

1.1 Test Data

1.2 Effective Radiated Power Output

A. POWER: Low (Analog Mode)

Freq. Tuned (MHz)	REF. LEVEL (dBm)	POL (H/V)	ERP (W)	ERP (dBm)
824.04	-35.533	V	0.004	5.740
836.49	-35.800	V	0.004	5.629
848.97	-36.100	V	0.004	5.485

B. POWER: High (Analog Mode)

Freq. Tuned (MHz)	REF. LEVEL (dBm)	POL (H/V)	ERP (W)	ERP (dBm)	BATTERY
824.04	-15.533	H	0.375	25.740	Standard
836.49	-15.800	H	0.366	25.629	Standard
848.97	-15.900	H	0.370	25.685	Standard
836.49	-16.100	H	0.341	25.329	Extended

Note: Standard and extended batteries are options for this phone

NOTES:

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

The EUT was placed on a wooden turn table 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 signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. 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 the dipole is measured. The ERP is recorded.

PCTEST® PT. 22/24 SUPPLEMENT	 FCC MEASUREMENT SUPPLEMENT 			Reviewed By: Quality Manager
Test Report S/N: 0504260318	Test Dates: May 9, 2005	Phone Type: Tri-Mode Dual-Band	FCC ID: A3LSPA840	Page 1 of 6

2.1 Test Data

2.2 A MPS Radiated Measurements

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 824.04 MHz
 CHANNEL: 0991 (Low)
 MEASURED OUTPUT POWER: 25.740 dBm = 0.376 W
 MODULATION SIGNAL: FM (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 38.75 dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1648.08	-64.98	6.10	-58.88	V	84.6
2472.12	-59.28	6.70	-52.58	V	78.3
3296.16	-64.98	6.80	-58.18	V	83.9
4120.20	-70.78	6.50	-64.28	H	90.0
4944.24	-84.38	7.00	-77.38	H	103.1

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

The EUT was placed on a wooden turn table 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 signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. 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.

2.1 Test Data (Continued)

2.3 A MPS Radiated Measurements

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 836.49 MHz
 CHANNEL: 0383 (Mid)
 MEASURED OUTPUT POWER: 25.740 dBm = 0.376 W
 MODULATION SIGNAL: FM (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 38.75 dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1672.98	-55.68	6.10	-49.58	V	75.3
2509.47	-58.38	6.70	-51.68	V	77.4
3345.96	-61.18	6.80	-54.38	H	80.1
4182.45	-61.78	6.50	-55.28	V	81.0
5018.94	-75.88	7.00	-68.88	H	94.6

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

The EUT was placed on a wooden turn table 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 signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. 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.

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2.1 Test Data (Continued)

2.4 A MPS Radiated Measurements

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 848.97 MHz
 CHANNEL: 0799 (High)
 MEASURED OUTPUT POWER: 25.740 dBm = 0.376 W
 MODULATION SIGNAL: FM (Internal)
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 38.75 dBc

FREQ. (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1697.94	-60.28	6.10	-54.18	V	79.9
2546.91	-66.98	6.70	-60.28	H	86.0
3395.88	-60.28	6.80	-53.48	H	79.2
4244.85	-68.58	6.50	-62.08	V	87.8
5093.82	-83.98	7.00	-76.98	H	102.7

NOTES:

Radiated Spurious Emission Measurements by Substitution Method

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

The EUT was placed on a wooden turn table 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 signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. 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.

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3.1 Test Data

3.2 FREQUENCY STABILITY (AMPS)

OPERATING FREQUENCY: 836,490,004 Hz

CHANNEL: 383

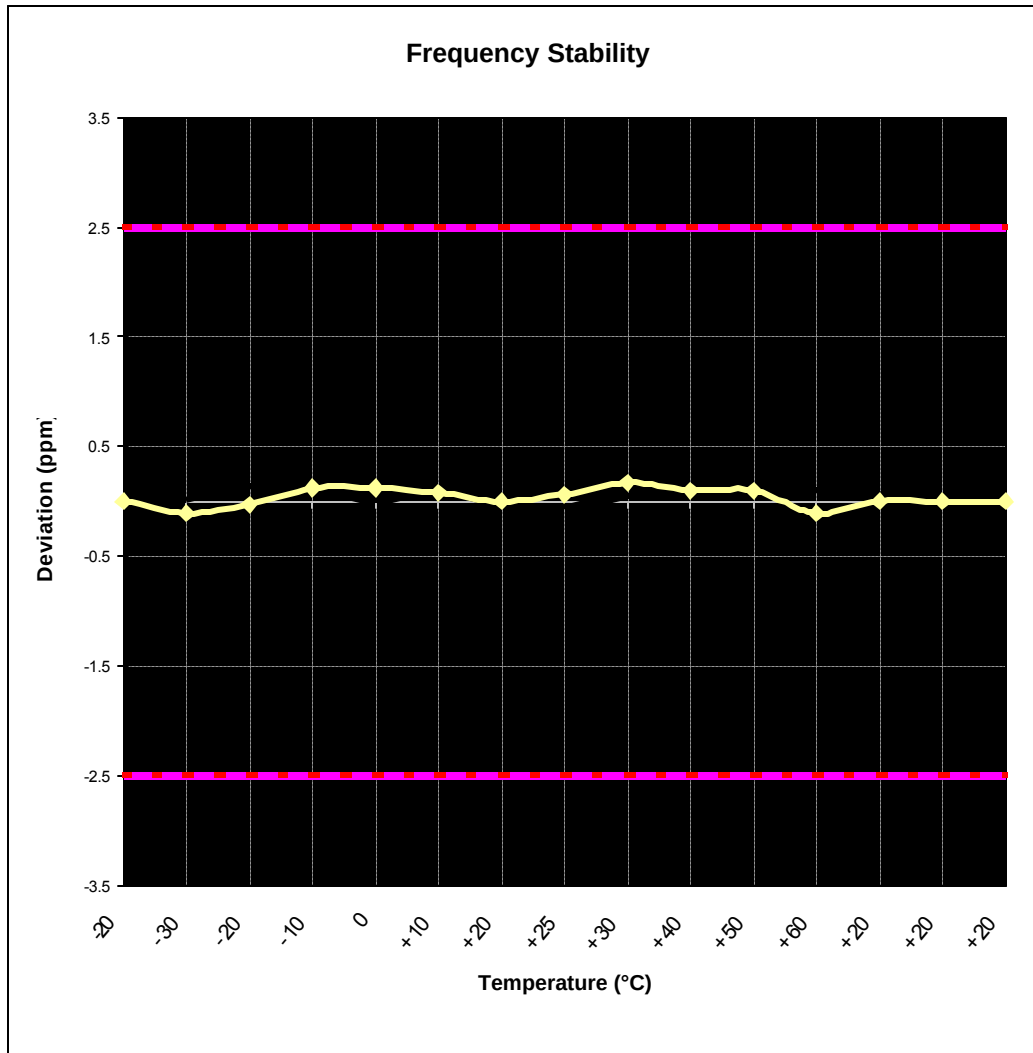
REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

