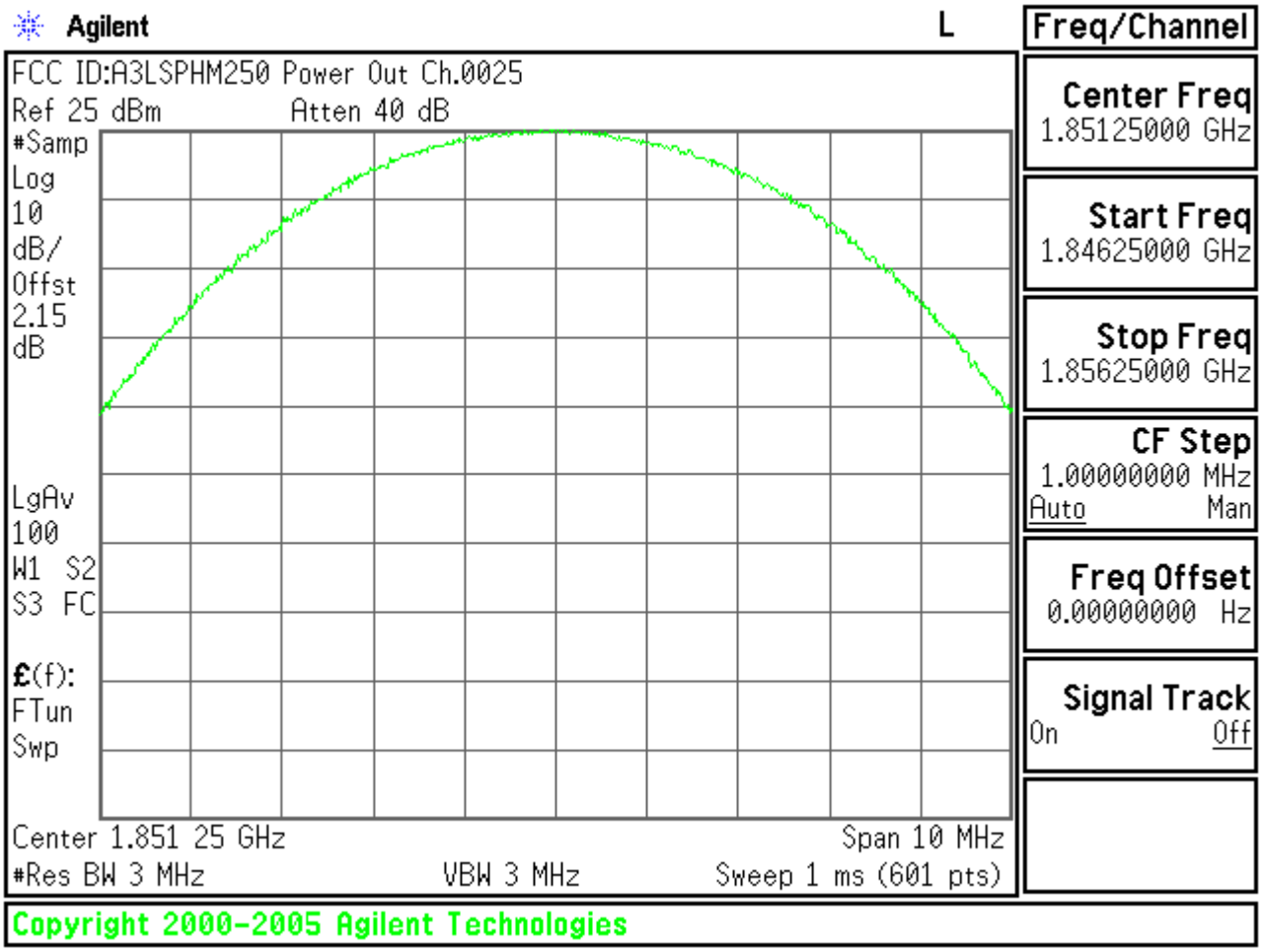
9. TEST PLOTS

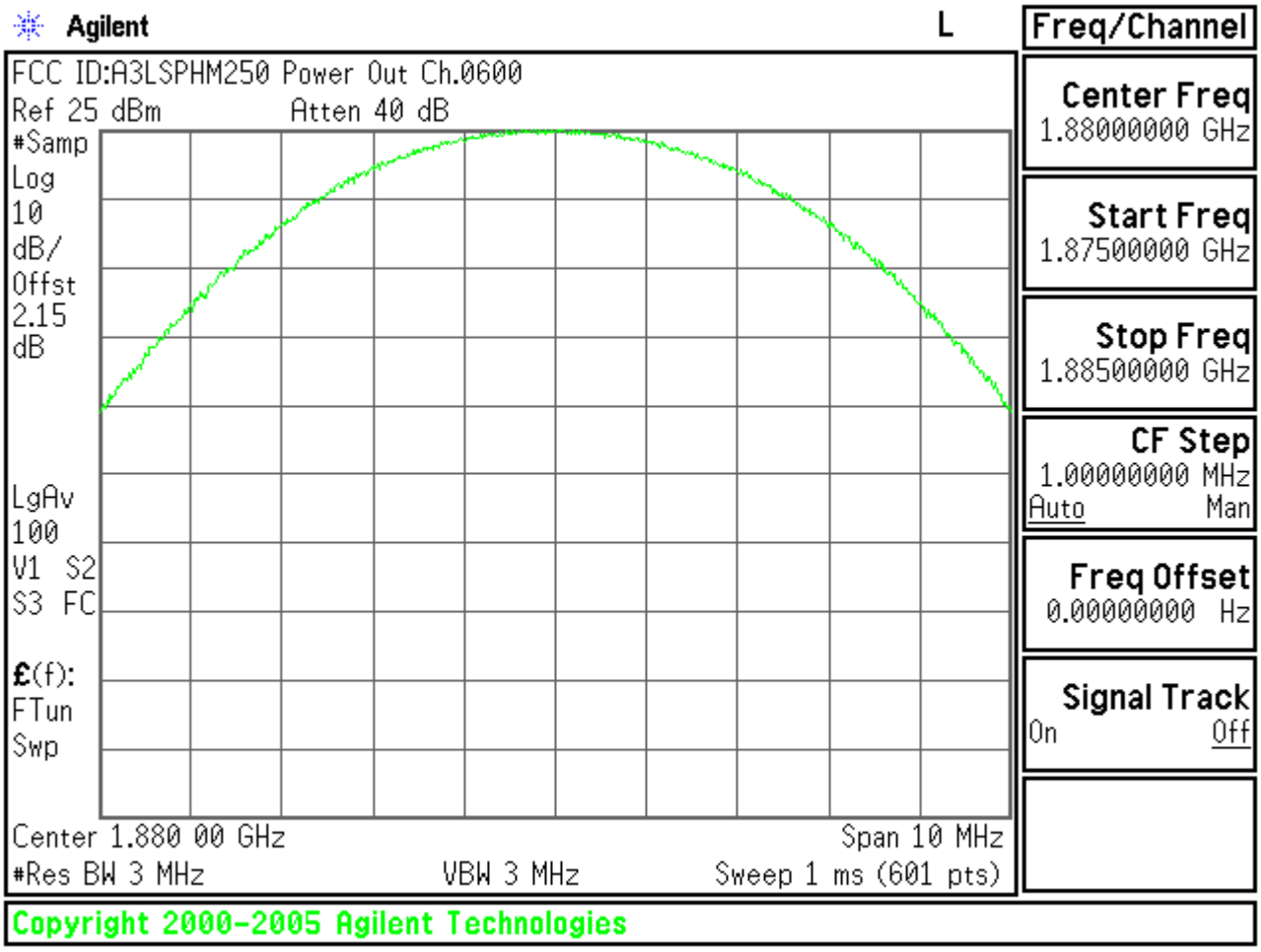
- End of page -

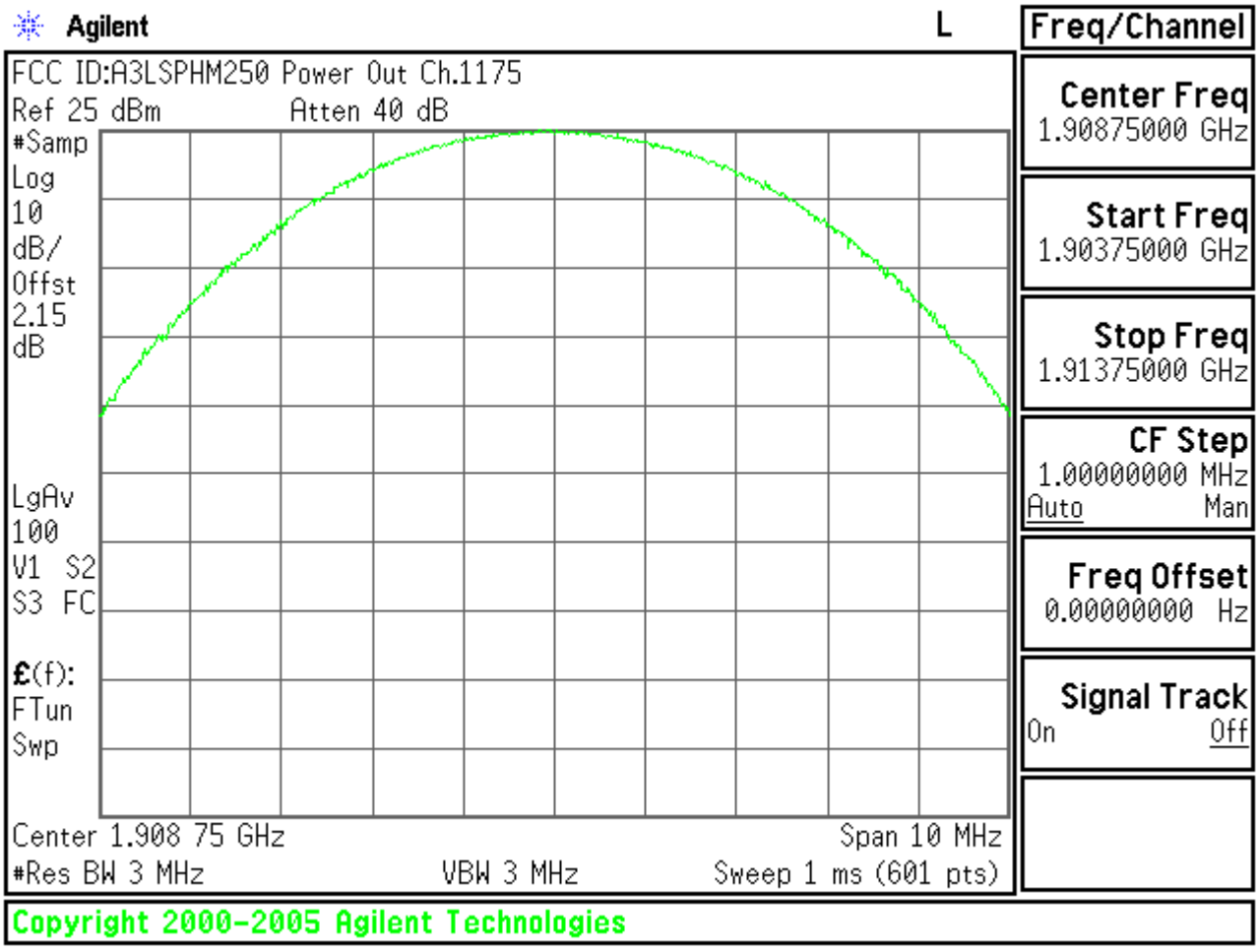

Agilent
L
Freq/Channel
Ch Freq 1.85125 GHz
Trig Free
Channel Power
FCC ID:A3LSPHM250 Power Out Ch.0025
Ref 25 dBm
Atten 40 dB
#Avg
Log
10
dB/
Offst
2.15
dB
Center 1.851 250 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
Sweep 9.76 ms (601 pts)
Center Freq
1.85125000 GHz
Start Freq
1.84975000 GHz
Stop Freq
1.85275000 GHz
CF Step
300.000000 kHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Channel Power
24.99 dBm /2.0000 MHz
Power Spectral Density
