SAMSUNG ELECTRONICS Co., Ltd.,
Regulatory Compliance Group
IT R&D Center
416 Maetan3-Dong,
Yeongtong-gu, Suwon city,
Gyeonggi-Do, Korea 443-742

FCC CFR47 PART 22 & 24 SUBPART CERTIFICATION REPORT

Model Tested:	**SCH-R470**
FCC ID (Requested):	**A3LSCHR470**
Report No:	**FF-215-R1**
Job No:	**FF-215**
Date issued:	**2008-10-09**

- Abstract –
All measurement reported here in accordance with FCC Rules, 47CFR Part2, Part22, Part24

Prepared By

KJ KWON – Test Engineer

Authorized By

WT JANG – Technical Manager

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MEASUREMENT REPORT Page

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 ELECTRONICS CO., LTD.
· Address:	416 Maetan3-Dong, Yeongtong-gu, Suwon City Gyeonggi-Do, Korea 443-742
· Attention:	SungJoo KIM, Engineering Manager (QA Lab)
· FCC ID:	A3LSCHR470
· Quantity:	Quantity production is planned
· Emission Designators:	1M29F9W(CDMA), 1M28F9W(PCS CDMA)
· Tx Freq. Range:	824.70-848.31MHz (CDMA) 1851.25-1908.75MHz (PCS CDMA)
· Rx Freq. Range:	869.70-893.31MHz (CDMA) 1931.25-1988.75MHz (PCS CDMA)
· Max. Power Rating:	0.166 W ERP CDMA (22.19 dBm) 0.605 W EIRP PCS (27.82 dBm)
· FCC Classification(s):	PCS Licensed Portable Tx Held to Ear (PCE)
· Equipment (EUT) Type:	Cellular/PCS CDMA Phone with Bluetooth
· Modulation(s):	CDMA
· Frequency Tolerance:	±0.00025% (2.5ppm)
· FCC Rule Part(s):	§24(E), §22(H), §2.
· Dates of Test:	October 2-6, 2008
· Place of Test:	SAMSUNG Lab,
· Test Report S/N:	FF-215-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 443-742
The site have 1 Fully-anechoic chamber and measurement facility.

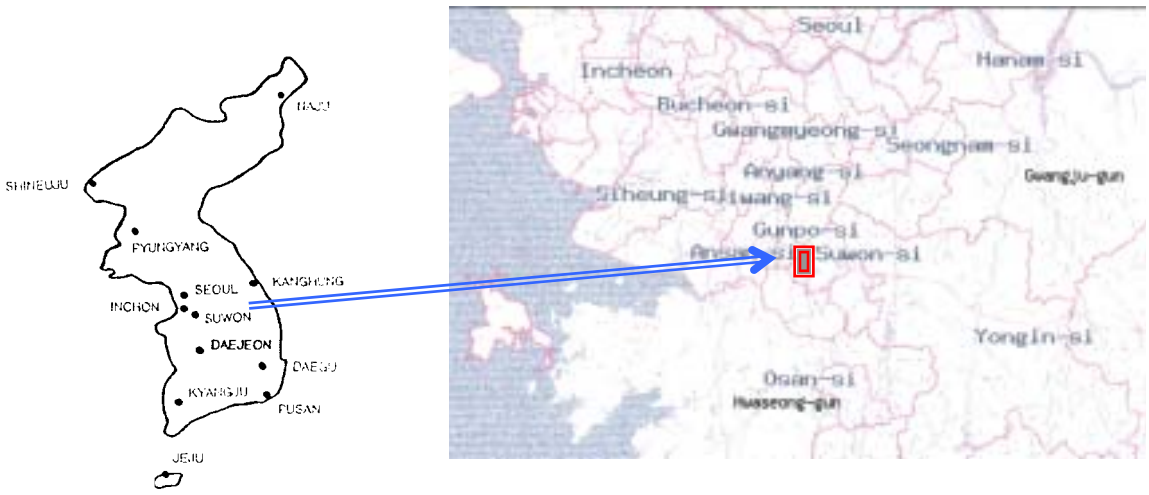
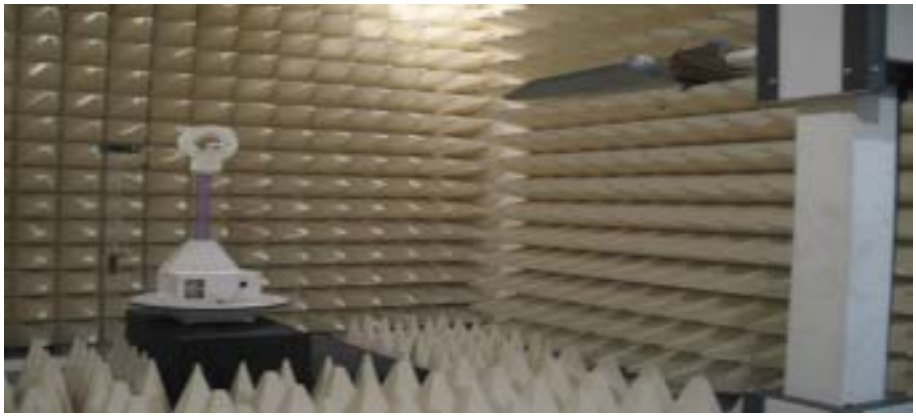


Figure1. Map of the Suwon City area.

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 the rotating device at the same height and at a distance of 3-meters from the receive antenna. The rotating device which can rotate horizontal axis was mounted on the turn unit to facilitate rotation around a vertical axis. The measurement was made for each horizontal/vertical position combination with receive antenna horizontally polarized. This measurement was repeated with receive antenna vertically polarized.
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 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.



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**.**

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4. TEST EQUIPMENT LIST

Name Of Equipment	Model	Serial No.	Due Date
Spectrum Analyzer	ESI26	836119/010	2008-10-17
	E4440A(3Hz~26.5GHz)	MY46187454	2009-03-03
	E4440A(3Hz~26.5GHz)	MY41000236	2009-04-15
	E4440A(3Hz~26.5GHz)	MY41000233	2009-07-24
Signal Generator	SMR20	835197/030	2008-12-05
Network Analyzer	8753E	JP38160590	2009-06-20
Power Sensor	E9300H	MY41495838	2009-09-12
	8481B	3318A10325	2009-09-28
	8485A	3318A19924	2009-10-01
Power Meter	E4417A	MY45101042	2009-09-12
	E4419B	GB41293846	2009-09-12
Pre-Amplifier	8449B	3008A00691	2008-12-24
Communication test set	8960	MY47510060	2009-03-03
	8960	GB42230535	2009-01-02
	8960	GB42360886	2009-07-08
Controller	CO2000	CO2000/424	Not Required
Turn Unit	CT0800	CT0800/057	Not Required
Rotating Device	DE3600-RH-PR	DE3600-RH-PR/050	Not Required
Antenna Master	MA4000	MA4000/204	Not Required
Horn Antenna	HF906	100134	2009-10-24
	HF906	360306/011	2010-06-13
	BBHA9120	9120D-637	2009-10-24
Dipole Antenna	UHA 9105	9105-2412	2009-11-07
	UHA 9105	9105-2413	2010-06-13
	3121C-DB4	9007-587	2009-04-16
Communication test set	CMU200	109162	2008-10-17
Receive Antenna	HL040	353255/019	2009-10-29
	HL040	353255/020	2010-06-13
Power Supply	E3640A	MY40003594	2009-06-20
	E3640A	MY40003595	2009-05-22
	E3632A	MY40022438	2009-03-03
Divider	11636B	51946	Not Required
	11636B	51942	Not Required

Name Of Equipment	Model	Serial No.	Due Date
	11636B	56913	Not Required
	11636B	56918	Not Required
High Pass Filter	WHK1.0/15G-10SS	1	Not Required
	WHK/3.0/18G-10SS	492	Not Required
	WHK/3.5/18G-10SS	4	Not Required
Environmental Chamber	SH-241	92000549	2008-11-15
	SH-241	92000548	2008-11-15
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”, October 2007.

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 RC3

Band	Channel	CDMA2000 RC	SO2	SO55	TDSO SO32
Cellular	1013	RC1	25.2	25.2	-
		RC3	25.19	25.27	25.22
	384	RC1	25.13	25.16	-
		RC3	25.06	25.1	25.13
	777	RC1	24.79	24.84	-
		RC3	24.79	24.85	24.85
PCS	25	RC1	25.13	25.15	-
		RC3	25.05	25.16	25.11
	600	RC1	25.15	25.15	-
		RC3	25.18	25.1	25.12
	1175	RC1	25.2	25.24	-
		RC3	25.26	25.28	25.21

Table 5-3
Maximum Power Output Table for SCH-R470

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-C-2004

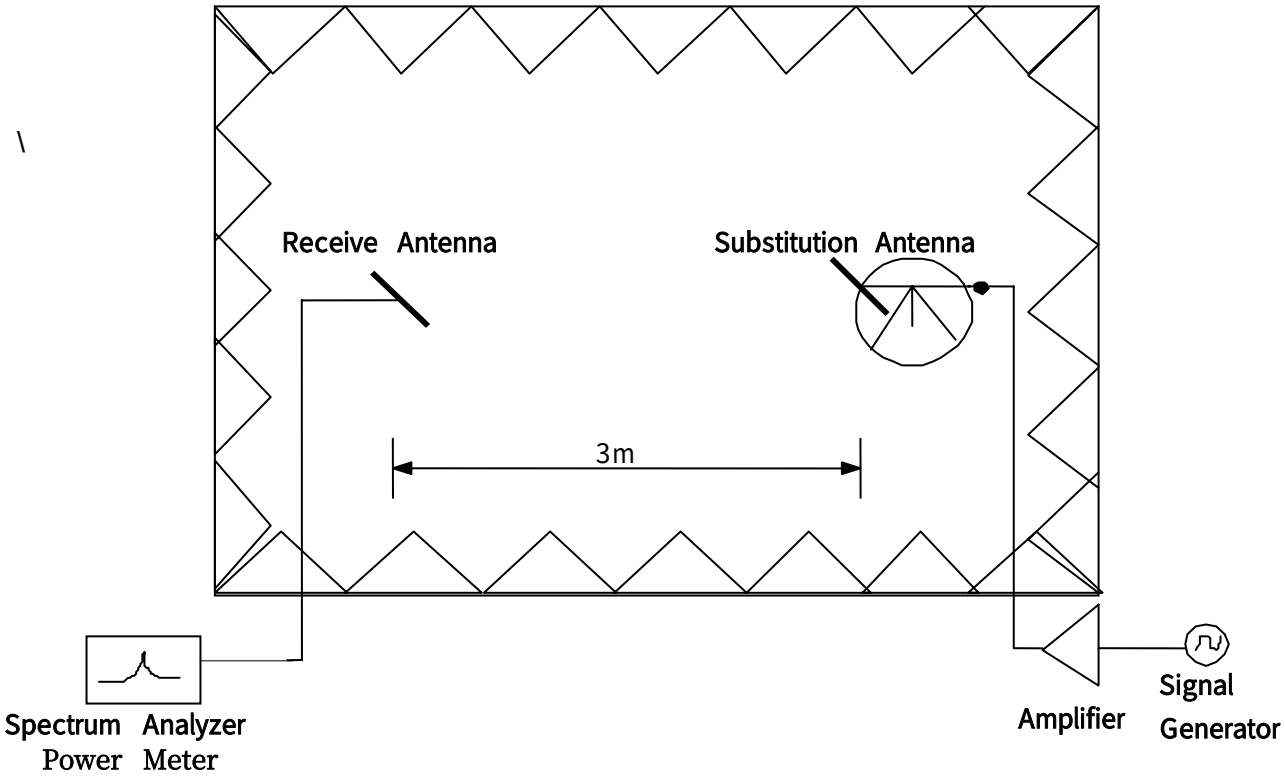

Figure 3. Diagram of ERP/EIRP test Set-up

The EUT was placed on the rotating device at 3-meters from the receive antenna. The turn unit and rotating device 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 and EIRP are 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.