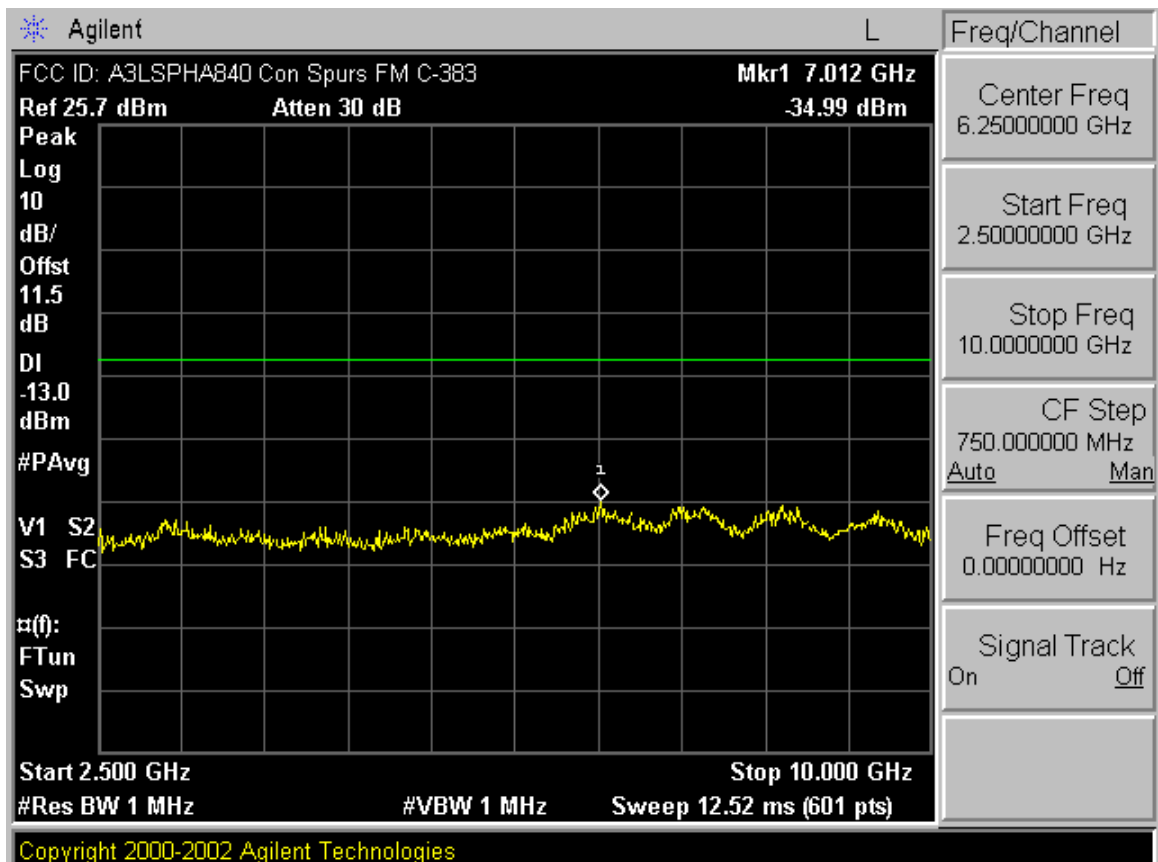
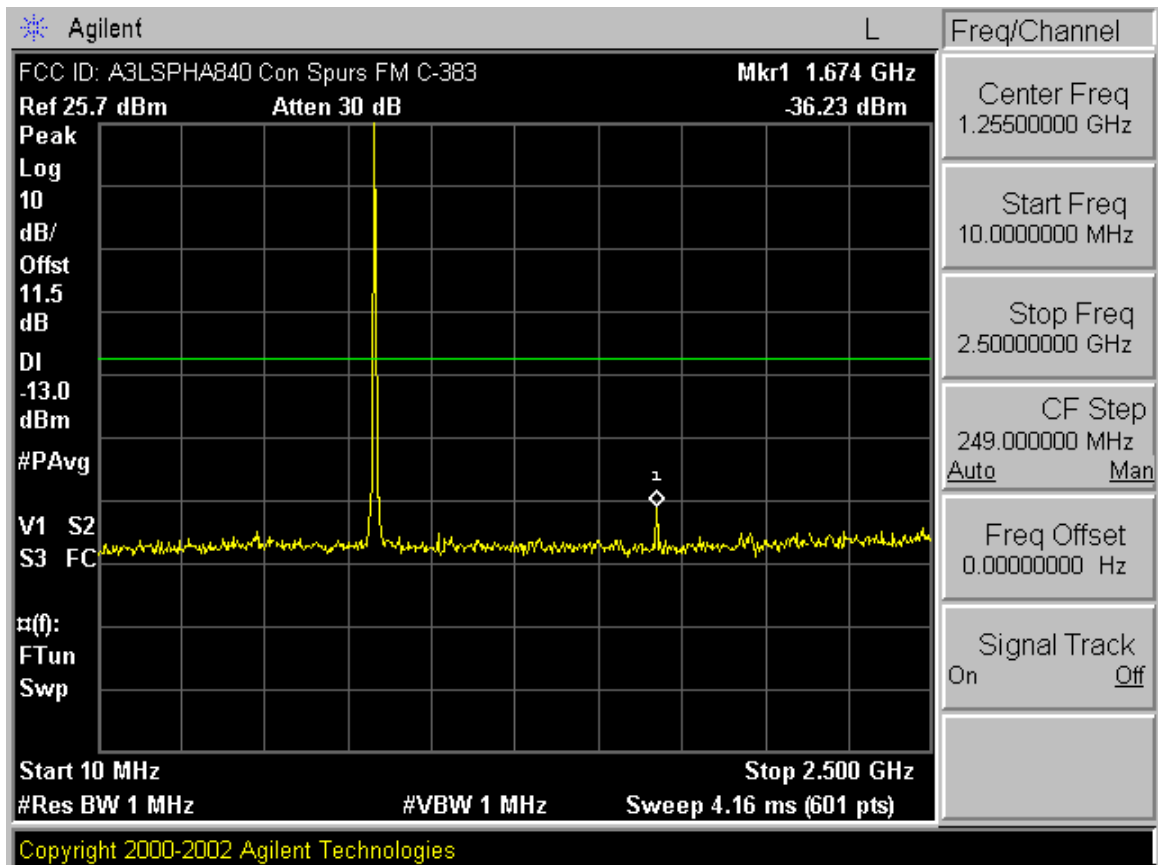
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQ. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	836,490,004	0.000000
100 %		- 30	836,489,987	0.000002
100 %		- 20	836,489,895	0.000013
100 %		- 10	836,489,945	0.000007
100 %		0	836,489,996	0.000001
100 %		+ 10	836,489,937	0.000008
100 %		+ 20	836,490,021	-0.000002
100 %		+ 25	836,490,037	-0.000004
100 %		+ 30	836,489,971	0.000004
100 %		+ 40	836,489,929	0.000009
100 %		+ 50	836,489,920	0.000010
100 %		+ 60	836,489,912	0.000011
85 %	3.17	+ 20	836,489,954	0.000006
115 %	4.26	+ 20	836,490,004	0.000000
BATT. ENDPOINT	2.96	+ 20	836,490,012	-0.000001