-38.02 dBm/Hz
Copyright 2000-2005 Agilent Technologies

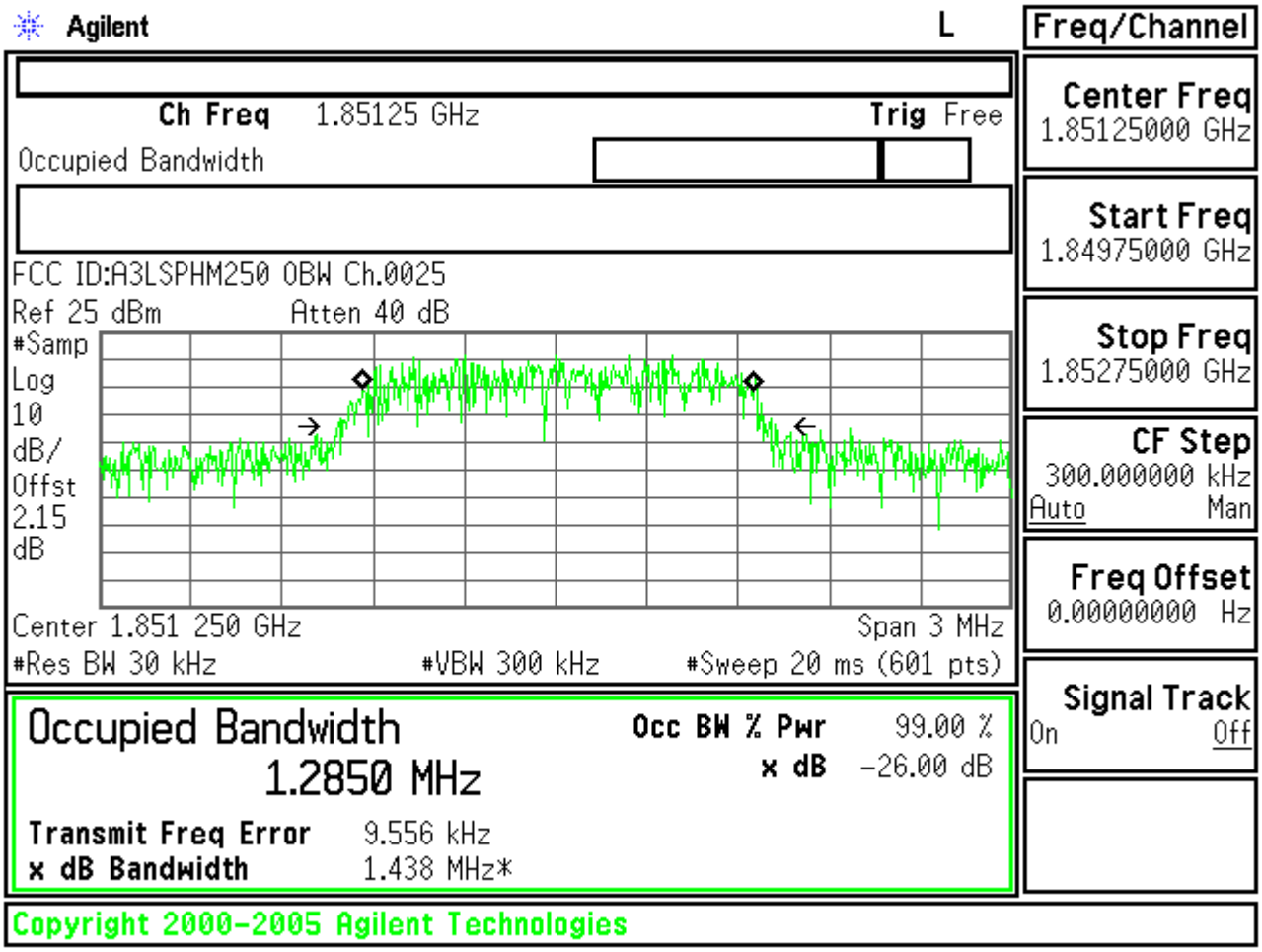

Agilent
L
Freq/Channel
Ch Freq 1.88 GHz
Trig Free
Channel Power
FCC ID:A3LSPHM250 Power Out Ch.0600
Ref 25 dBm
Atten 40 dB
#Avg
Log
10
dB/
Offst
2.15
dB
Center 1.880 000 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
Sweep 9.76 ms (601 pts)
Center Freq
1.88000000 GHz
Start Freq
1.87850000 GHz
Stop Freq
1.88150000 GHz
CF Step
300.000000 kHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Channel Power
25.04 dBm /2.0000 MHz
Power Spectral Density
-37.97 dBm/Hz
Copyright 2000-2005 Agilent Technologies