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-C-2004

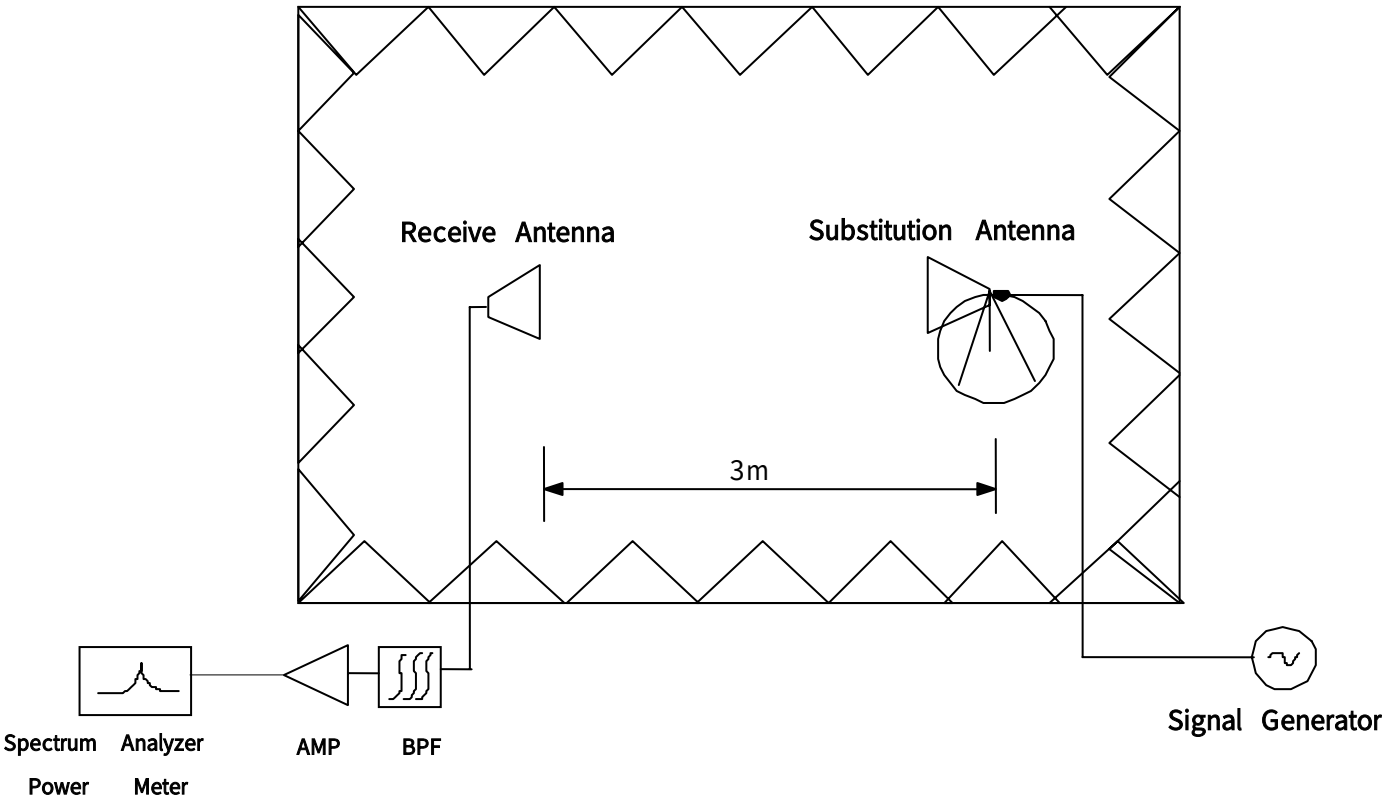

Figure 4. Diagram of Radiated Spurious & Harmonic test Set-up

The EUT was placed on the rotating device at 3-meters from the receive antenna. The turn unit and rotating device 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 .

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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 Peak-Average Ratio

A peak to average ratio measurement is performed at the conducted port of the EUT. An average and a peak trace are used on a spectrum analyzer to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth.

5.6 Spurious and Harmonic Emissions at Antenna Terminal

5.6.1 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.

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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

5.6.2 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 (0.333 W) = 38.22dB
25.22 dBm –38.22 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.

5.7 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.
   - The artificial load is mounted external to the temperature chamber.

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

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6. TEST DATA

6.1 Effective Radiated Power(E.R.P.)

Supply Voltage : 3.7VDC

Modulation : CDMA

■Reference level

Frequency (MHz)	Output (dBm)	Polarization	P/M (dBm)	Ant gain (dBd)	Ref level (dBm)
824.70	22.00	H	-15.29	-0.67	-14.62
		V	-15.59	-0.67	-14.92
836.52	22.00	H	-15.88	-0.73	-15.15
		V	-15.39	-0.73	-14.66
848.31	22.00	H	-17.78	-0.79	-16.99
		V	-16.62	-0.79	-15.83

■Result

Frequency (MHz)	From EUT Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	ERP (dBm)	ERP (W)	Battery
824.70	-14.43	H	288/70	22.19	0.166	Standard
836.52	-15.56	H	293/80	21.59	0.144	Standard
848.31	-16.84	H	295/80	22.15	0.164	Standard

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

- All modes of operation were investigated, and the worst-case results are reported.
Radiated measurements at 3 meters by Substitution Method

Radiated measurements at 3 meters by Substitution Method

6.2 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	28.00	H	-10.96	9.70	-20.66
		V	-11.22	9.70	-20.92
1880.00	28.00	H	-11.75	9.70	-21.45
		V	-11.43	9.70	-21.13
1908.75	27.00	H	-12.73	9.70	-22.43
		V	-12.59	9.70	-22.29

■Result

Frequency (MHz)	From EUT Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	EIRP (dBm)	EIRP (W)	Battery
1851.25	-21.10	V	37/90	27.82	0.605	Standard
1880.00	-21.45	V	29/90	27.68	0.586	Standard
1908.75	-22.12	V	30/90	27.17	0.521	Standard

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

- All modes of operation were investigated, and the worst-case results are reported.
Radiated measurements at 3 meters by Substitution Method

Radiated measurements at 3 meters by Substitution Method

6.3 Cellular CDMA Radiated Spurious & Harmonic measurement

Field Strength of SPURIOUS Radiation

Operating Frequency : 824.70 MHz(Low), 836.52MHz(Middle), 848.31MHz(High)

Measured Output Power : 22.19 dBm = 0.166 W

Modulation Signal : CDMA

Limit : 43 + 10log$_{10}$(P) = 35.19 dBc

■ **Result**

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	POL (H/V)	Result (dBc)
1013	2	1649.40	-42.54	H	53.95
	3	2474.10	-55.68	H	62.00
	4	3298.80	-67.39	H	70.54
	5	4123.50	-	-	-
	6	4948.20	-	-	-
	7	5772.90	-	-	-
384	2	1673.04	-54.13	V	64.95
	3	2509.56	-57.01	H	63.52
	4	3346.08	-67.72	H	70.78
	5	4182.68	-	-	-
	6	5019.12	-	-	-
	7	5855.64	-	-	-
777	2	1696.62	-44.28	H	54.64
	3	2544.93	-59.98	V	66.32
	4	3393.24	-67.77	H	70.74
	5	4241.55	-	-	-
	6	5089.86	-	-	-
	7	5938.17	-	-	-

NOTE :

1. “-” Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. The spectrum is measured from 30MHz to the 10th harmonic and All modes of operation were investigated, and the worst-case results are reported..

Radiated Spurious Emission measurements at 3 meters by Substitution Method

6.4 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 : 27.82 dBm = 0.605 W

Modulation Signal : PCS

Limit : 43 + 10log$_{10}$(P) = 40.82 dBc

■ **Result**

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	POL (H/V)	Result (dBc)
25	2	3702.50	-58.09	H	62.09
	3	5553.75	-59.99	V	59.44
	4	7405.55	-67.23	H	62.11
	5	9256.25	-	-	-
	6	11107.50	-	-	-
	7	12958.75	-	-	-
600	2	3760.00	-54.97	V	58.80
	3	5640.00	-61.96	V	61.02
	4	7520.00	-67.07	V	62.20
	5	9400.00	-	-	-
	6	11280.00	-	-	-
	7	13160.00	-	-	-
1175	2	3817.50	-49.42	H	52.42
	3	5726.25	-60.92	V	59.84
	4	7635.00	-67.37	V	61.71
	5	9543.75	-	-	-
	6	11452.50	-	-	-
	7	13361.25	-	-	-

NOTE :

1. "-" Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. The spectrum is measured from 30MHz to the 10th harmonic and All modes of operation were investigated, and the worst-case results are reported..

Radiated Spurious Emission measurements at 3 meters by Substitution Method

6.5 CDMA Radiated Spurious & Harmonic Conversion Table

Date : October 6, 2008

Test Engineer : KJ KWON

① Tx Cable loss
② Tx Horn Ant Gain
③ Tx Level to radiate -13dBm
④ ESI Level received from Tx with-13dBm
⑤ Tested Level from EUT
⑥ = ERP+2.14 – (-13 +⑤ - ④)

CH	Har	Frequency (MHz)	① Tx C/L dB	②Tx Horn Gain dBi	③Tx Level dBm	④ ESI Level : H dBm	④ ESI Level : V dBm	⑤Tested EUT Level : H dBm	⑤Tested EUT Level : H dBm	⑥ Result EUT : H (dBc)	⑥ Result EUT : V (dBc)
1013	2	1649.40	-8.82	9.50	-13.70	-25.92	-25.43	-42.54	-45.49	53.95	57.39
	3	2474.10	-11.14	10.70	-12.60	-31.01	-31.15	-55.68	-57.70	62.00	63.88
	4	3298.80	-13.37	12.30	-11.90	-34.18	-34.55	-67.39	-67.82	70.54	70.60
	5	4123.50	-14.90	12.50	-10.60	-37.63	-37.32	-	-	-	-
	6	4948.20	-16.77	12.70	-8.90	-39.50	-39.23	-	-	-	-
	7	5772.90	-18.24	12.90	-7.70	-41.52	-42.18	-	-	-	-
384	2	1673.04	-8.89	9.50	-13.60	-26.82	-26.51	-56.26	-54.13	66.77	64.95
	3	2509.56	-11.30	10.70	-12.40	-30.82	-30.90	-57.01	-58.18	63.52	64.61
	4	3346.08	-13.23	12.30	-12.10	-34.27	-34.19	-67.72	-67.74	70.78	70.88
	5	4182.68	-15.03	12.50	-10.50	-36.98	-37.13	-	-	-	-
	6	5019.12	-17.37	12.70	-8.30	-39.97	-40.10	-	-	-	-
	7	5855.64	-18.51	12.90	-7.40	-43.15	-42.29	-	-	-	-
777	2	1696.62	-8.86	9.50	-13.60	-26.97	-26.98	-44.28	-45.54	54.64	55.89
	3	2544.93	-11.34	10.70	-12.40	-30.65	-30.99	-60.66	-59.98	67.34	66.32
	4	3393.24	-13.31	12.30	-12.00	-34.18	-34.47	-67.77	-67.88	70.92	70.74
	5	4241.55	-15.10	12.50	-10.40	-37.23	-37.26	-	-	-	-
	6	5089.86	-17.35	12.70	-8.40	-40.39	-40.12	-	-	-	-
	7	5938.17	-18.38	12.90	-7.50	-42.23	-42.50	-	-	-	-

6.6 PCS Radiated Spurious & Harmonic Conversion Table

Date : October 6, 2008

Test Engineer : KJ KWON

① Tx Cable loss
② Tx Horn Ant Gain
③ Tx Level to radiate -13dBm
④ ESI Level received from Tx with -13dBm
⑤ Tested Level from EUT
⑥ = EIRP – (-13 +⑤ - ④)

CH	Har	Frequency (MHz)	① Tx C/L dB	②Tx Horn Gain dBi	③Tx Level dBm	④ ESI Level : H dBm	④ ESI Level : V dBm	⑤Tested EUT Level : H dBm	⑤Tested EUT Level : H dBm	⑥ Result EUT : H (dBc)	⑥ Result EUT : V (dBc)
25	2	3702.50	-13.91	12.40	-11.50	-36.82	-36.64	-58.09	-58.33	62.09	62.51
	3	5553.75	-18.04	12.90	-7.90	-41.37	-41.37	-60.26	-59.99	59.71	59.44
	4	7405.00	-20.27	10.50	-3.20	-45.94	-45.35	-67.23	-69.12	62.11	64.59
	5	9256.25	-23.06	11.20	-1.10	-51.85	-49.57	-	-	-	-
	6	11107.50	-25.92	11.60	1.30	-54.92	-54.59	-	-	-	-
	7	12958.75	-28.16	12.90	2.30	-56.76	-56.49	-	-	-	-
600	2	3760.00	-14.05	12.40	-11.40	-37.50	-36.99	-56.43	-54.97	59.75	58.80
	3	5640.00	-18.03	12.90	-7.90	-41.30	-41.76	-62.03	-61.96	61.55	61.02
	4	7520.00	-20.41	10.60	-3.20	-45.54	-45.69	-68.61	-67.07	63.89	62.20
	5	9400.00	-22.44	11.60	-2.20	-51.20	-50.63	-	-	-	-
	6	11280.00	-26.22	12.10	1.10	-54.35	-54.25	-	-	-	-
	7	13160.00	-27.70	12.80	1.90	-57.39	-57.52	-	-	-	-
1175	2	3817.50	-14.59	12.40	-10.80	-37.15	-37.91	-49.42	-49.51	53.09	52.42
	3	5726.25	-18.34	13.00	-7.70	-41.97	-41.90	-62.06	-60.92	60.91	59.84
	4	7635.00	-20.39	11.20	-3.80	-46.12	-46.48	-67.74	-67.37	62.44	61.71
	5	9543.75	-23.07	11.70	-1.60	-50.91	-50.34	-	-	-	-
	6	11452.50	-26.21	11.70	1.50	-54.31	-54.64	-	-	-	-
	7	13361.25	-27.83	12.30	2.50	-58.60	-58.83	-	-	-	-

6.7 Frequency Stability

6.7.1 CDMA Frequency Stability Table

Operating Frequency : 836,520,000 Hz
Channel : 384
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)	-20.40	836,519,980	-0.000002	-0.024
100%		-30	22.70	836,520,023	0.000003	0.027
100%		-20	-25.70	836,519,974	-0.000003	-0.031
100%		-10	3.50	836,520,004	0.000000	0.004
100%		0	-2.90	836,519,997	0.000000	-0.003
100%		+10	-36.70	836,519,963	-0.000004	-0.044
100%		+20	-20.40	836,519,980	-0.000002	-0.024
100%		+30	-35.90	836,519,964	-0.000004	-0.043
100%		+40	-12.60	836,519,987	-0.000002	-0.015
100%		+50	11.00	836,520,011	0.000001	0.013
100%		+60	-24.30	836,519,976	-0.000003	-0.029
85%	3.35	+20	-28.70	836,519,971	-0.000003	-0.034
115%	4.26	+20	12.80	836,520,013	0.000002	0.015
Batt. Endpoint	3.35	+20	-28.70	836,519,971	-0.000003	-0.034