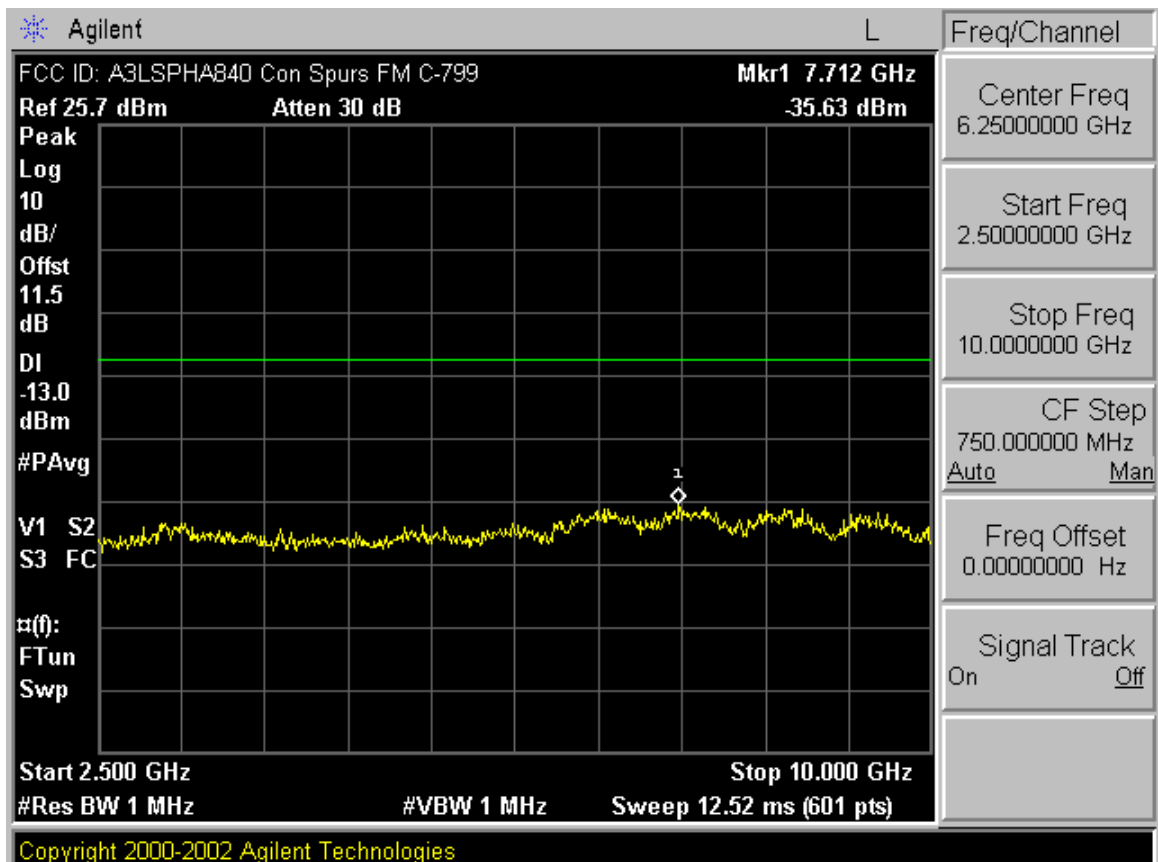
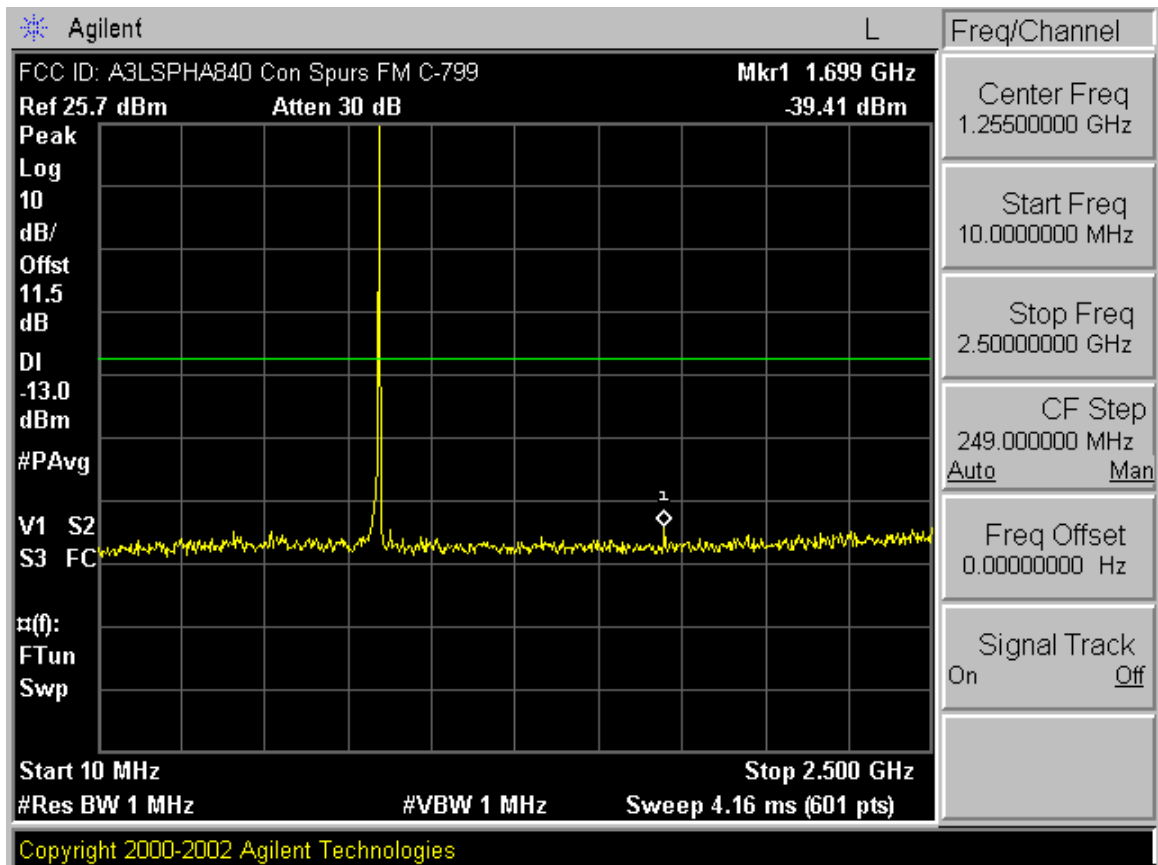
3.1 Test Data (Continued)