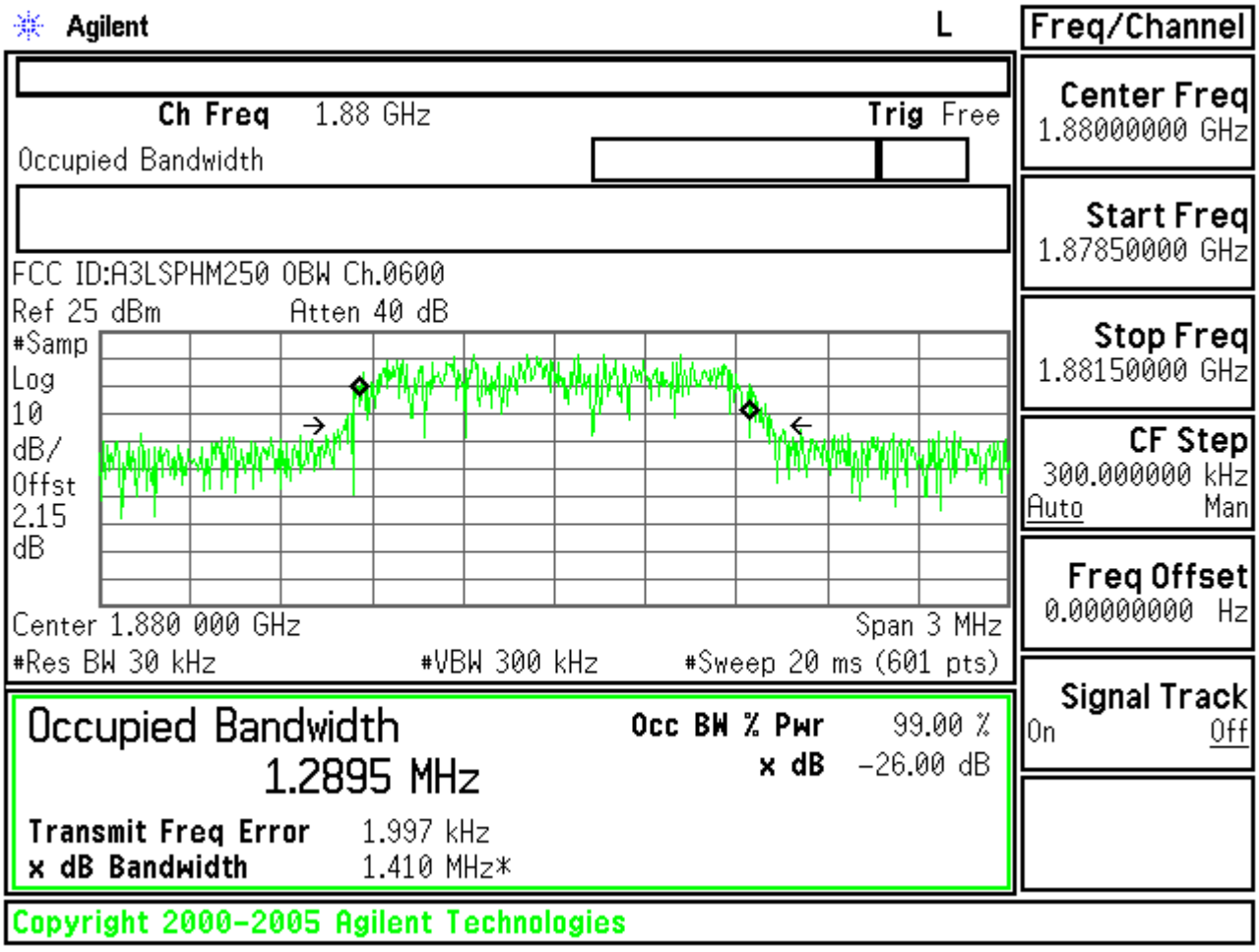

Agilent
L
Freq/Channel
Ch Freq 1.90875 GHz
Trig Free
Channel Power
FCC ID:A3LSPHM250 Power Out Ch.1175
Ref 25 dBm
Atten 40 dB
#Avg
Log
10
dB/
Offst
2.15
dB
Center 1.908 750 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Center Freq
1.90875000 GHz
Start Freq
1.90725000 GHz
Stop Freq
1.91025000 GHz
CF Step
300.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Channel Power
25.01 dBm /2.0000 MHz
Power Spectral Density
-38.00 dBm/Hz
Copyright 2000-2005 Agilent Technologies

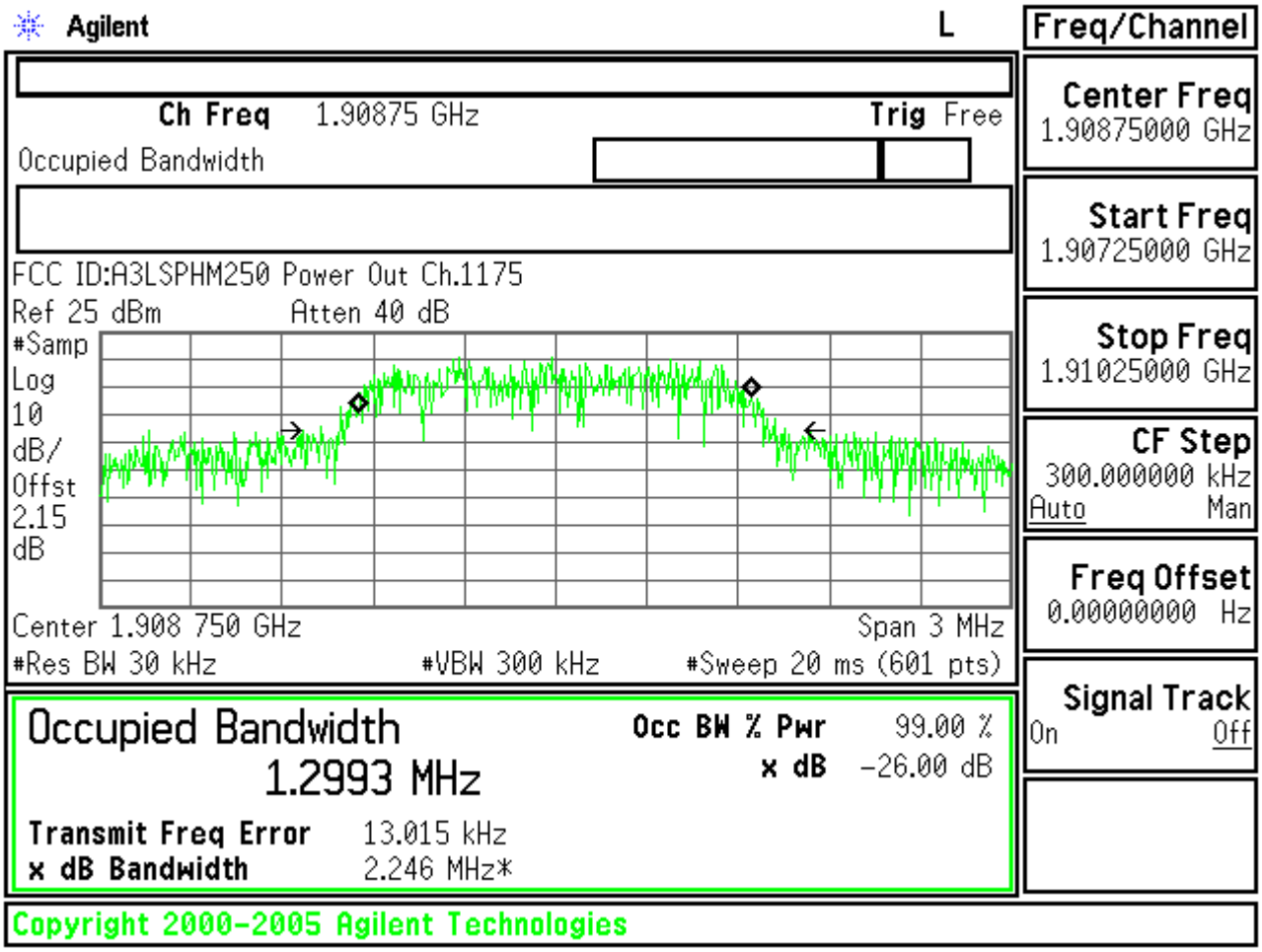

Agilent
L
Freq/Channel
FCC ID:A3LSPHM250 Power Out Ch.0025
Ref 25 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
2.15
dB
LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 1.851 25 GHz
Span 10 MHz
#Res BW 3 MHz
VBW 3 MHz
Sweep 1 ms (601 pts)
Center Freq
1.85125000 GHz
Start Freq
1.84625000 GHz
Stop Freq
1.85625000 GHz
CF Step
1.00000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2005 Agilent Technologies