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

6.7.2 PCS Frequency Stability Table

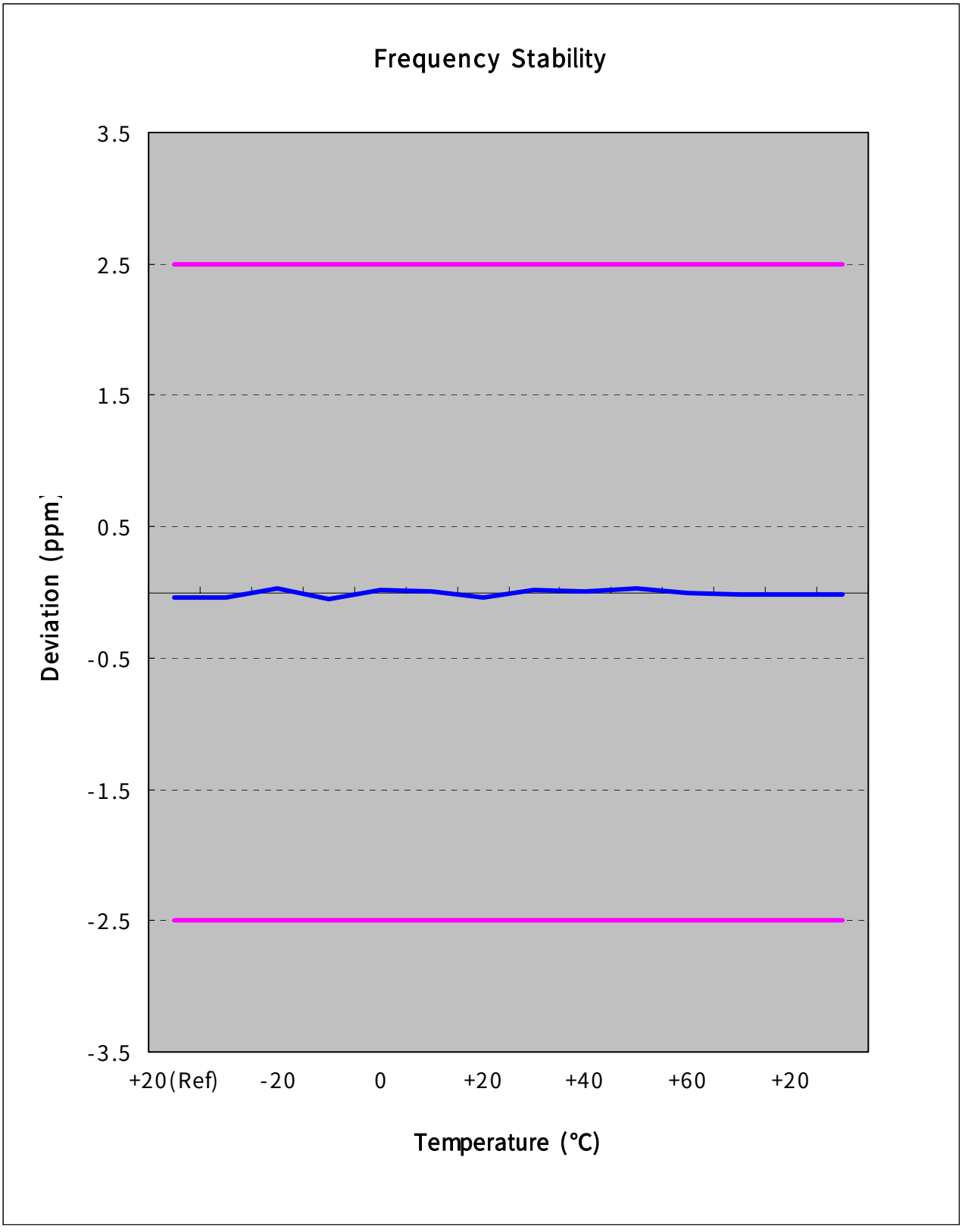
Operating Frequency : 1,880,000,000 Hz
Channel : 600
Reference Voltage : 3.7VDC
Deviation Limit : ±0.00025 % or 2.5ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency Error (Hz)	Frequency (Hz)	Deviation (%)	ppm
100%	3.70	+20(Ref)	-23.10	1,879,999,977	-0.000001	-0.012
100%		-30	-39.60	1,879,999,960	-0.000002	-0.021
100%		-20	-4.20	1,879,999,996	0.000000	-0.002
100%		-10	-27.80	1,879,999,972	-0.000001	-0.015
100%		0	-38.20	1,879,999,962	-0.000002	-0.020
100%		+10	30.50	1,880,000,031	0.000002	0.016
100%		+20	-23.10	1,879,999,977	-0.000001	-0.012
100%		+30	-32.60	1,879,999,967	-0.000002	-0.017
100%		+40	28.20	1,880,000,028	0.000002	0.015
100%		+50	-15.80	1,879,999,984	-0.000001	-0.008
100%		+60	22.60	1,880,000,023	0.000001	0.012
85%	3.35	+20	20.10	1,880,000,020	0.000001	0.011
115%	4.26	+20	-9.90	1,879,999,990	-0.000001	-0.005
Batt. Endpoint	3.35	+20	20.10	1,880,000,020	0.000001	0.011

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

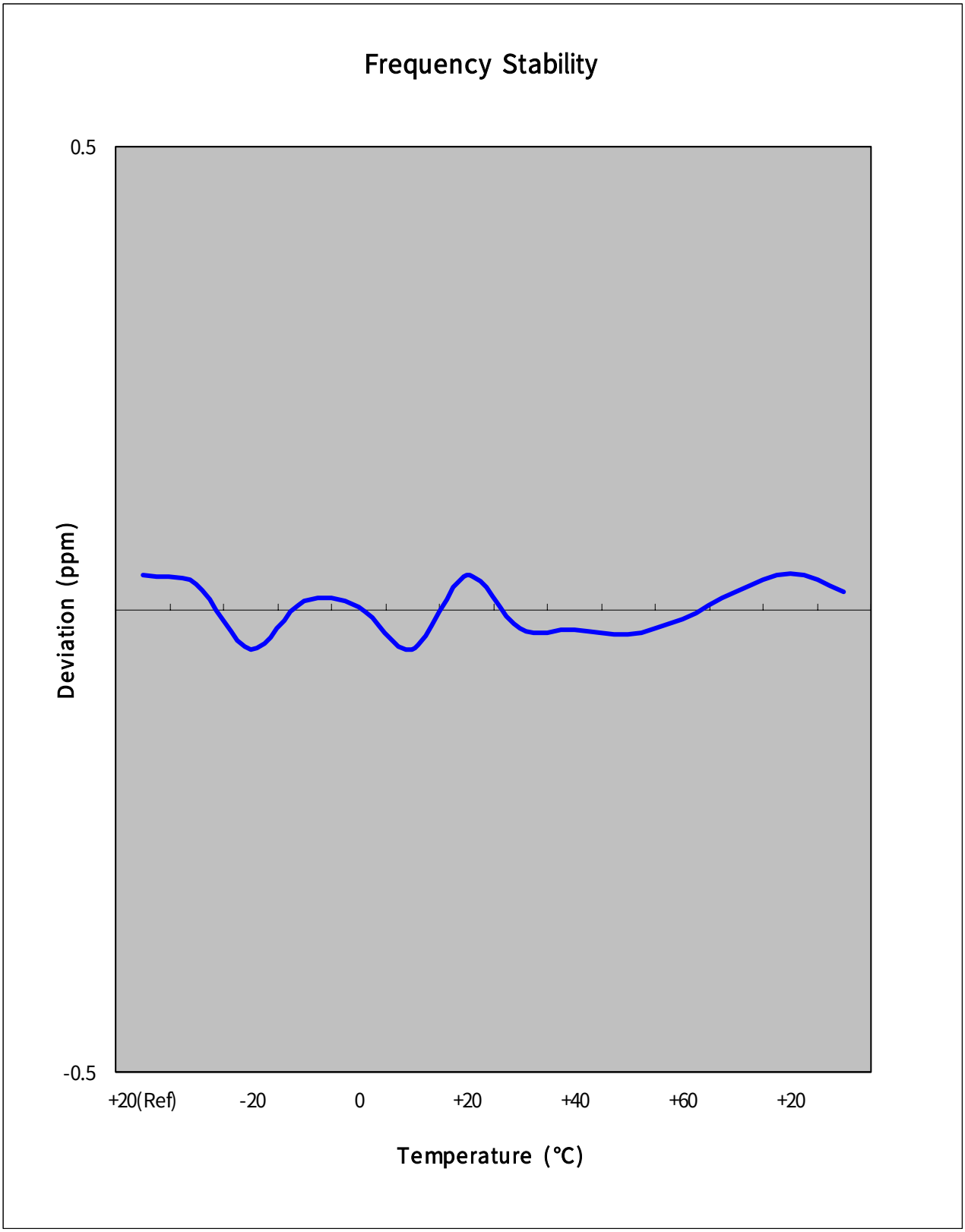
The EUT is tested down to the battery end point