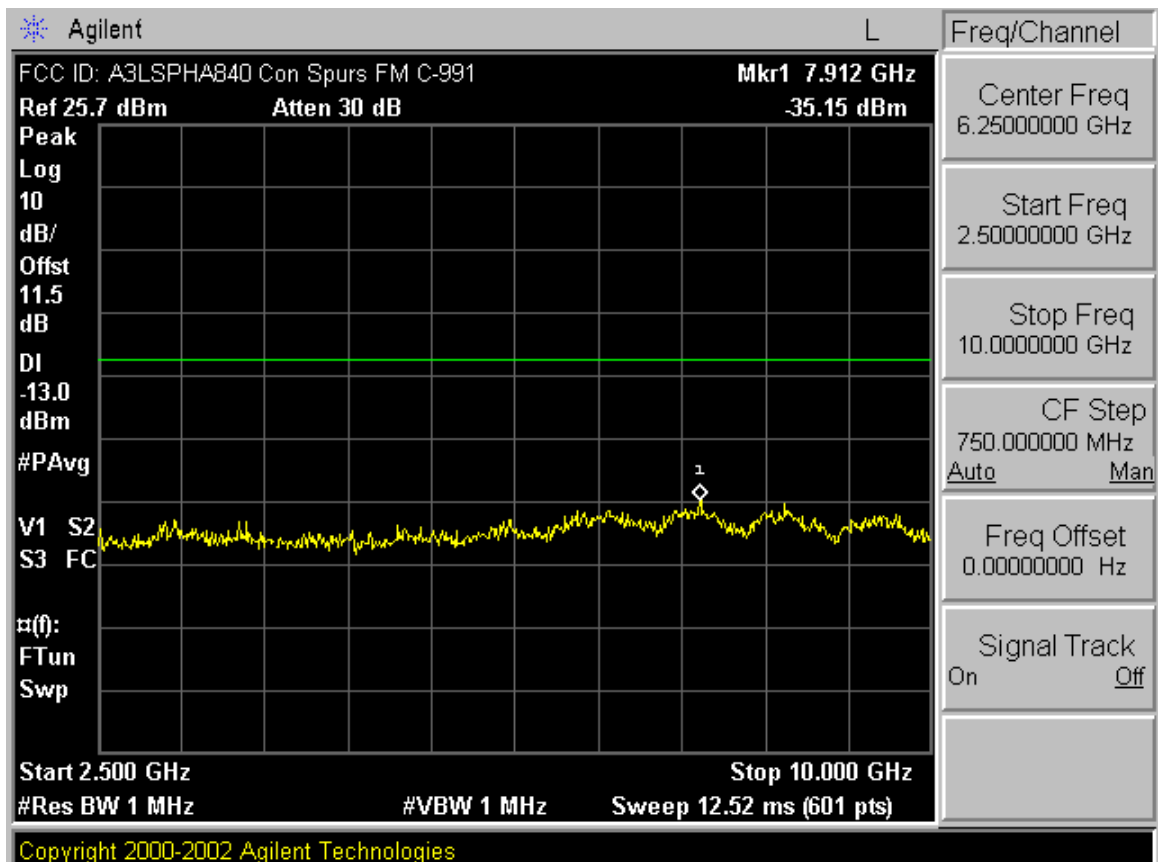
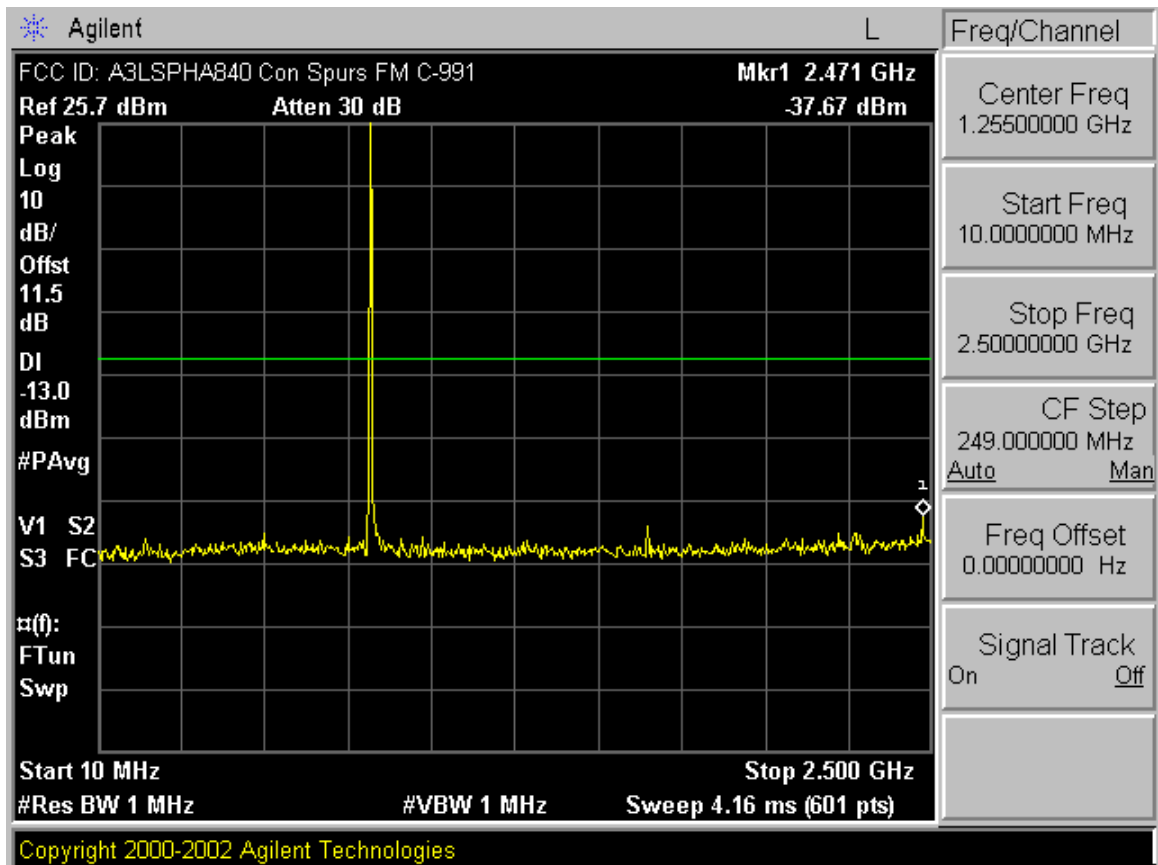
3.3 FREQUENCY STABILITY (AMPS)