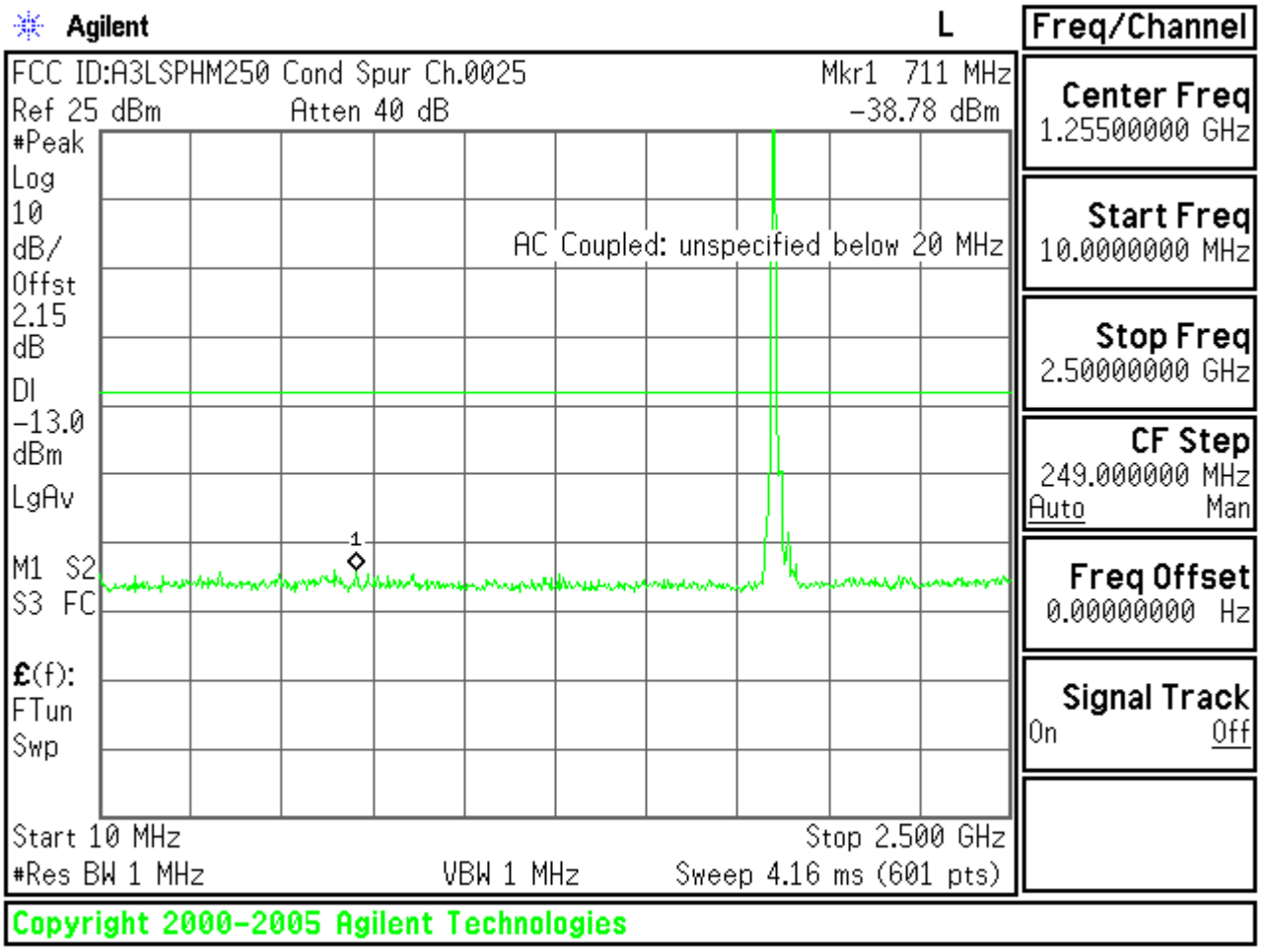

Agilent
L
FCC ID:A3LSPHM250 Power Out Ch.0600
Ref 25 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
2.15
dB
LgAv
100
V1 S2
S3 FC
£(f):
FTun
Swp
Center 1.880 00 GHz
Span 10 MHz
#Res BW 3 MHz
VBW 3 MHz
Sweep 1 ms (601 pts)
Freq/Channel
Center Freq
1.88000000 GHz
Start Freq
1.87500000 GHz
Stop Freq
1.88500000 GHz
CF Step
1.00000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies

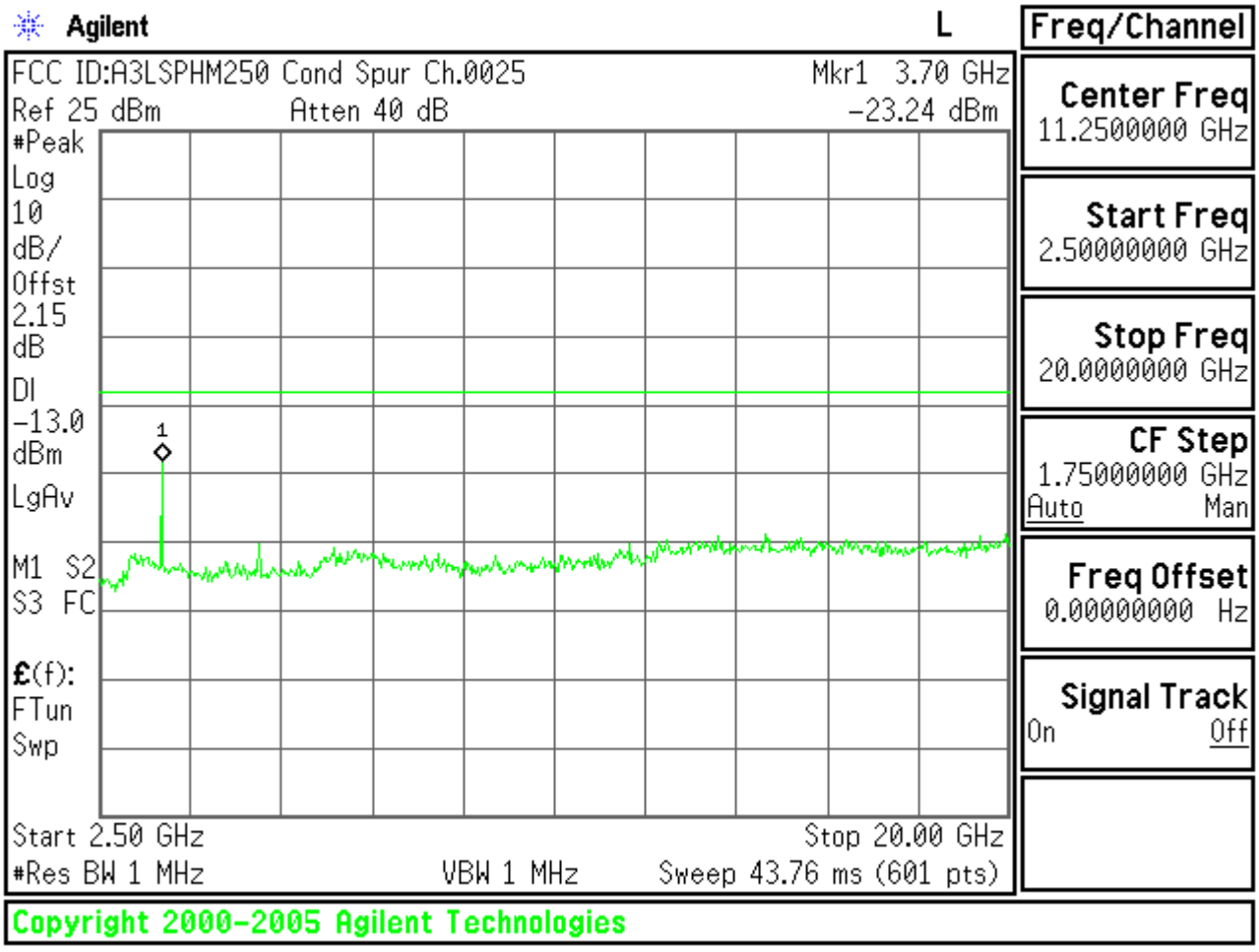

Agilent
L
FCC ID:A3LSPHM250 Power Out Ch.1175
Ref 25 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
2.15
dB
LgAv
100
V1 S2
S3 FC
£(f):
FTun
Swp
Center 1.908 75 GHz
Span 10 MHz
#Res BW 3 MHz
VBW 3 MHz
Sweep 1 ms (601 pts)
Freq/Channel
Center Freq
1.90875000 GHz
Start Freq
1.90375000 GHz
Stop Freq
1.91375000 GHz
CF Step
1.00000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies

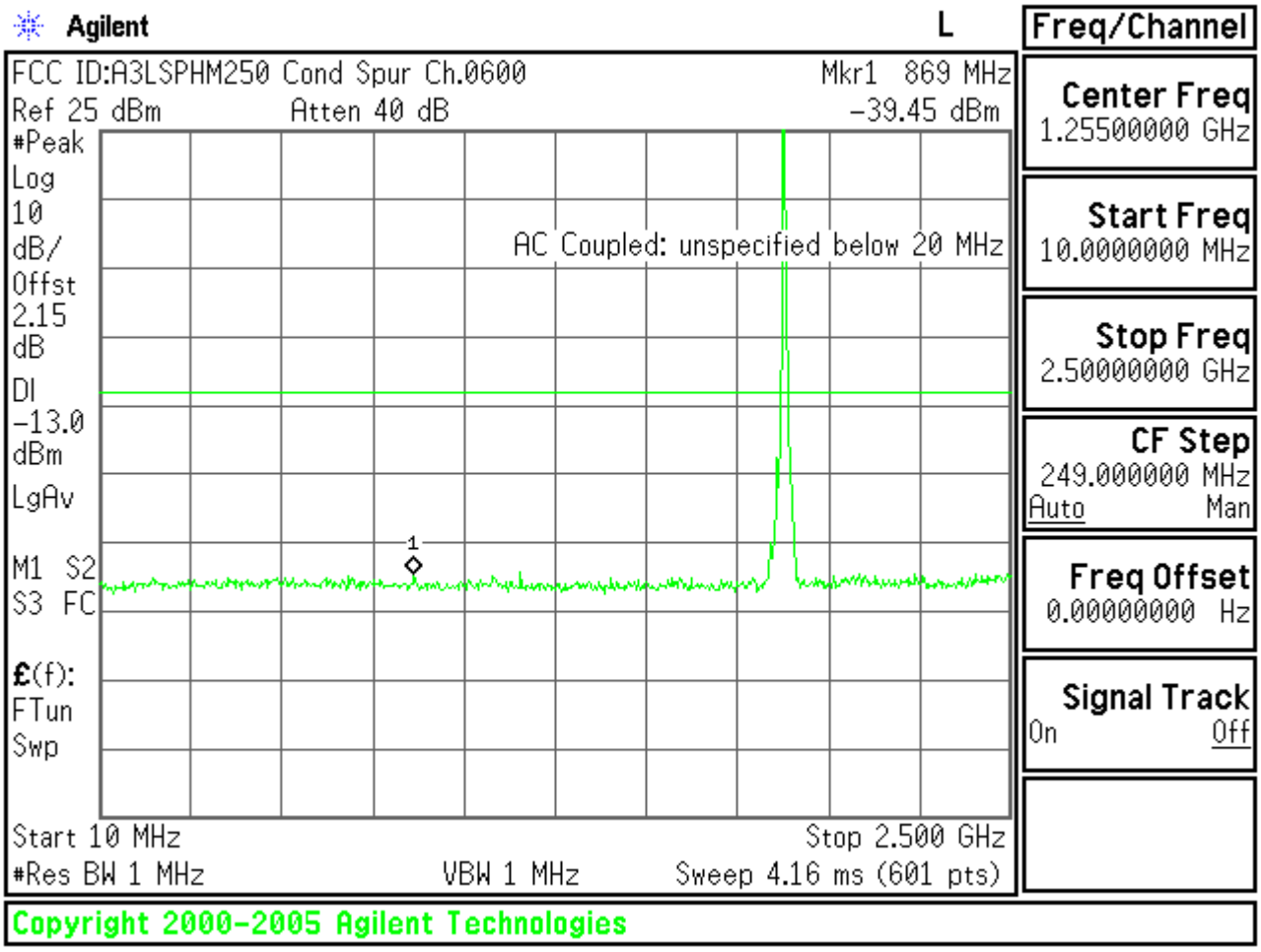

Agilent
L
Freq/Channel
Ch Freq 1.85125 GHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSPHM250 OBW Ch.0025
Ref 25 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
2.15
dB
Center 1.851 250 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2850 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 9.556 kHz
x dB Bandwidth 1.438 MHz*
Center Freq
1.85125000 GHz
Start Freq
1.84975000 GHz
Stop Freq
1.85275000 GHz
CF Step
300.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2005 Agilent Technologies

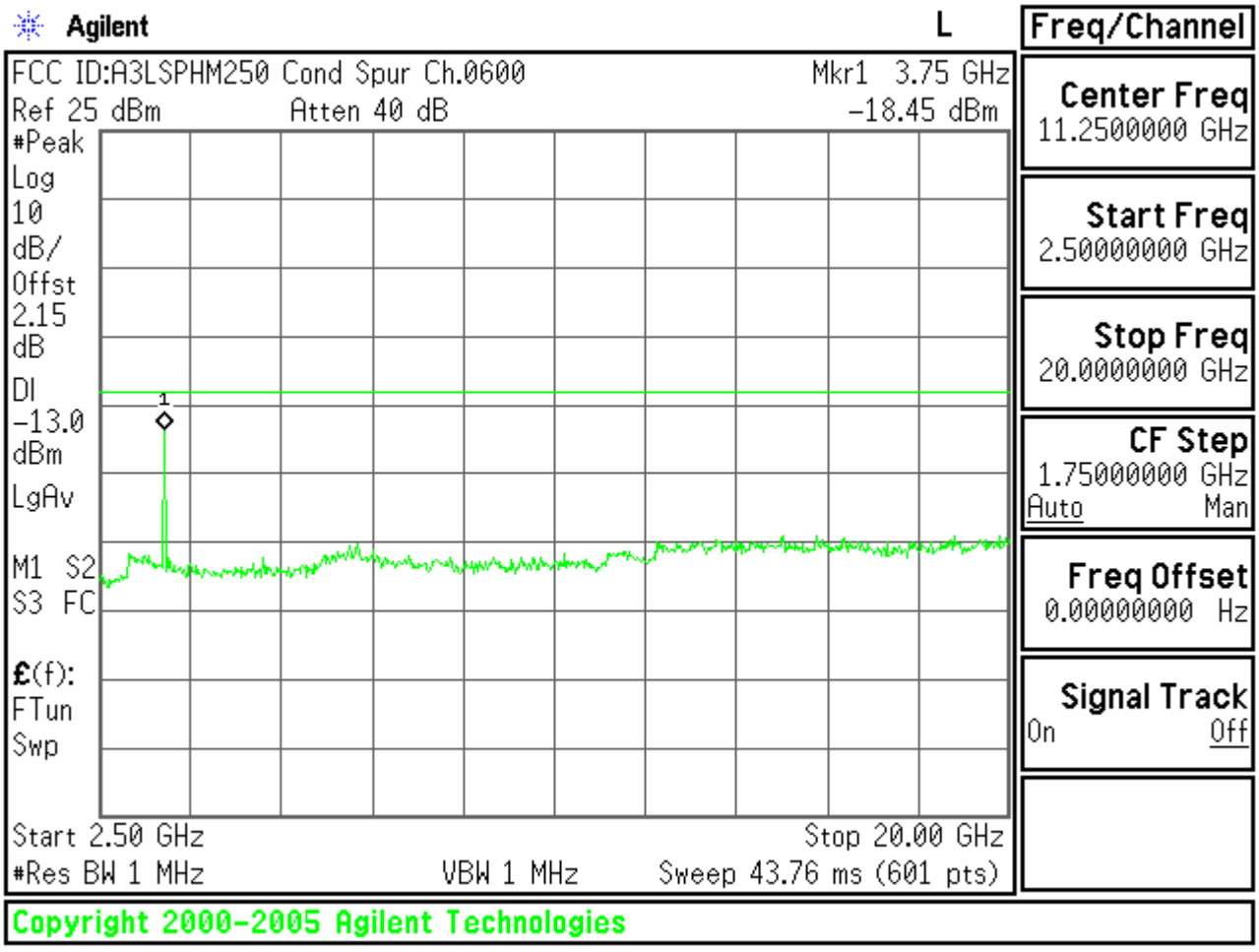

Agilent
L
Freq/Channel
Ch Freq 1.88 GHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSPHM250 OBW Ch.0600
Ref 25 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
2.15
dB
Center 1.880 000 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2895 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 1.997 kHz
x dB Bandwidth 1.410 MHz*
Center Freq
1.88000000 GHz
Start Freq
1.87850000 GHz
Stop Freq
1.88150000 GHz
CF Step
300.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2005 Agilent Technologies