6.7.3 CDMA Frequency Stability Graph



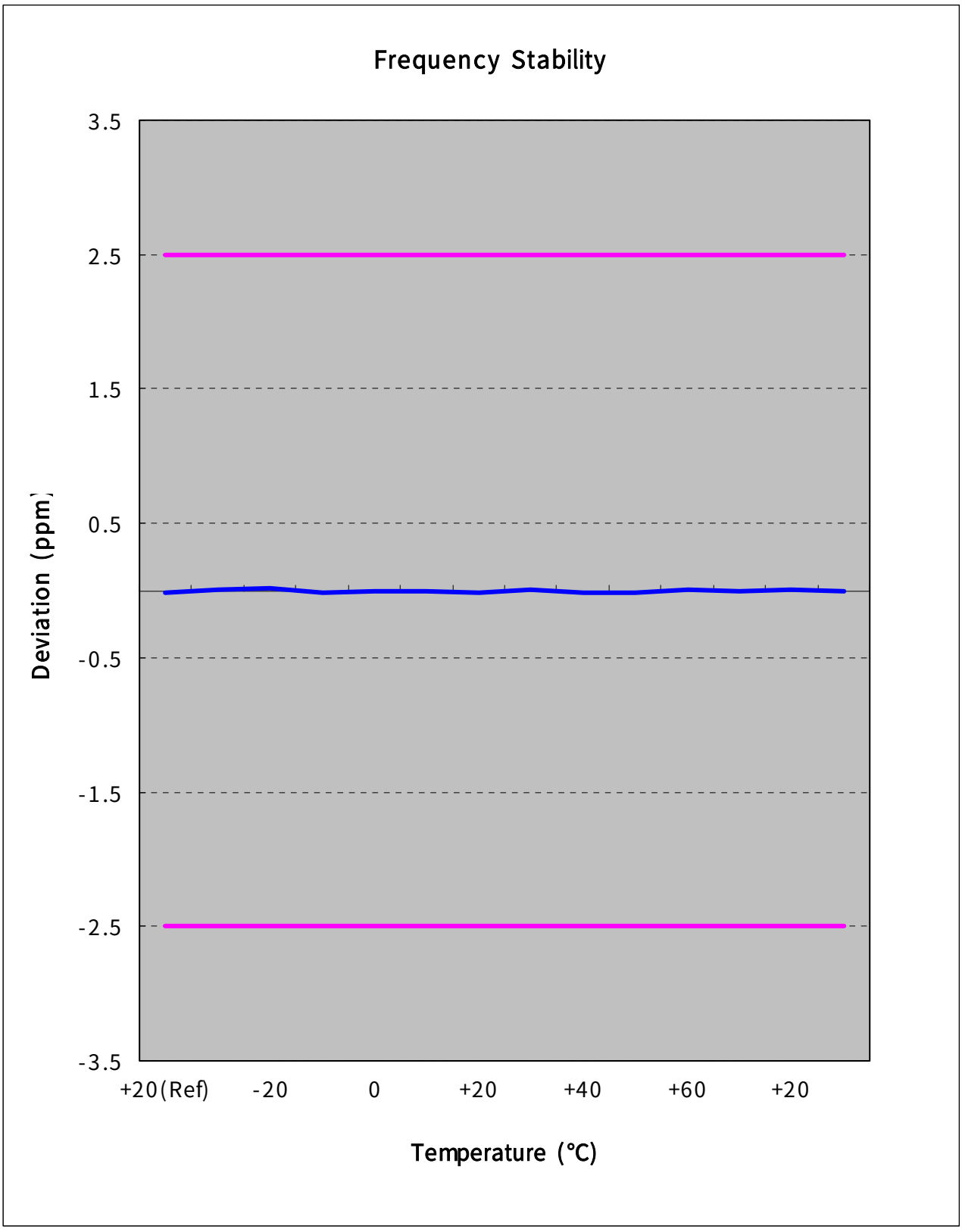
– End of page –

Zoom In



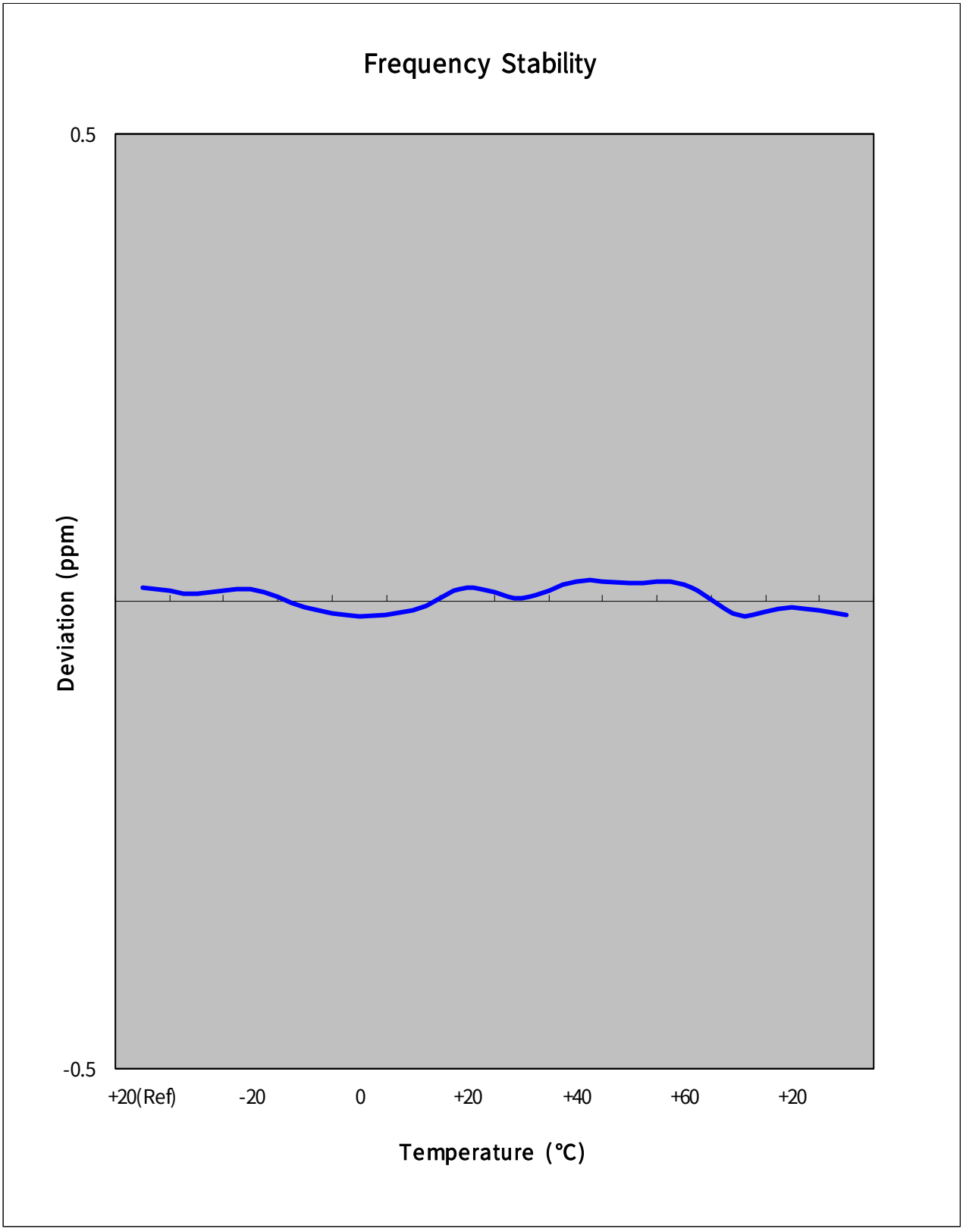
– End of page –

6.7.4 PCS Frequency Stability Graph



– End of page –

Zoom In



– End of page -

7. SAMPLE CALCULATION

7.1 Emission Designator

Emission Designator = 1M25F9W

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 –

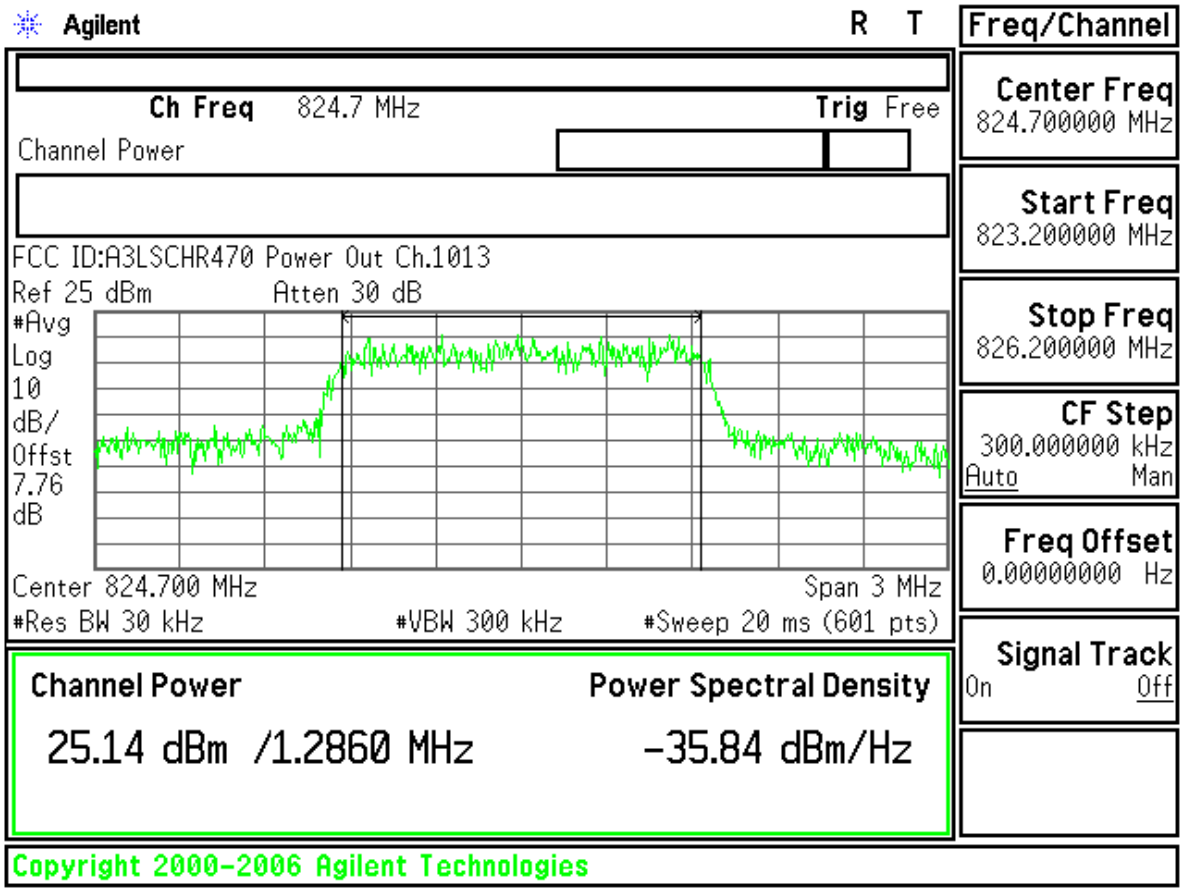
8. CONCLUSION

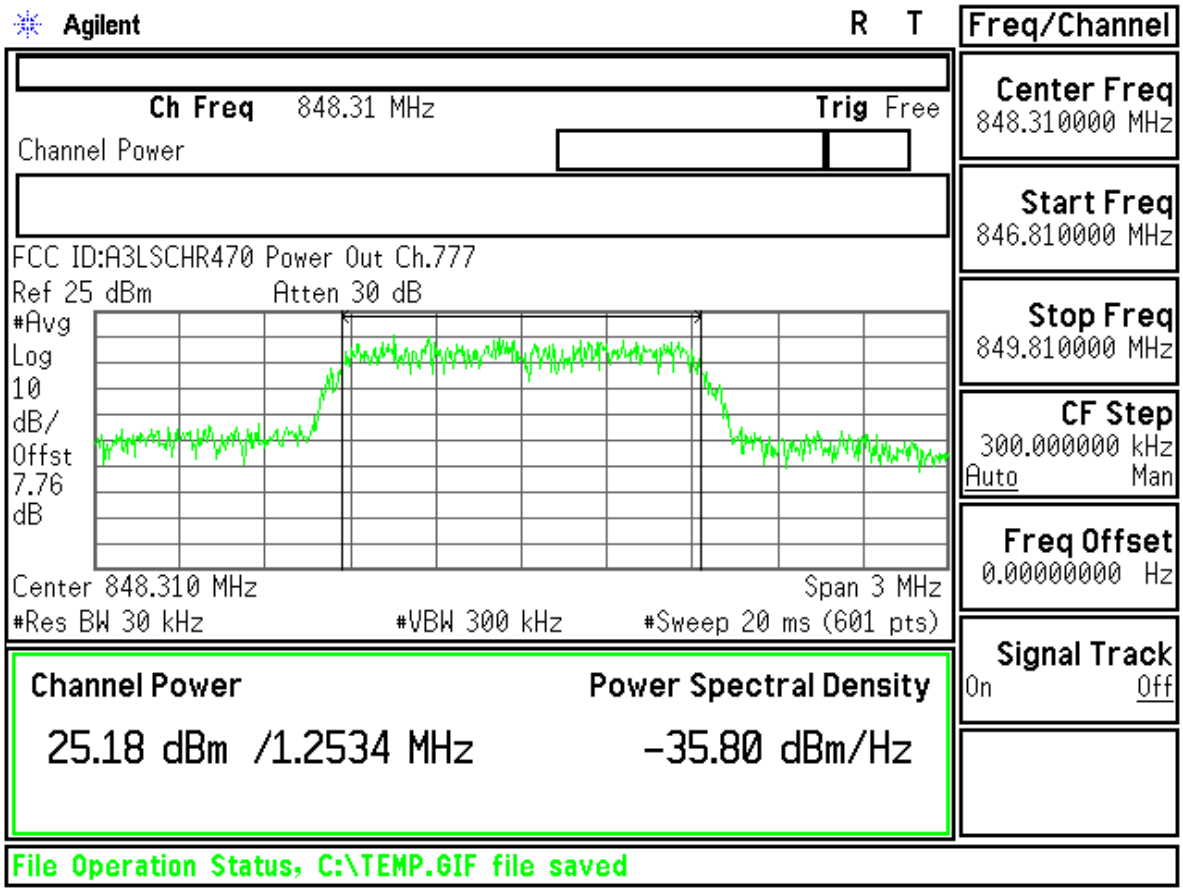
The data collected shows that the SAMSUNG Cellular/PCS CDMA Phone with Bluetooth FCC ID : A3LSCHR470 complies with all the requirements of Parts 2, 22, 24 of the FCC Rules.