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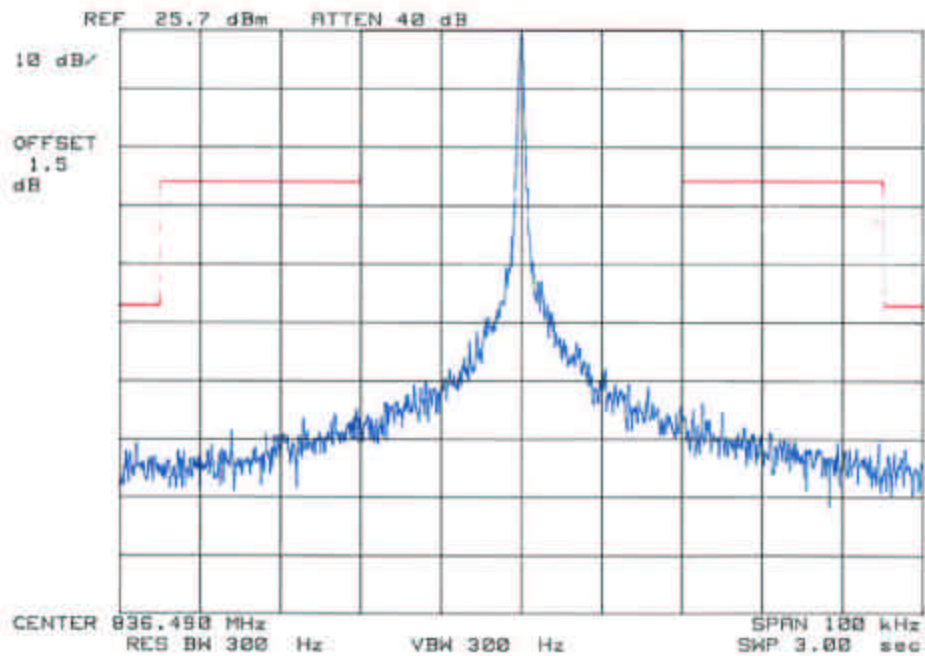