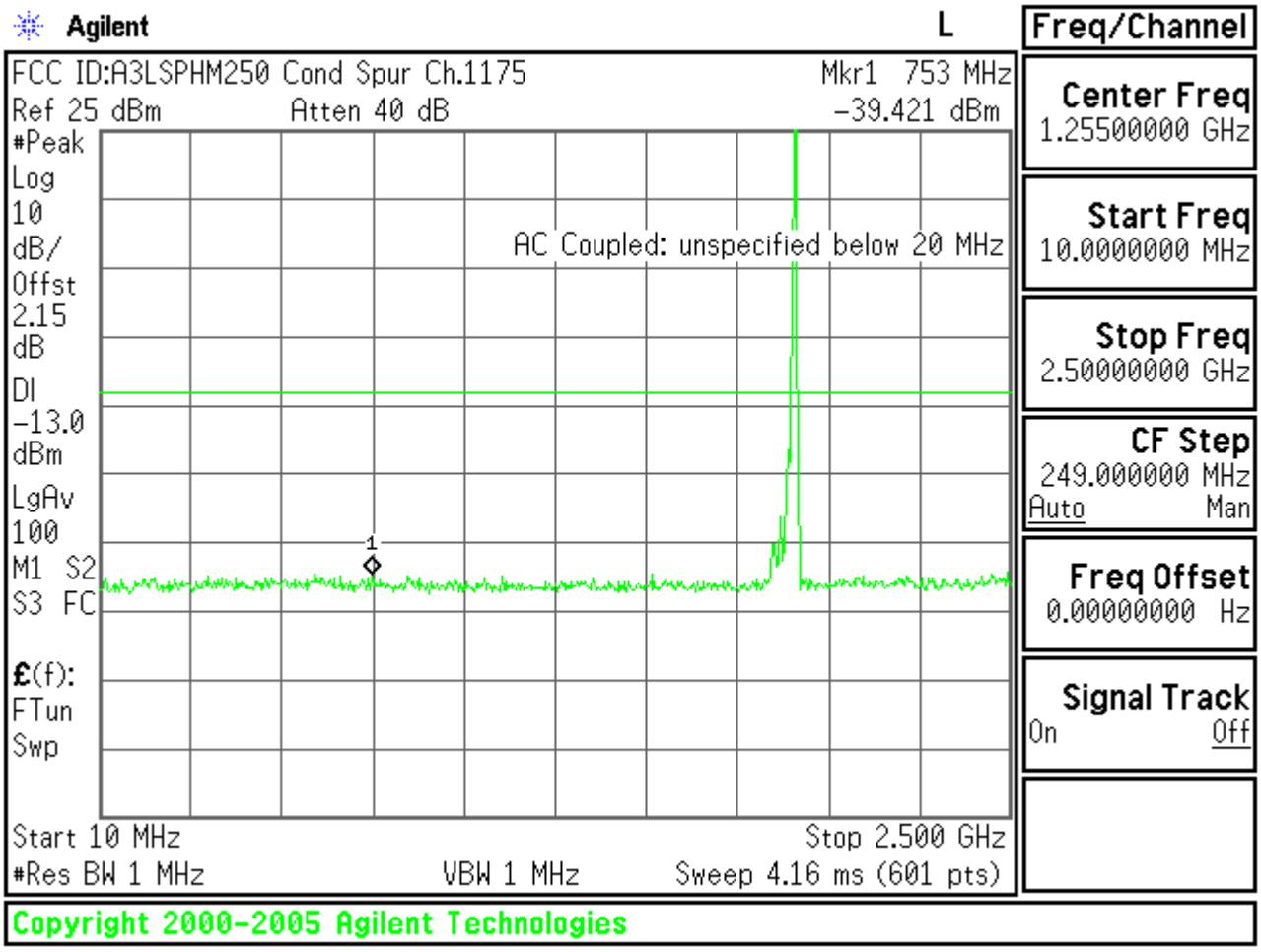

Agilent
L
Freq/Channel
Ch Freq 1.90875 GHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSPHM250 Power Out Ch.1175
Ref 25 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
2.15
dB
Center 1.908 750 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Center Freq
1.90875000 GHz
Start Freq
1.90725000 GHz
Stop Freq
1.91025000 GHz
CF Step
300.000000 kHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Occupied Bandwidth
1.2993 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 13.015 kHz
x dB Bandwidth 2.246 MHz*
Copyright 2000-2005 Agilent Technologies

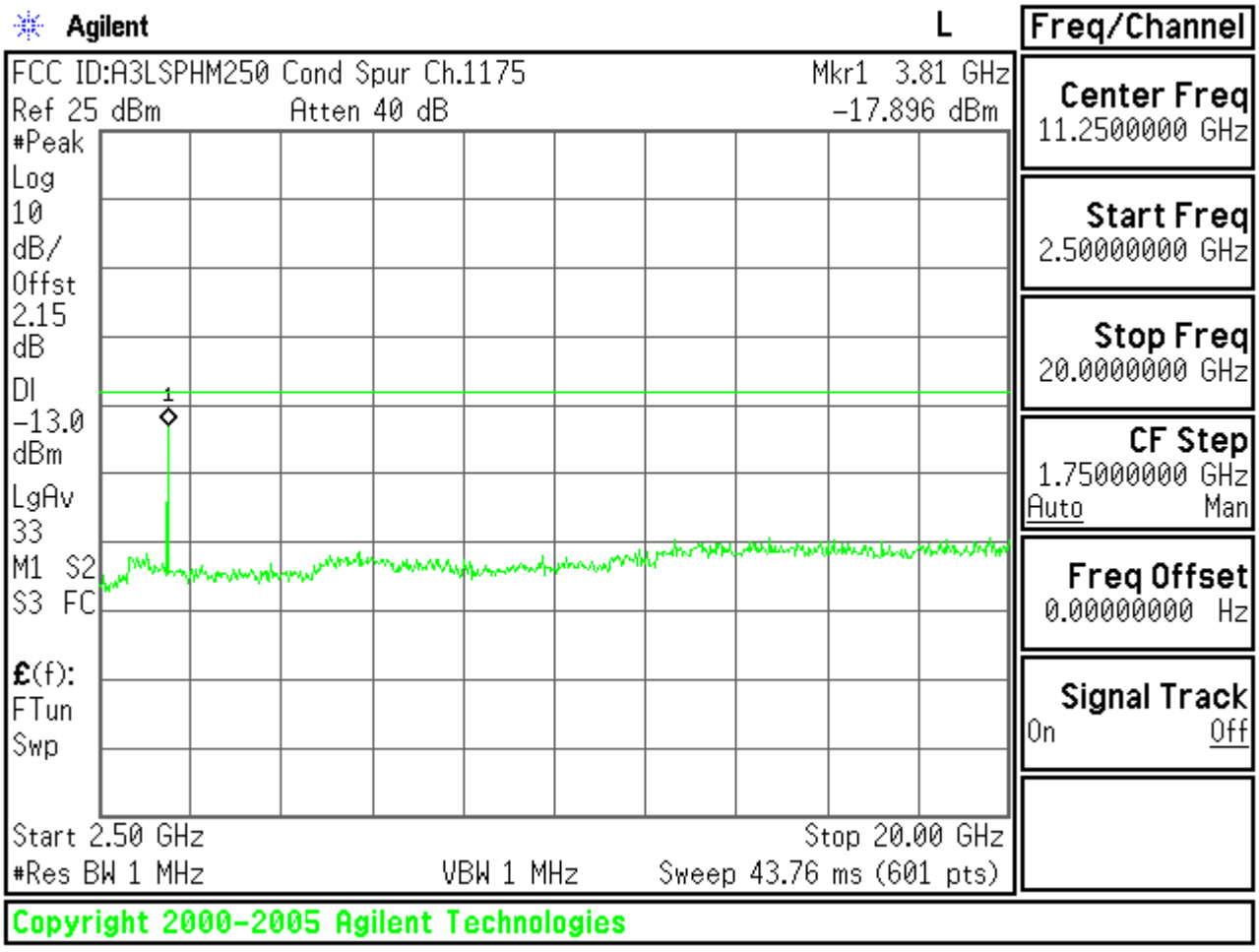

Agilent
L
FCC ID:A3LSPHM250 Cond Spur Ch.0025
Mkr1 711 MHz
Ref 25 dBm
Atten 40 dB
-38.78 dBm
#Peak
Log
10
dB/
Offst
2.15
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Start 10 MHz
Stop 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 4.16 ms (601 pts)
Freq/Channel
Center Freq
1.25500000 GHz
Start Freq
10.0000000 MHz
Stop Freq
2.50000000 GHz
CF Step
249.000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies

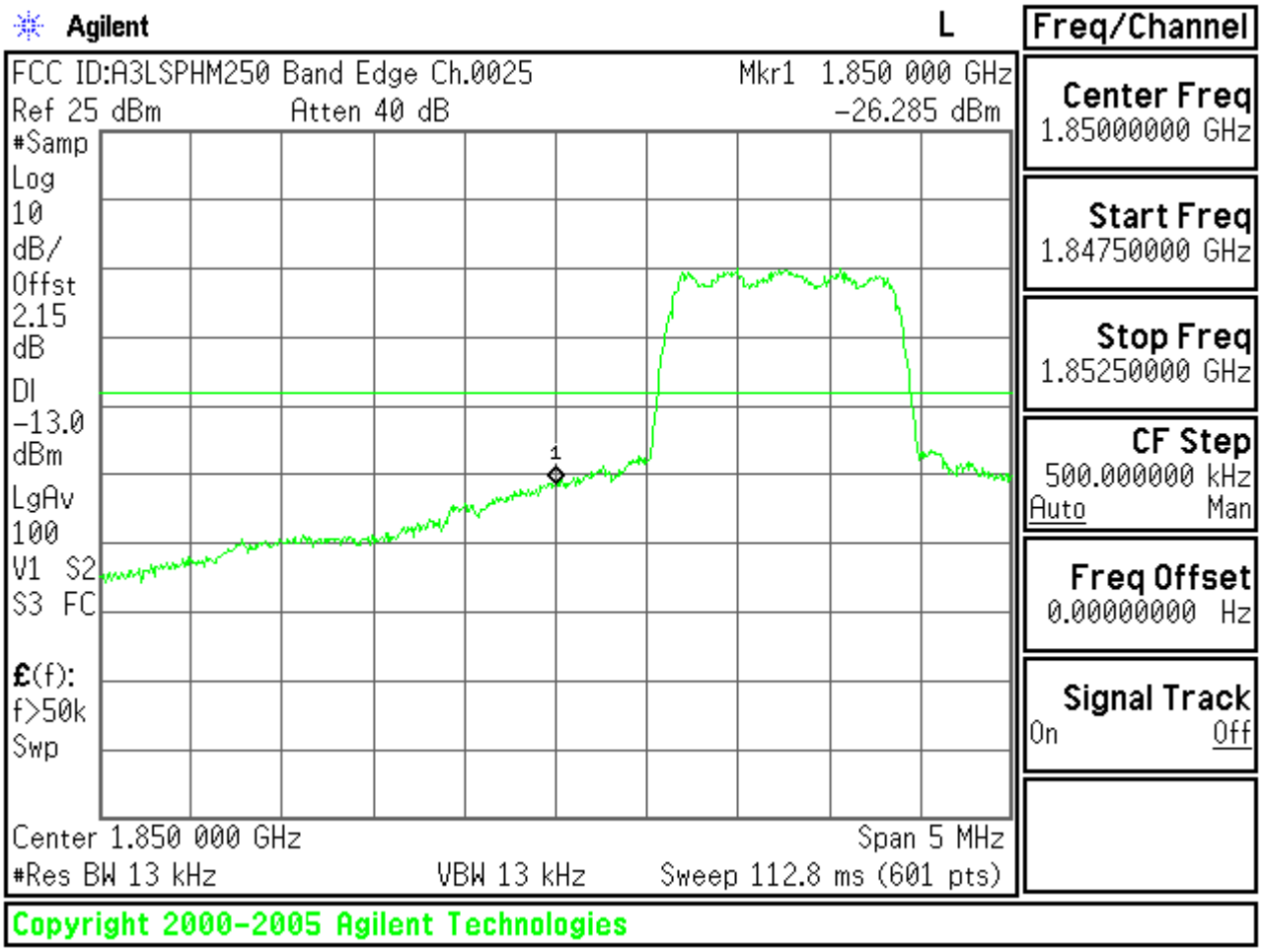

Agilent
L
FCC ID:A3LSPHM250 Cond Spur Ch.0025
Mkr1 3.70 GHz
Ref 25 dBm
Atten 40 dB
-23.24 dBm
#Peak
Log
10
dB/
Offst
2.15
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Start 2.50 GHz
Stop 20.00 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 43.76 ms (601 pts)
Freq/Channel
Center Freq
11.2500000 GHz
Start Freq
2.50000000 GHz
Stop Freq
20.0000000 GHz
CF Step
1.75000000 GHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies

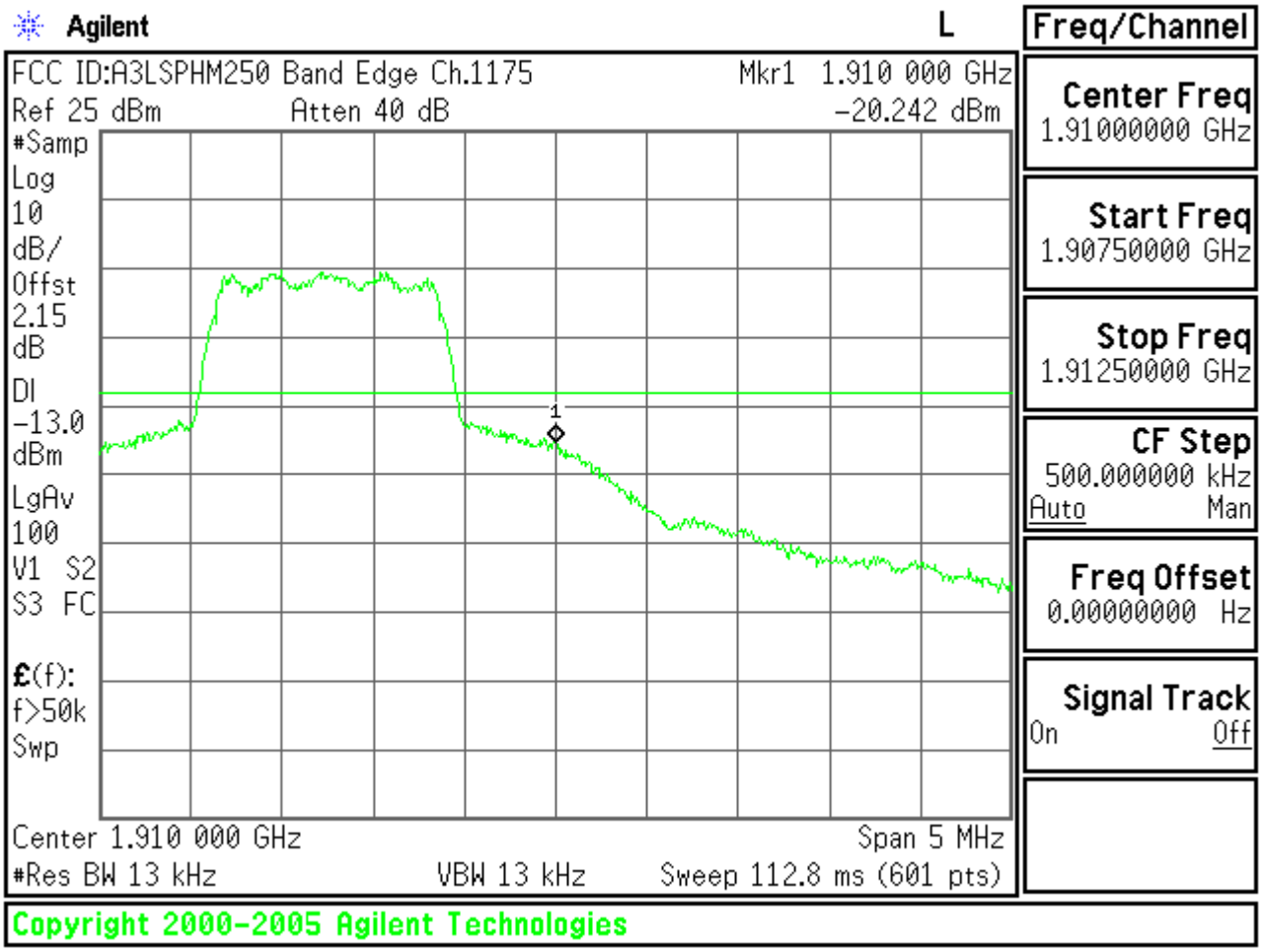

Agilent
L
FCC ID:A3LSPHM250 Cond Spur Ch.0600
Mkr1 869 MHz
Ref 25 dBm
Atten 40 dB
-39.45 dBm
#Peak
Log
10
dB/
Offst
2.15
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Start 10 MHz
Stop 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 4.16 ms (601 pts)
Freq/Channel
Center Freq
1.25500000 GHz
Start Freq
10.0000000 MHz
Stop Freq
2.50000000 GHz
CF Step
249.000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies

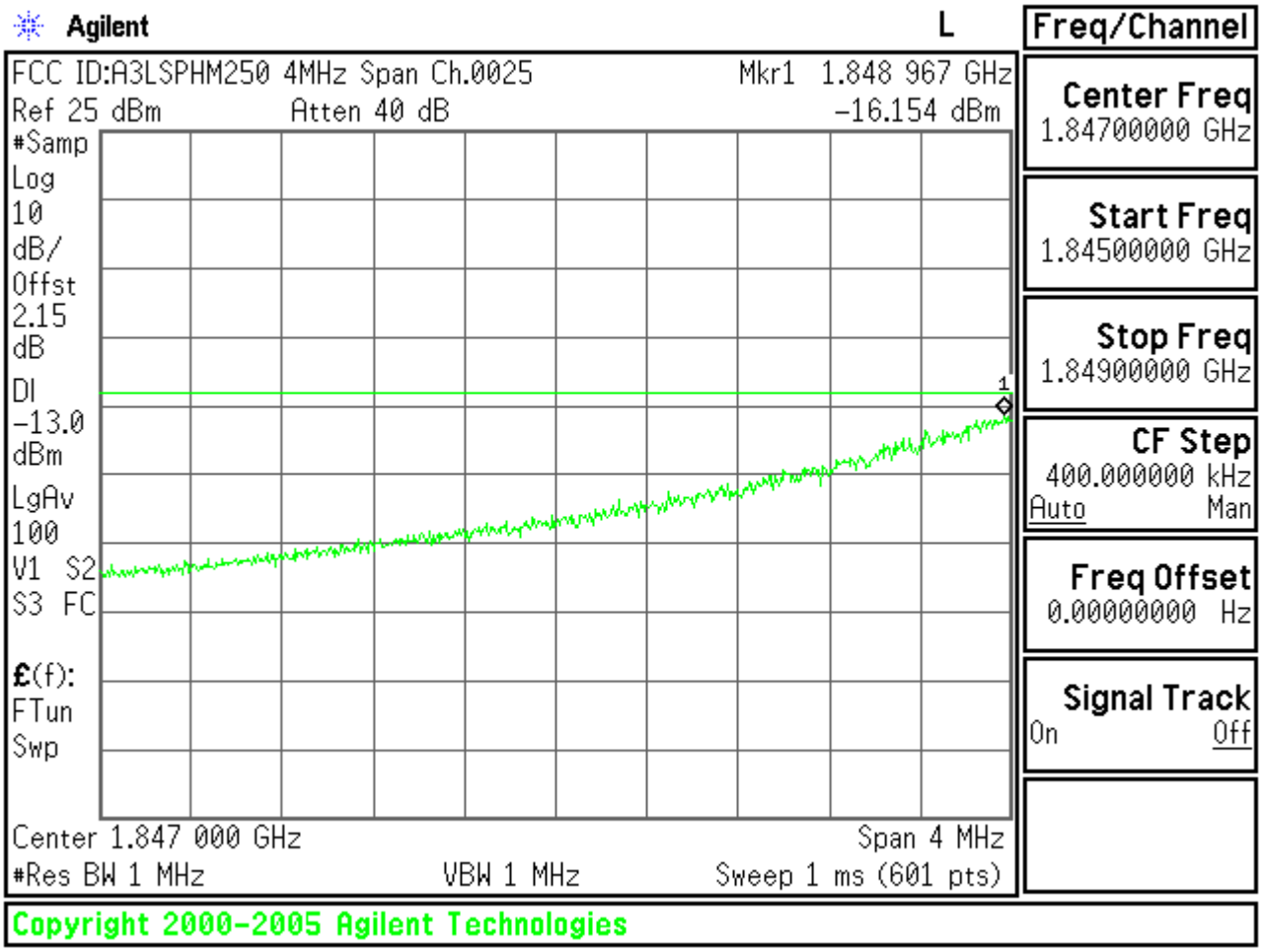

Agilent
L
FCC ID:A3LSPHM250 Cond Spur Ch.0600
Mkr1 3.75 GHz
Ref 25 dBm
Atten 40 dB
-18.45 dBm
#Peak
Log
10
dB/
Offst
2.15
dB
Dl
-13.0
dBm
LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Start 2.50 GHz
Stop 20.00 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 43.76 ms (601 pts)
Freq/Channel
Center Freq
11.2500000 GHz
Start Freq
2.50000000 GHz
Stop Freq
20.0000000 GHz
CF Step
1.75000000 GHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies