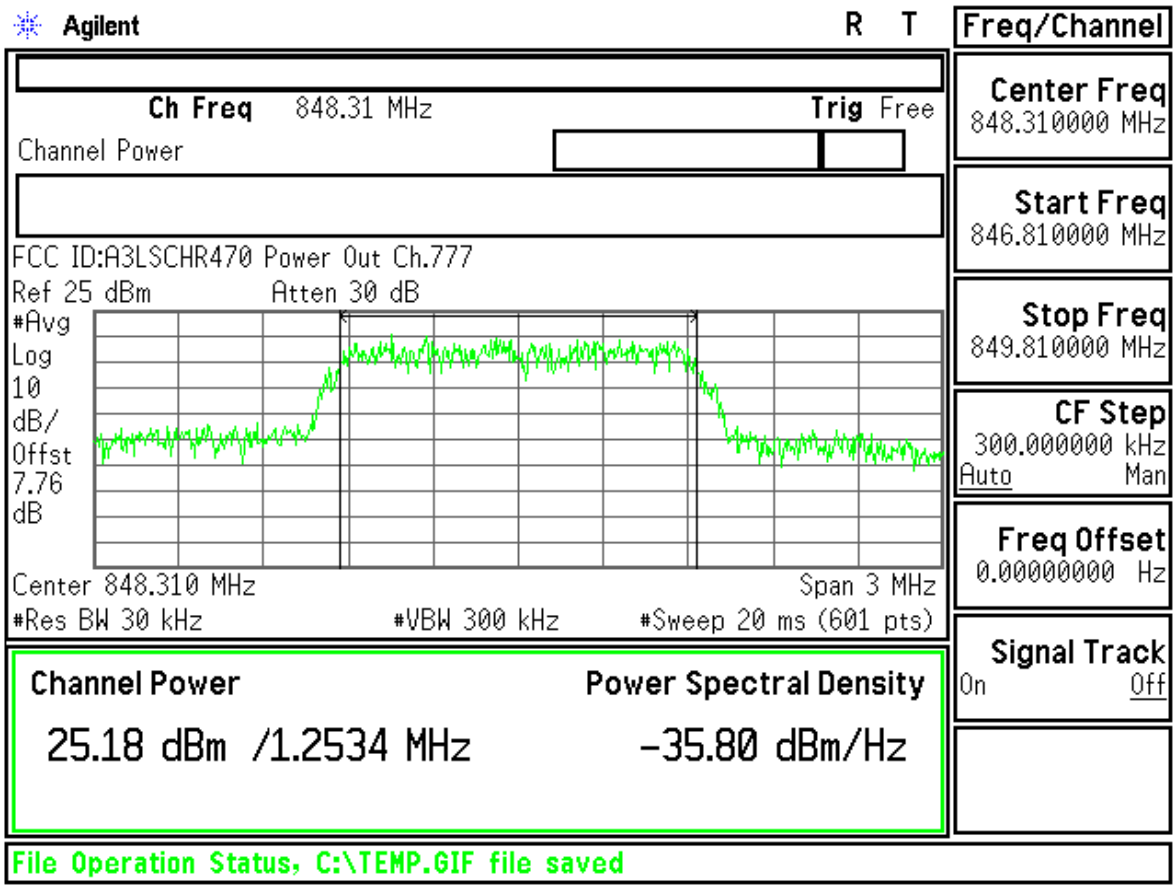
– End of page -

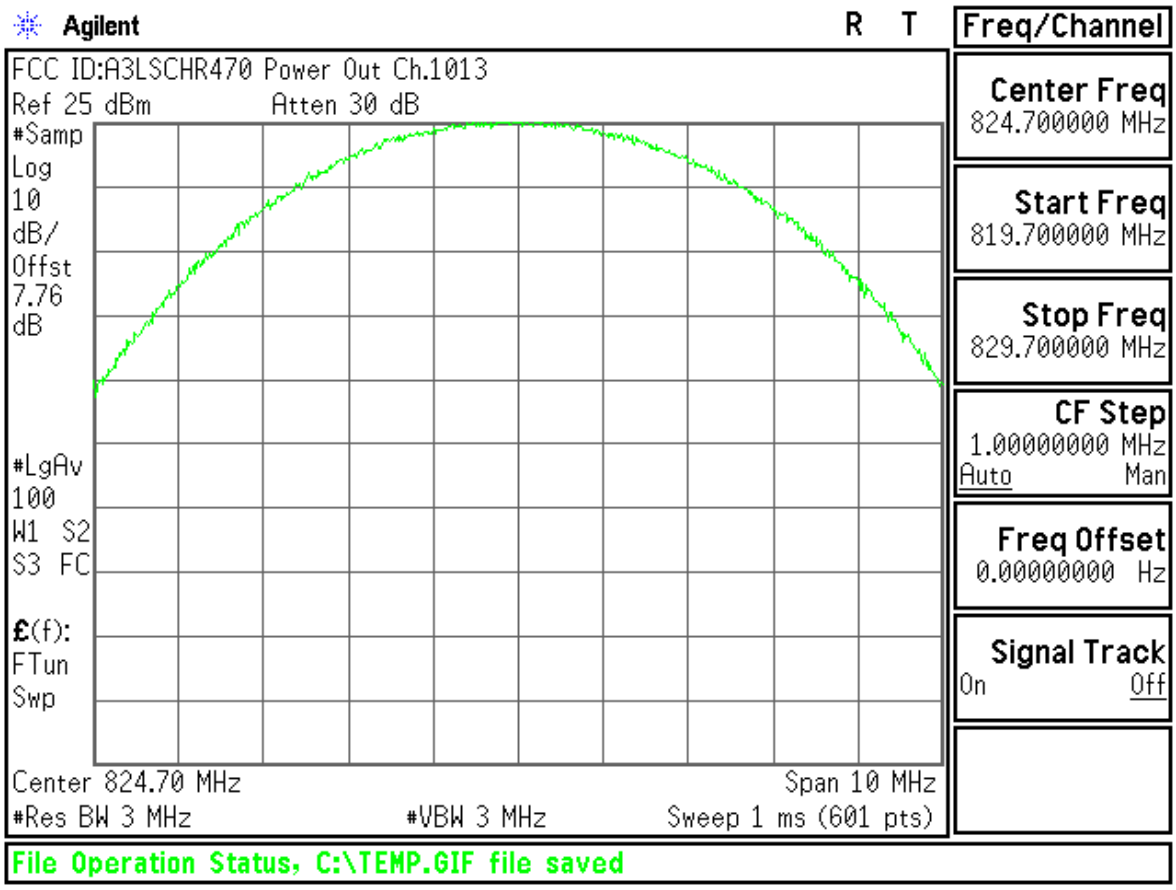
9. TEST PLOTS

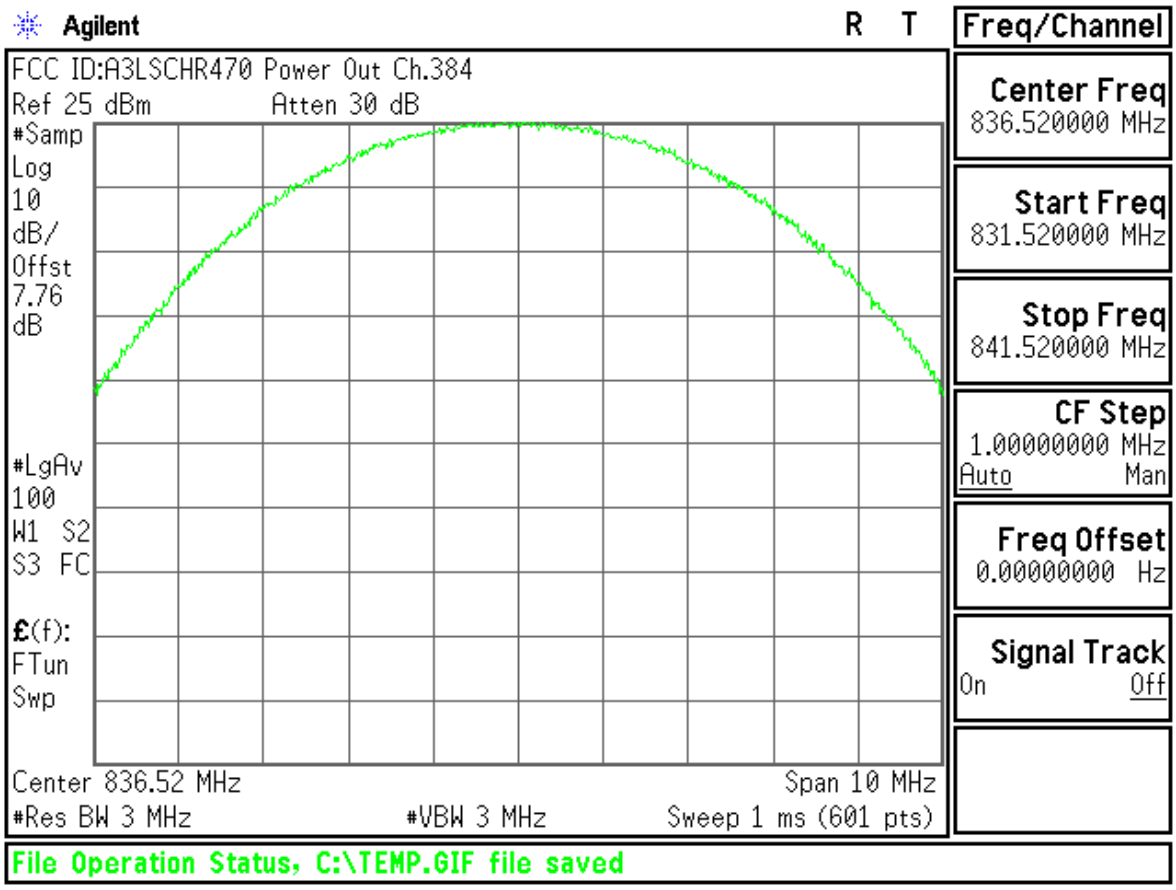
A3LSCHR470CDMA

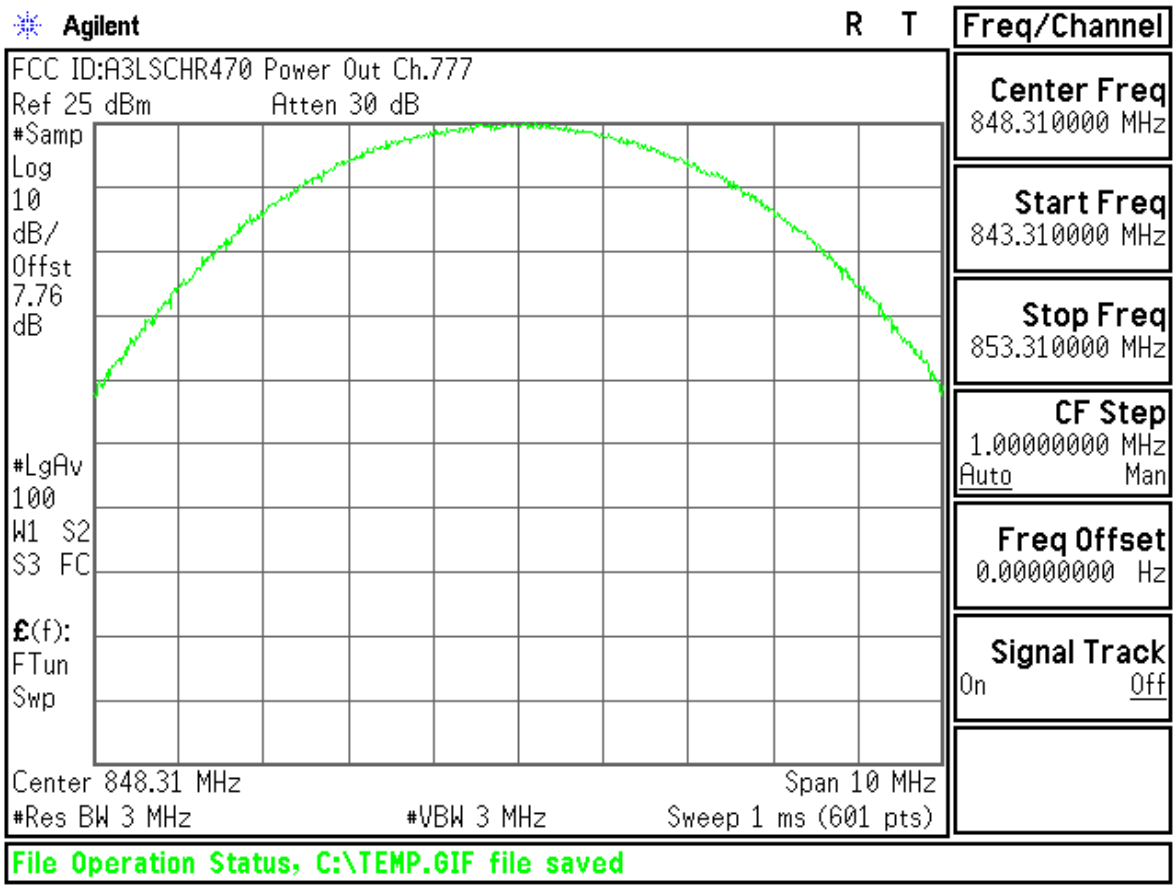


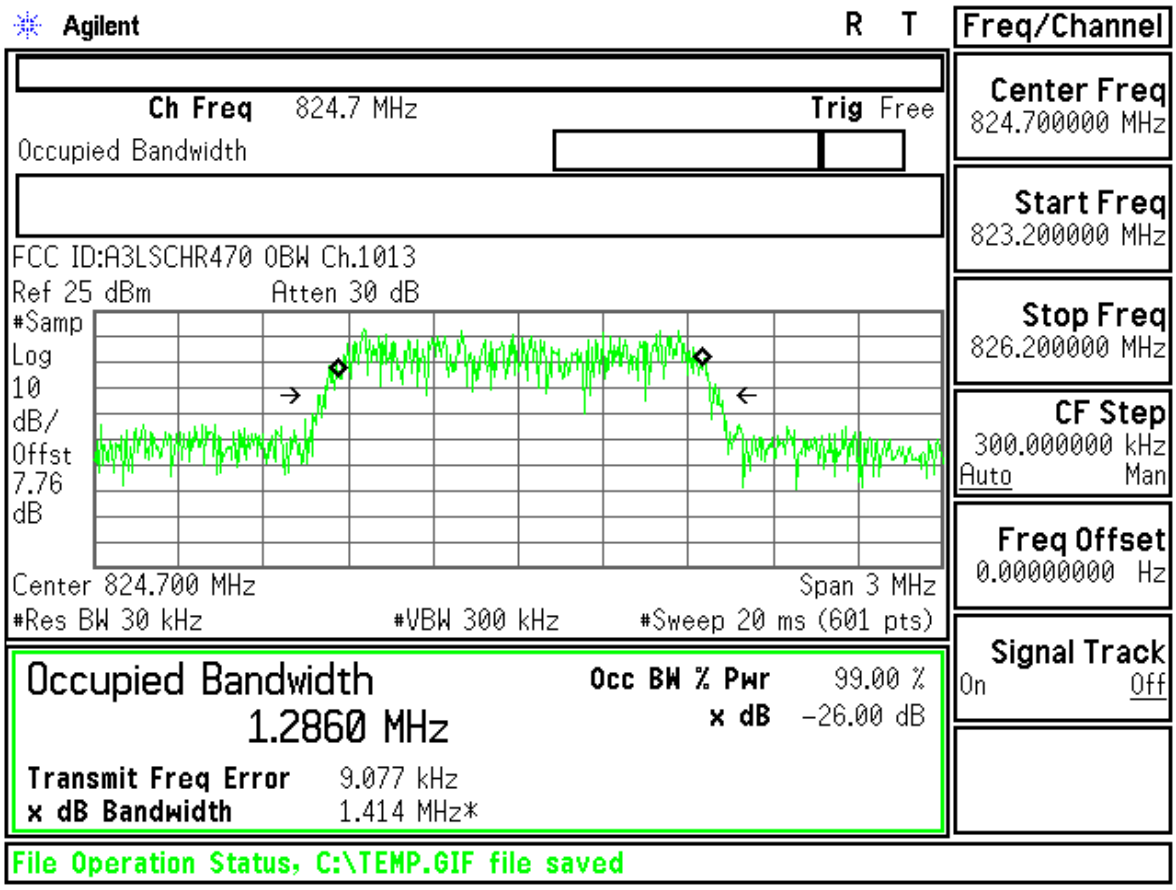


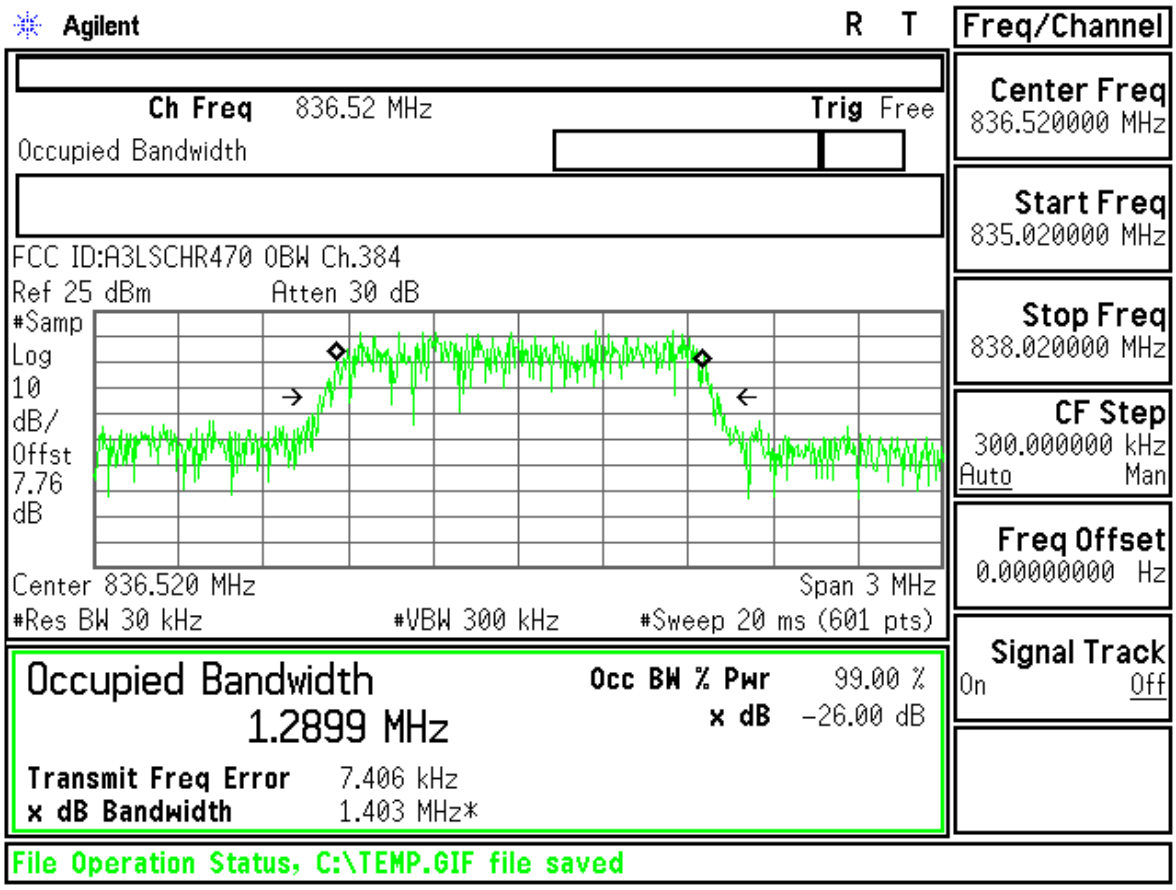

Agilent
R T
Freq/Channel
Ch Freq 848.31 MHz
Trig Free
Channel Power
FCC ID:A3LSCHR470 Power Out Ch.777
Ref 25 dBm
Atten 30 dB
#Avg
Log
10
dB/
Offst
7.76
dB
Center 848.310 MHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Channel Power
25.18 dBm /1.2534 MHz
Power Spectral Density
-35.80 dBm/Hz
Center Freq
848.310000 MHz
Start Freq
846.810000 MHz
Stop Freq
849.810000 MHz
CF Step
300.000000 kHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

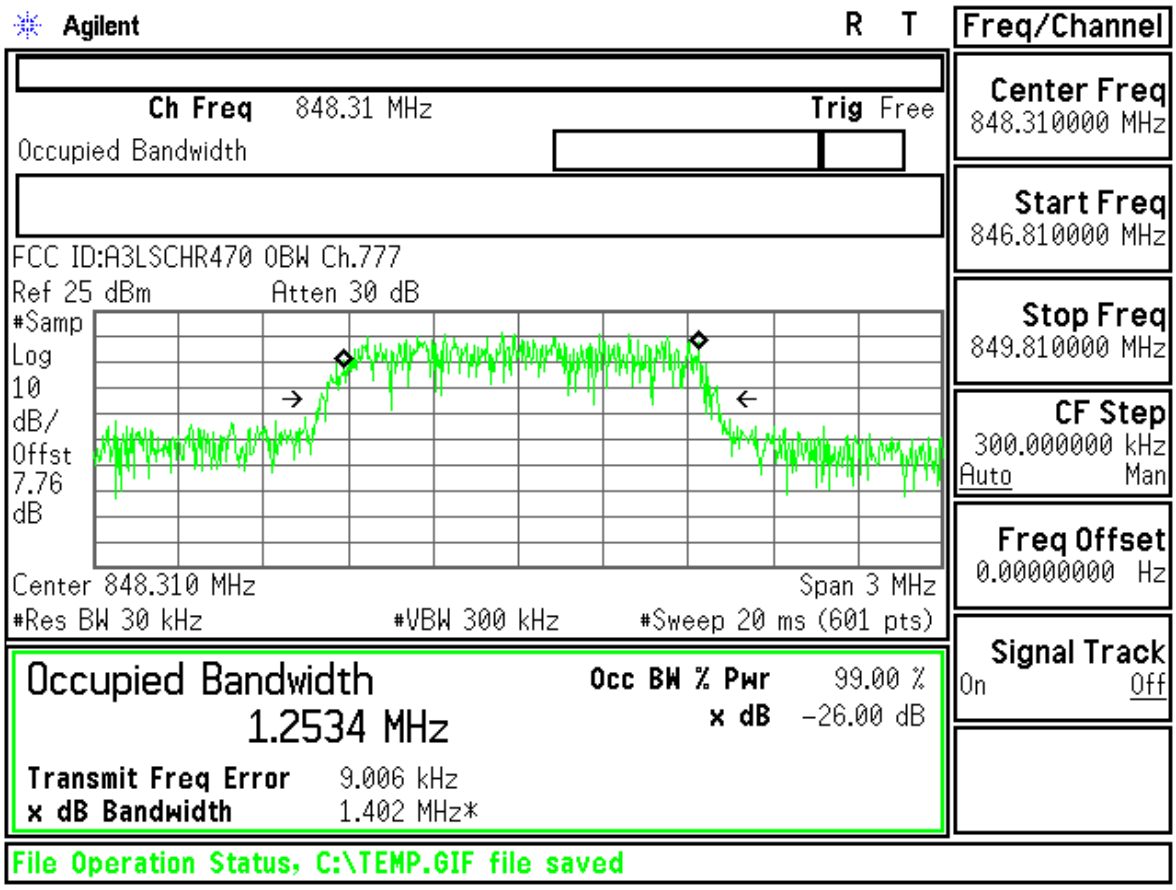

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Power Out Ch.1013
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
7.76
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 824.70 MHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Center Freq