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SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA840
SAMSUNG
Tri-Mode Phone
FM Channel 383
Operating Frequency: 836.490 MHz
Output Power : 25.7 dBm

Test Mode:Unmodulated Signal

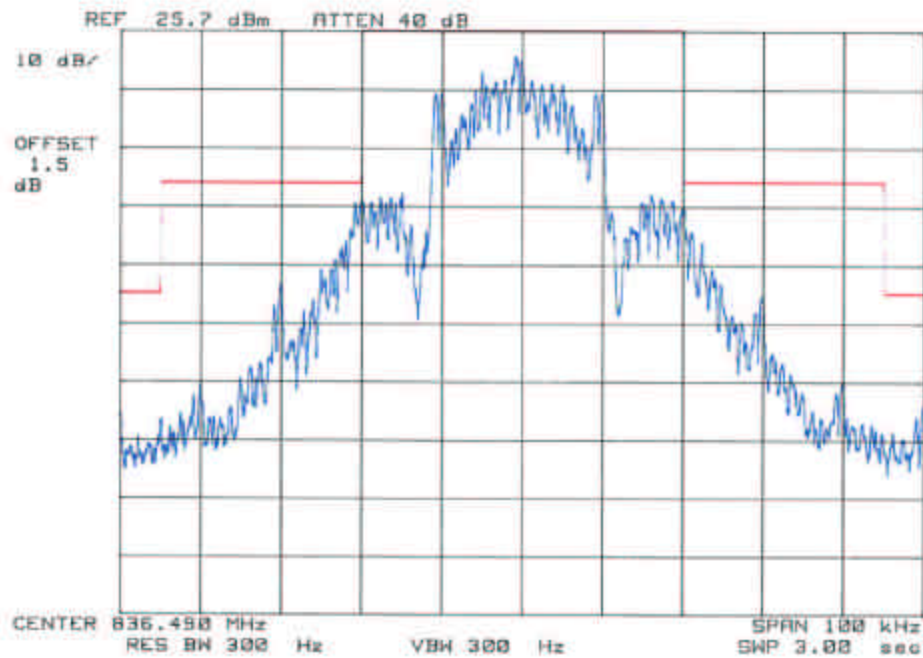


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SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA840
SAMSUNG
Tri-Mode Phone
FM Channel 383
Operating Frequency: 836.490 MHz
Output Power : 25.7 dBm

Test Mode:Wide Band Data



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SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA840