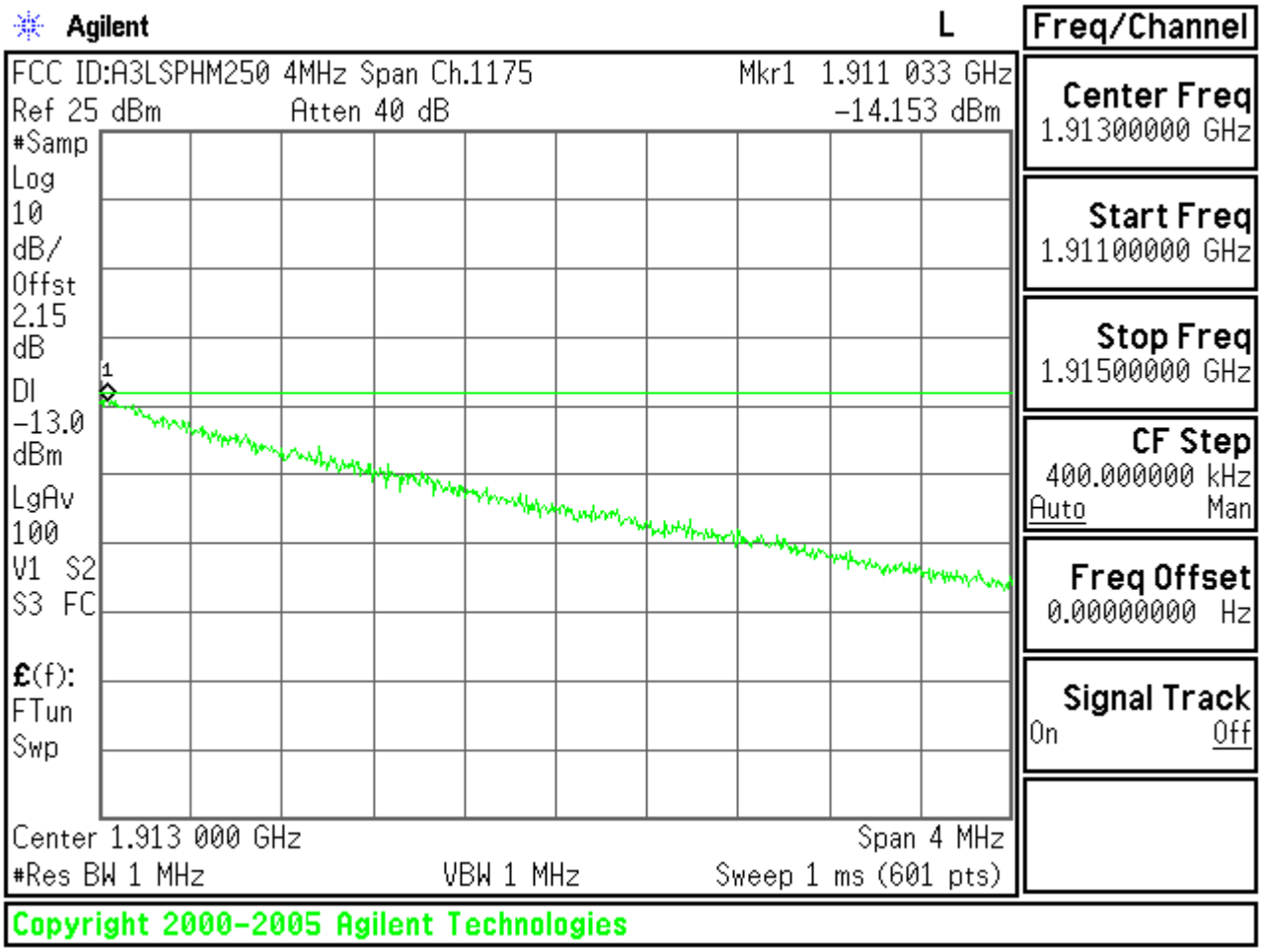

Agilent
L
FCC ID:A3LSPHM250 Cond Spur Ch.1175
Mkr1 753 MHz
Ref 25 dBm
Atten 40 dB
-39.421 dBm
#Peak
Log
10
dB/
Offst
2.15
dB
Dl
-13.0
dBm
LgAv
100
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Start 10 MHz
Stop 2.500 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 4.16 ms (601 pts)
Freq/Channel
Center Freq
1.25500000 GHz
Start Freq
10.0000000 MHz
Stop Freq
2.50000000 GHz
CF Step
249.000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies


Agilent
L
FCC ID:A3LSPHM250 Cond Spur Ch.1175
Mkr1 3.81 GHz
Ref 25 dBm
Atten 40 dB
-17.896 dBm
#Peak
Log
10
dB/
Offst
2.15
dB
Dl
-13.0
dBm
LgAv
33
M1 S2
S3 FC
£(f):
FTun
Swp
Start 2.50 GHz
Stop 20.00 GHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 43.76 ms (601 pts)
Freq/Channel
Center Freq
11.2500000 GHz
Start Freq
2.50000000 GHz
Stop Freq
20.0000000 GHz
CF Step
1.75000000 GHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies


Agilent
L
FCC ID:A3LSPHM250 Band Edge Ch.0025
Mkr1 1.850 000 GHz
Ref 25 dBm
Atten 40 dB
-26.285 dBm
#Samp
Log
10
dB/
Offst
2.15
dB
Dl
-13.0
dBm
LgAv
100
V1 S2
S3 FC
£(f):
f>50k
Swp
Center 1.850 000 GHz
Span 5 MHz
#Res BW 13 kHz
VBW 13 kHz
Sweep 112.8 ms (601 pts)
Freq/Channel
Center Freq
1.85000000 GHz
Start Freq
1.84750000 GHz
Stop Freq
1.85250000 GHz
CF Step
500.000000 kHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies


Agilent
L
FCC ID:A3LSPHM250 Band Edge Ch.1175
Mkr1 1.910 000 GHz
Ref 25 dBm
Atten 40 dB
-20.242 dBm
#Samp
Log
10
dB/
Offst
2.15
dB
Dl
-13.0
dBm
LgAv
100
V1 S2
S3 FC
£(f):
f>50k
Swp
Center 1.910 000 GHz
Span 5 MHz
#Res BW 13 kHz
VBW 13 kHz
Sweep 112.8 ms (601 pts)
Freq/Channel
Center Freq
1.91000000 GHz
Start Freq
1.90750000 GHz
Stop Freq
1.91250000 GHz
CF Step
500.000000 kHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies


Agilent
L
FCC ID:A3LSPHM250 4MHz Span Ch.0025
Mkr1 1.848 967 GHz
Ref 25 dBm
Atten 40 dB
-16.154 dBm
#Samp
Log
10
dB/
Offst
2.15
dB
Dl
-13.0
dBm
LgAv
100
V1 S2
S3 FC
£(f):
FTun
Swp
Center 1.847 000 GHz
Span 4 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Freq/Channel
Center Freq
1.84700000 GHz
Start Freq
1.84500000 GHz
Stop Freq
1.84900000 GHz
CF Step
400.000000 kHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies


Agilent
L
FCC ID:A3LSPHM250 4MHz Span Ch.1175
Mkr1 1.911 033 GHz
Ref 25 dBm
Atten 40 dB
-14.153 dBm
#Samp
Log
10
dB/
Offst
2.15
dB
Dl
-13.0
dBm
LgAv
100
V1 S2
S3 FC
£(f):
FTun
Swp
Center 1.913 000 GHz
Span 4 MHz
#Res BW 1 MHz
VBW 1 MHz
Sweep 1 ms (601 pts)
Freq/Channel
Center Freq
1.91300000 GHz
Start Freq
1.91100000 GHz
Stop Freq
1.91500000 GHz
CF Step
400.000000 kHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Copyright 2000-2005 Agilent Technologies