824.700000 MHz
Start Freq
819.700000 MHz
Stop Freq
829.700000 MHz
CF Step
1.00000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

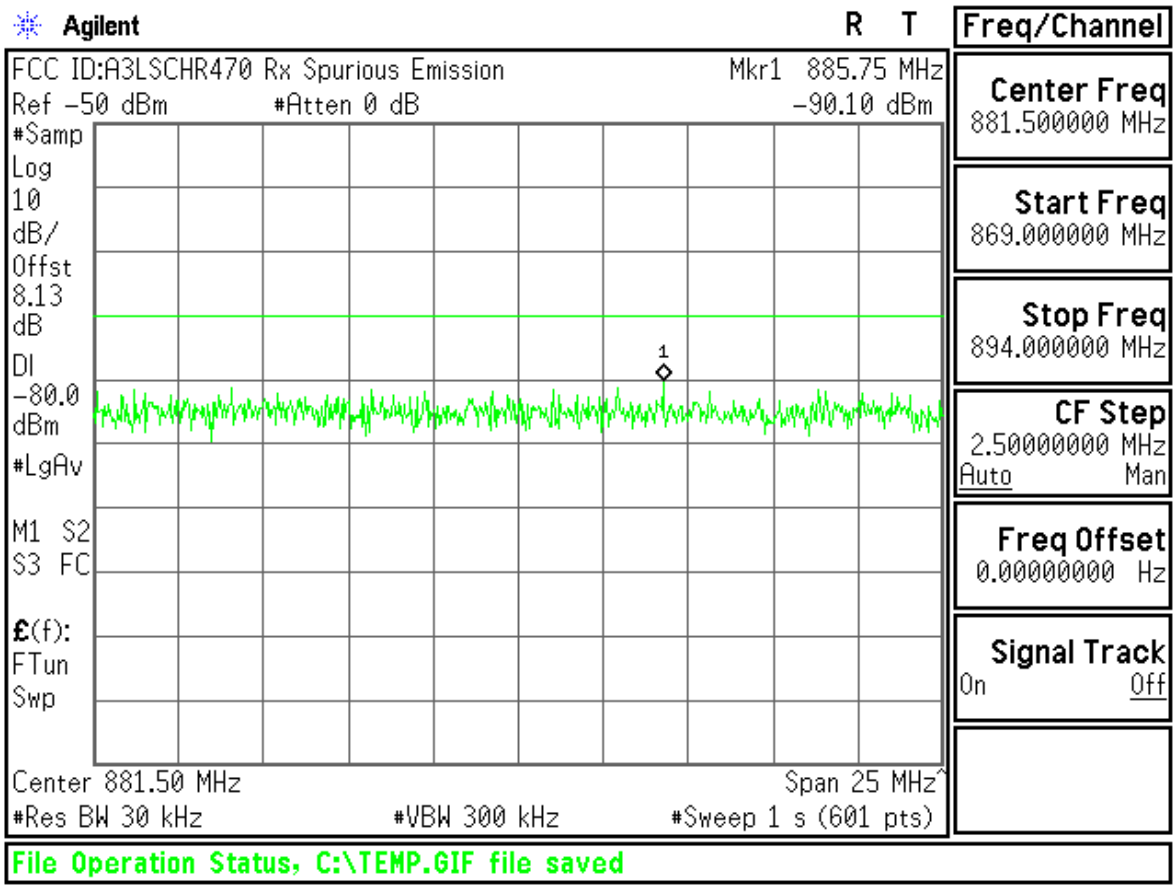

Agilent
R T
FCC ID:A3LSCHR470 Power Out Ch.384
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
7.76
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 836.52 MHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Freq/Channel
Center Freq
836.520000 MHz
Start Freq
831.520000 MHz
Stop Freq
841.520000 MHz
CF Step
1.00000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

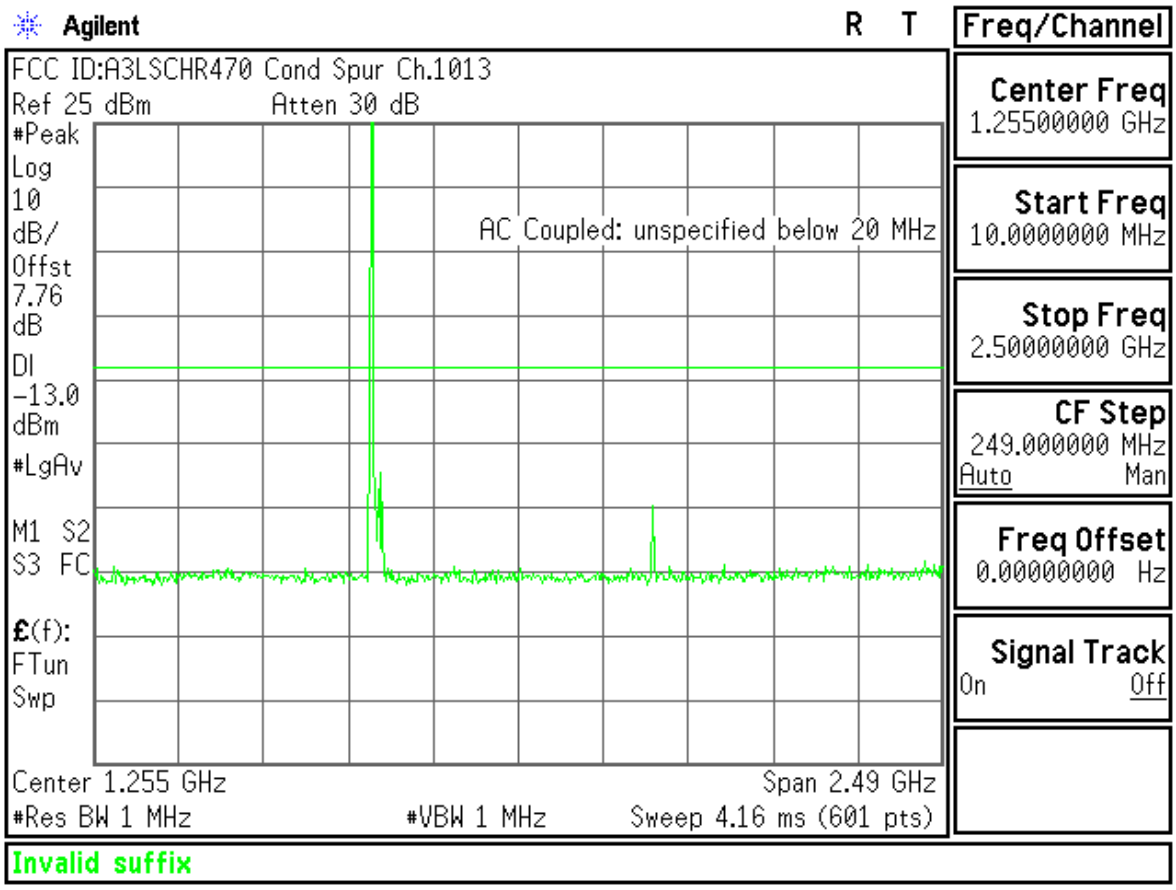

Agilent
R T
FCC ID:A3LSCHR470 Power Out Ch.777
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
7.76
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 848.31 MHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Freq/Channel
Center Freq
848.310000 MHz
Start Freq
843.310000 MHz
Stop Freq
853.310000 MHz
CF Step
1.00000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