SAMSUNG

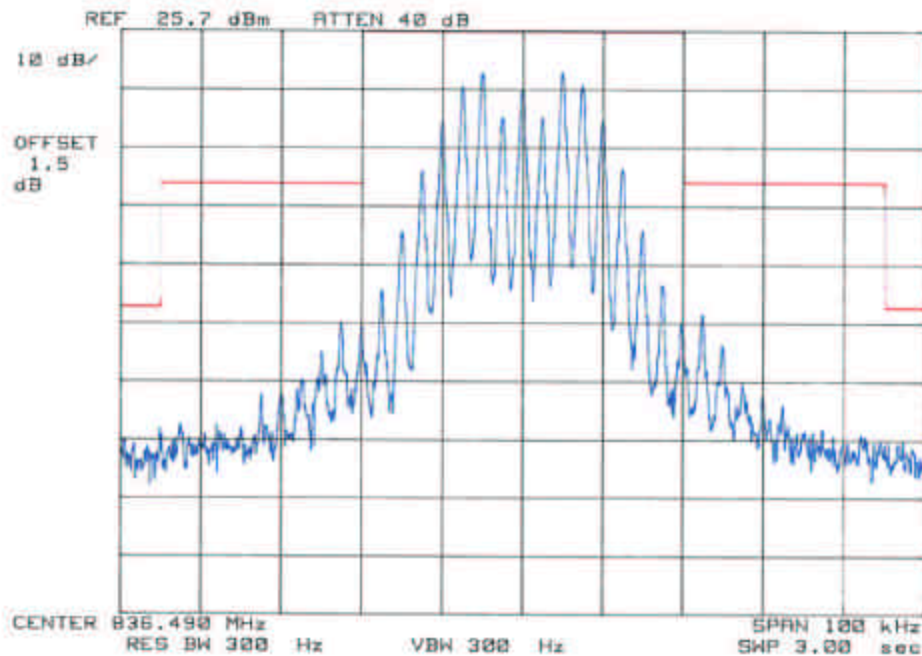
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 25.7 dBm

Test Mode:Voice

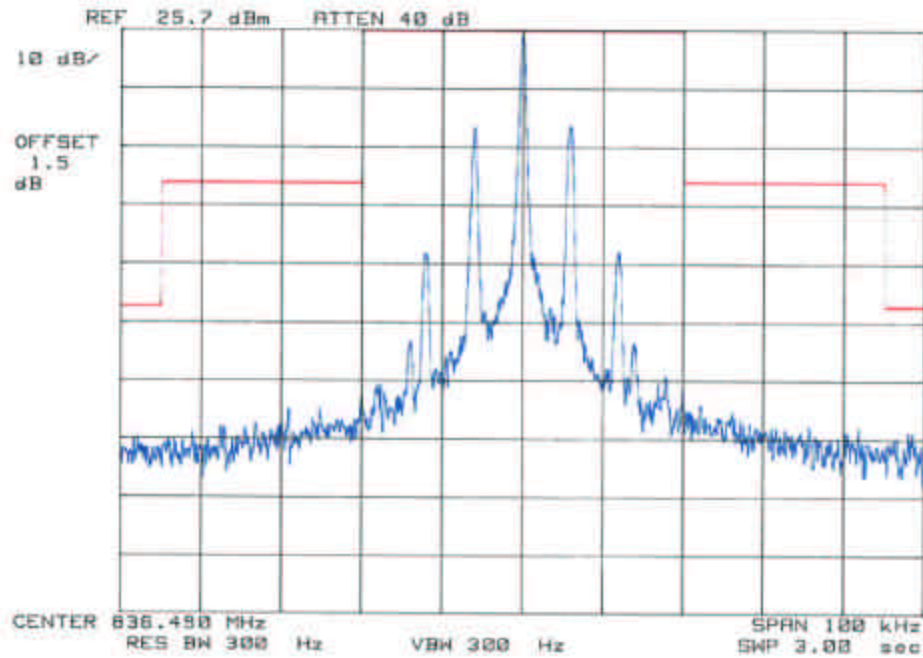


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SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA840
SAMSUNG
Tri-Mode Phone
FM Channel 383
Operating Frequency: 836.490 MHz
Output Power : 25.7 dBm

Test Mode:SAT



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SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA840

SAMSUNG

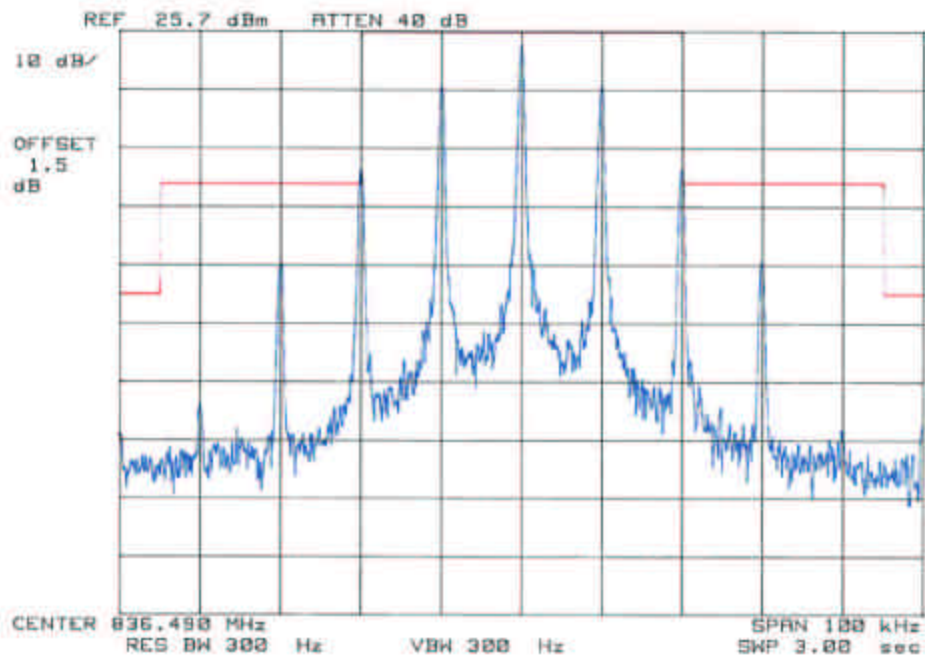
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 25.7 dBm