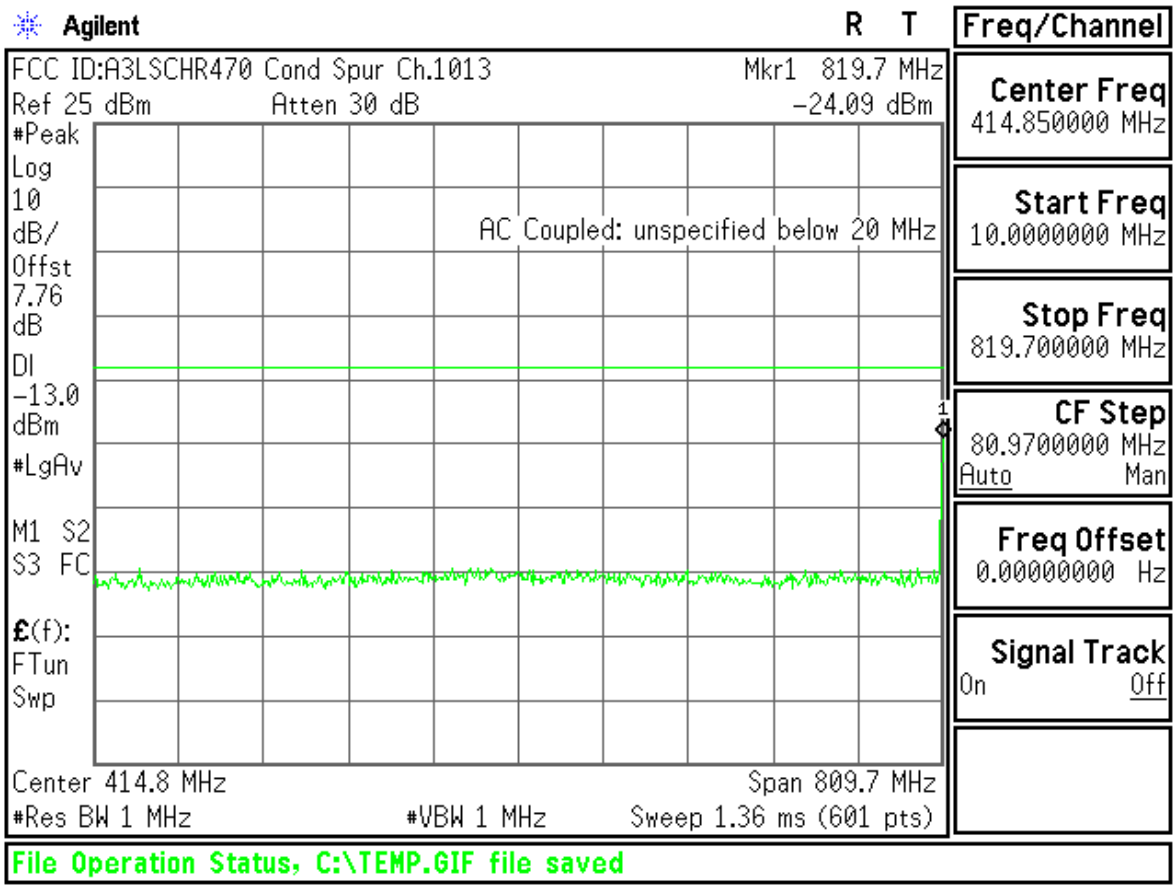

Agilent
R T
Freq/Channel
Ch Freq 824.7 MHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHR470 OBW Ch.1013
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
7.76
dB
Center 824.700 MHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2860 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 9.077 kHz
x dB Bandwidth 1.414 MHz*
Center Freq
824.700000 MHz
Start Freq
823.200000 MHz
Stop Freq
826.200000 MHz
CF Step
300.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

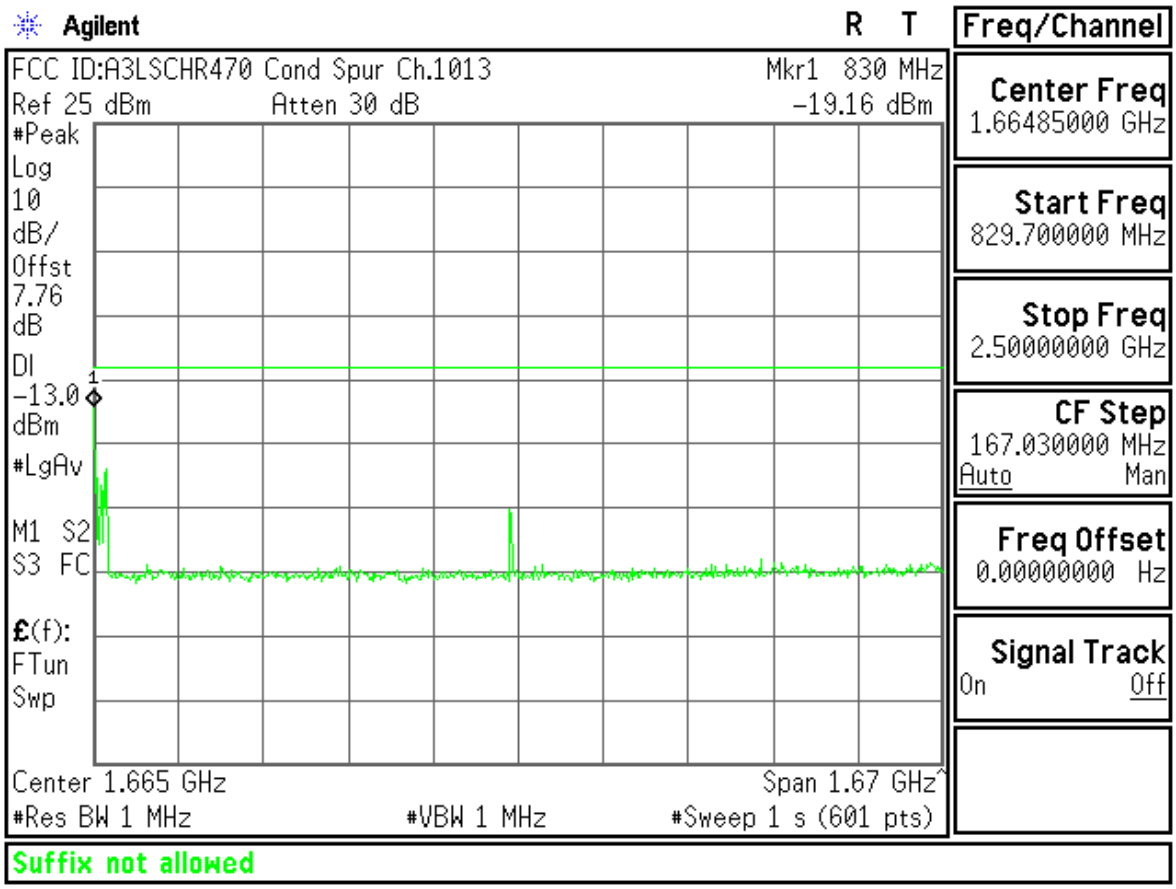

Agilent
R T
Freq/Channel
Ch Freq 836.52 MHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHR470 OBW Ch.384
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
7.76
dB
Center 836.520 MHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2899 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 7.406 kHz
x dB Bandwidth 1.403 MHz*
Center Freq
836.520000 MHz
Start Freq
835.020000 MHz
Stop Freq
838.020000 MHz
CF Step
300.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

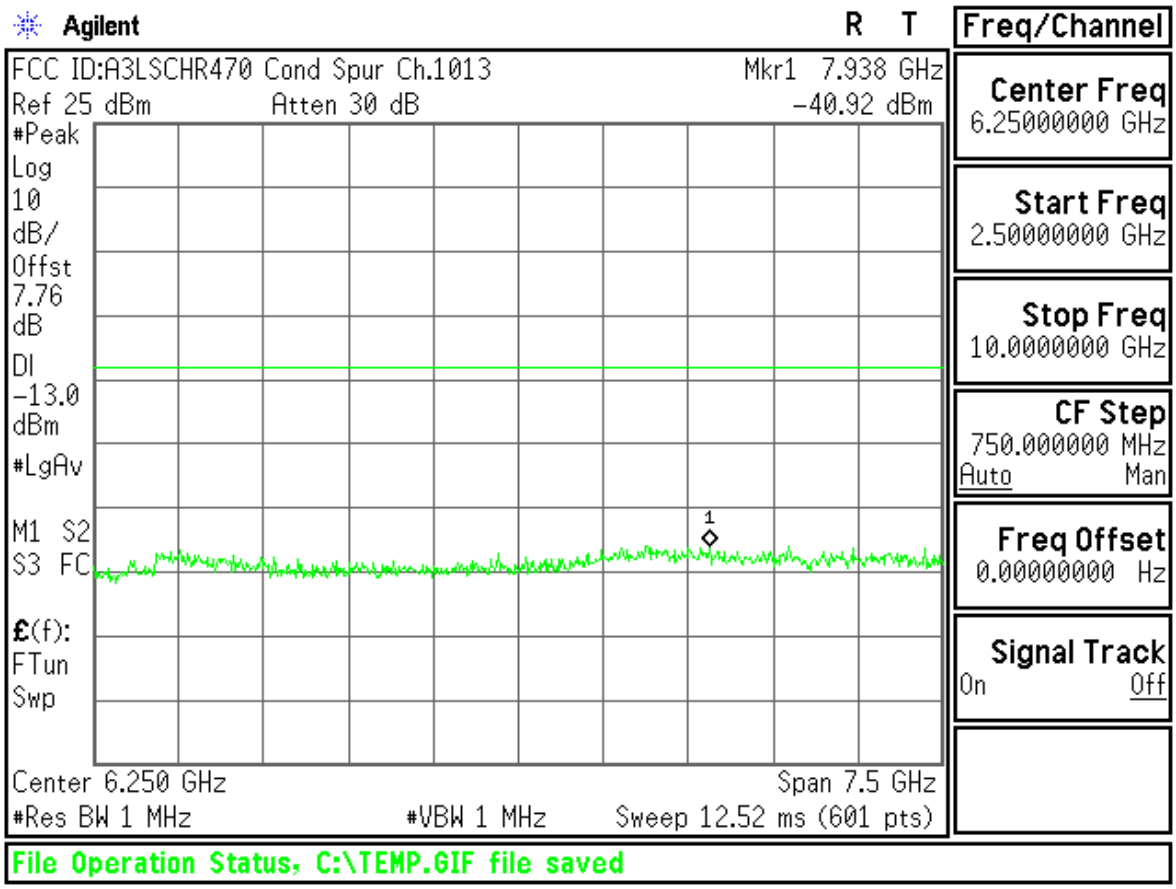

Agilent
R T
Freq/Channel
Ch Freq 848.31 MHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHR470 OBW Ch.777
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
7.76
dB
Center 848.310 MHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2534 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 9.006 kHz
x dB Bandwidth 1.402 MHz*
Center Freq
848.310000 MHz
Start Freq
846.810000 MHz
Stop Freq
849.810000 MHz
CF Step
300.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