Test Mode:ST

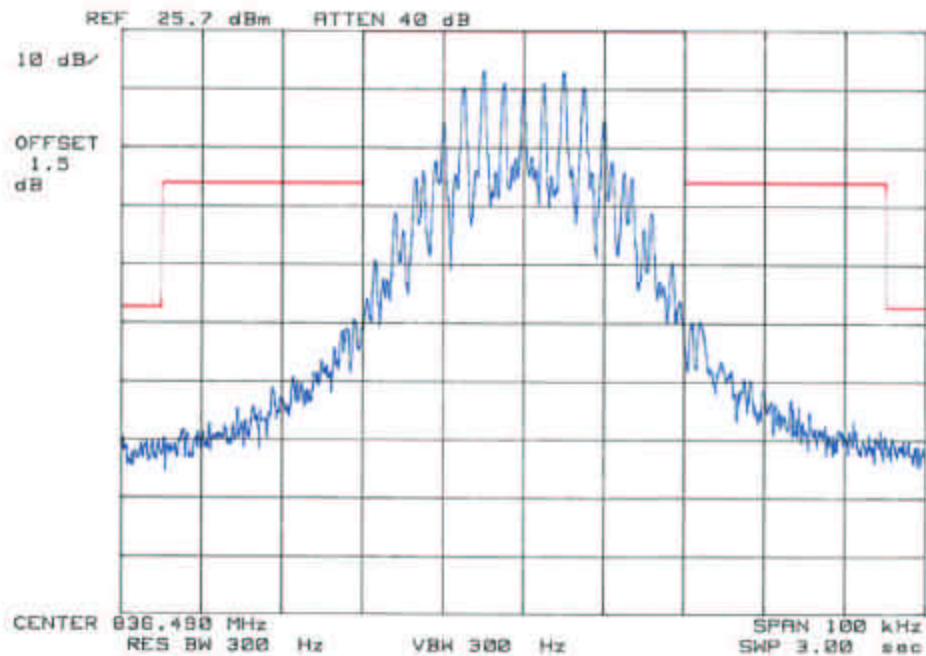


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SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA840
SAMSUNG
Tri-Mode Phone
FM Channel 383
Operating Frequency: 836.490 MHz
Output Power : 25.7 dBm

Test Mode:SAT + Voice

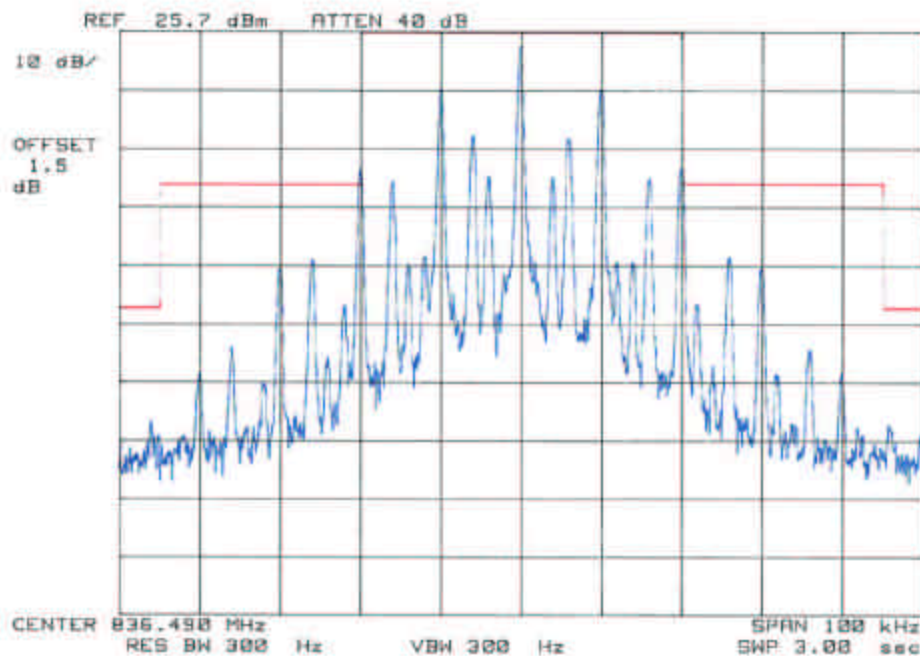


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SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA840
SAMSUNG
Tri-Mode Phone
FM Channel 383
Operating Frequency: 836.490 MHz
Output Power : 25.7 dBm

Test Mode:SAT + ST



PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA840
SAMSUNG
Tri-Mode Phone
FM Channel 383
Operating Frequency: 836.490 MHz
Output Power : 25.7 dBm

Test Mode:SAT + DTMF