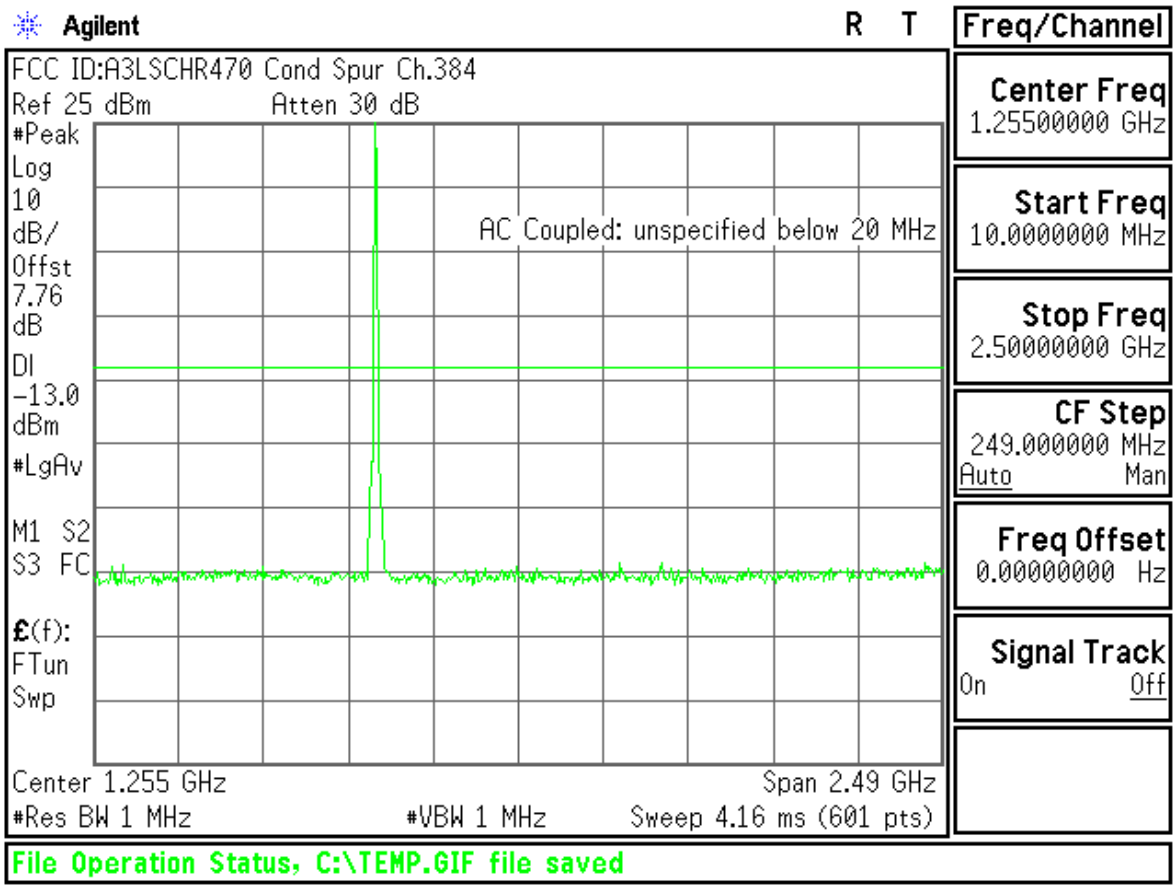

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Rx Spurious Emission
Mkr1 885.75 MHz
Ref -50 dBm
#Atten 0 dB
-90.10 dBm
#Samp
Log
10
dB/
Offst
8.13
dB
Dl
-80.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center 881.50 MHz
Span 25 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 1 s (601 pts)
Center Freq
881.500000 MHz
Start Freq
869.000000 MHz
Stop Freq
894.000000 MHz
CF Step
2.50000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

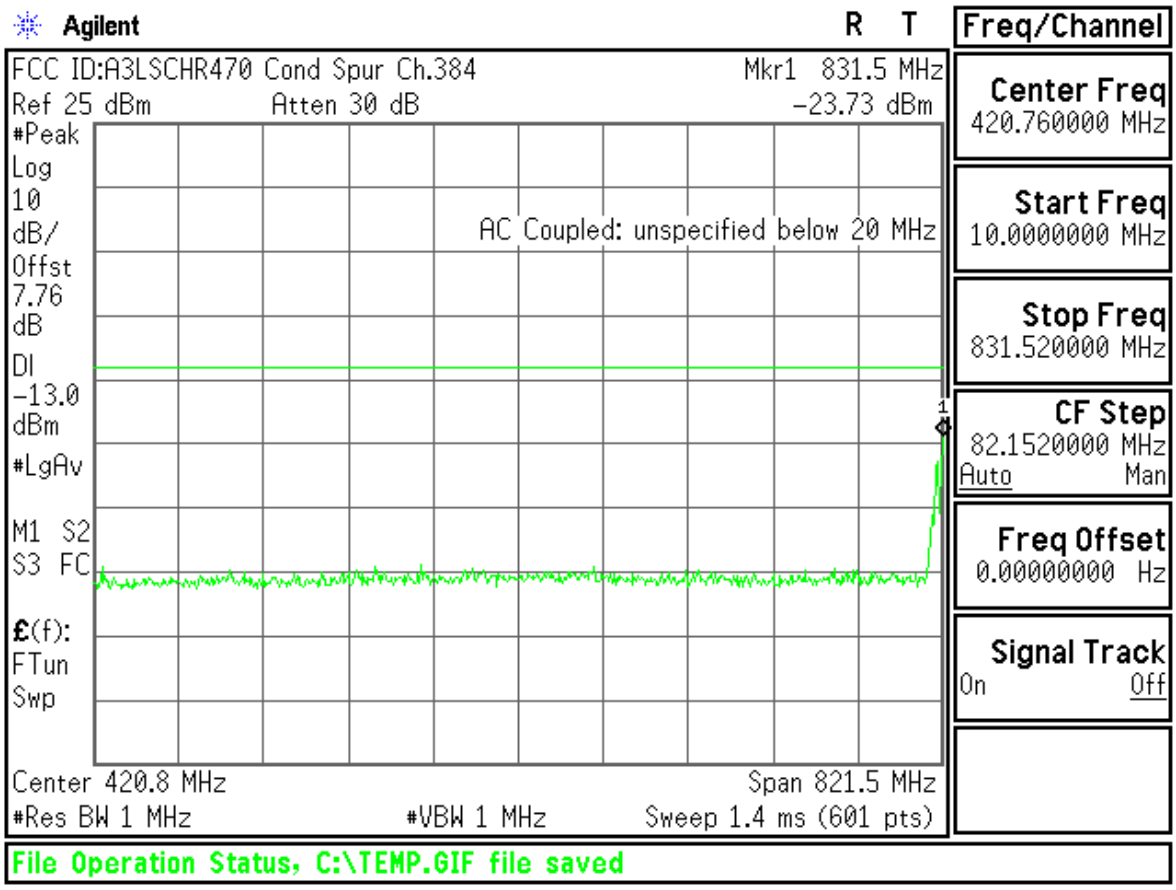

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.1013
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Center Freq
1.25500000 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
Invalid suffix

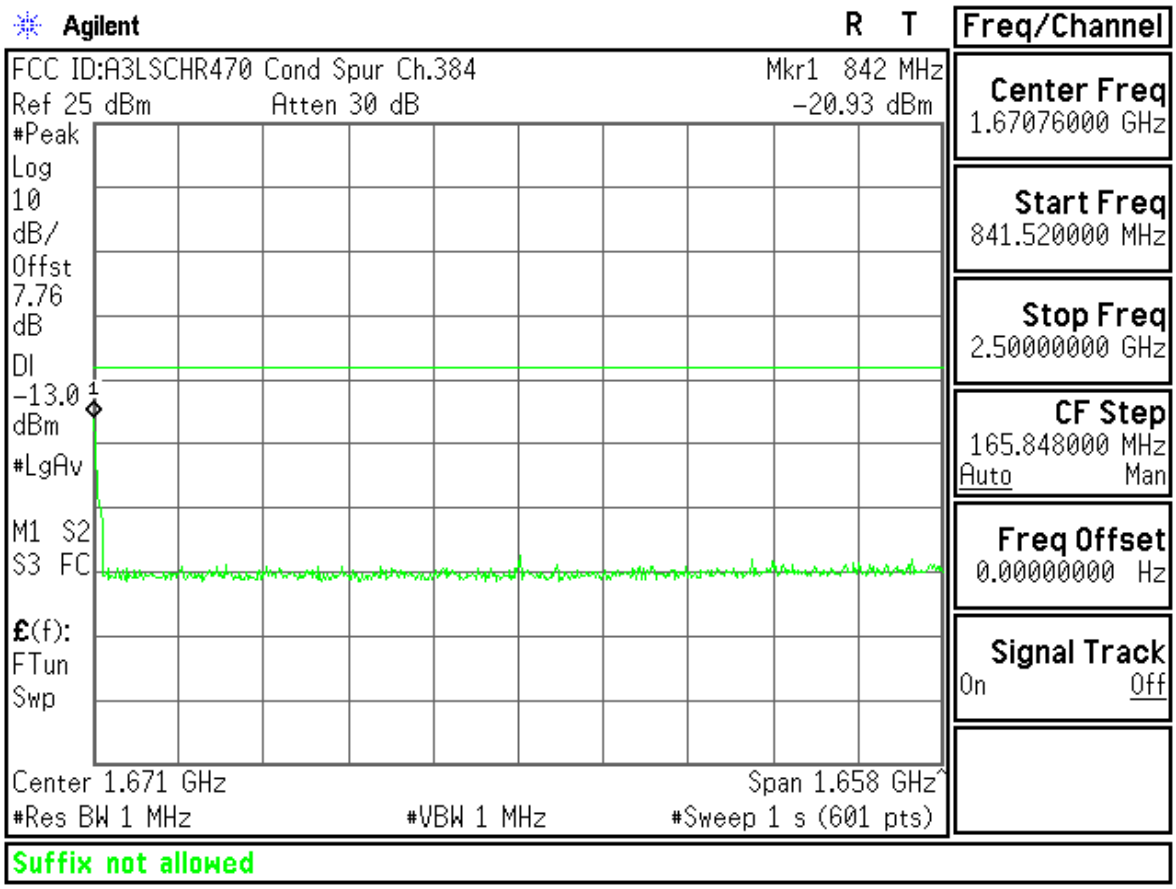

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.1013
Mkr1 819.7 MHz
Ref 25 dBm
Atten 30 dB
-24.09 dBm
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 414.8 MHz
Span 809.7 MHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 1.36 ms (601 pts)
Center Freq
414.850000 MHz
Start Freq
10.0000000 MHz
Stop Freq
819.700000 MHz
CF Step
80.9700000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

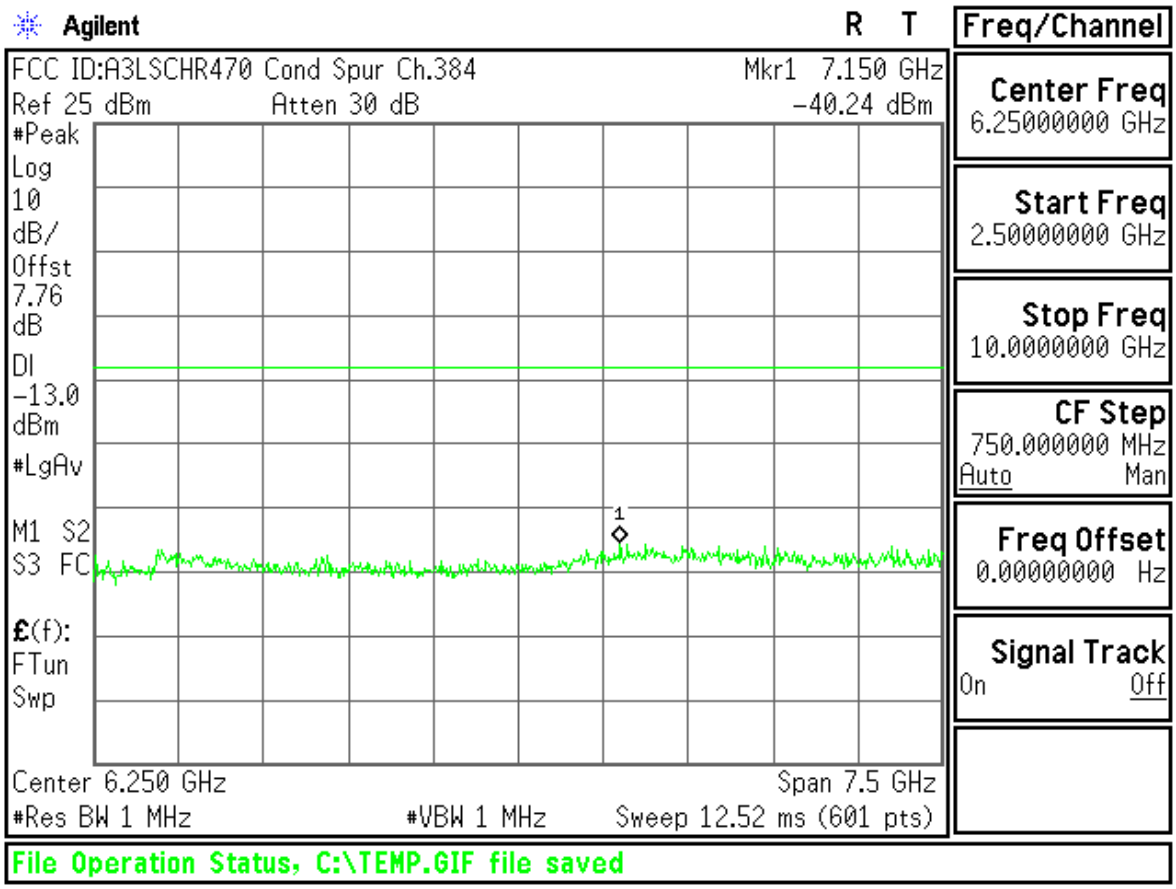

Agilent
R T
FCC ID:A3LSCHR470 Cond Spur Ch.1013
Mkr1 830 MHz
Ref 25 dBm
Atten 30 dB
-19.16 dBm
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center 1.665 GHz
Span 1.67 GHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Freq/Channel
Center Freq
1.66485000 GHz
Start Freq
829.700000 MHz
Stop Freq
2.50000000 GHz
CF Step
167.030000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Suffix not allowed

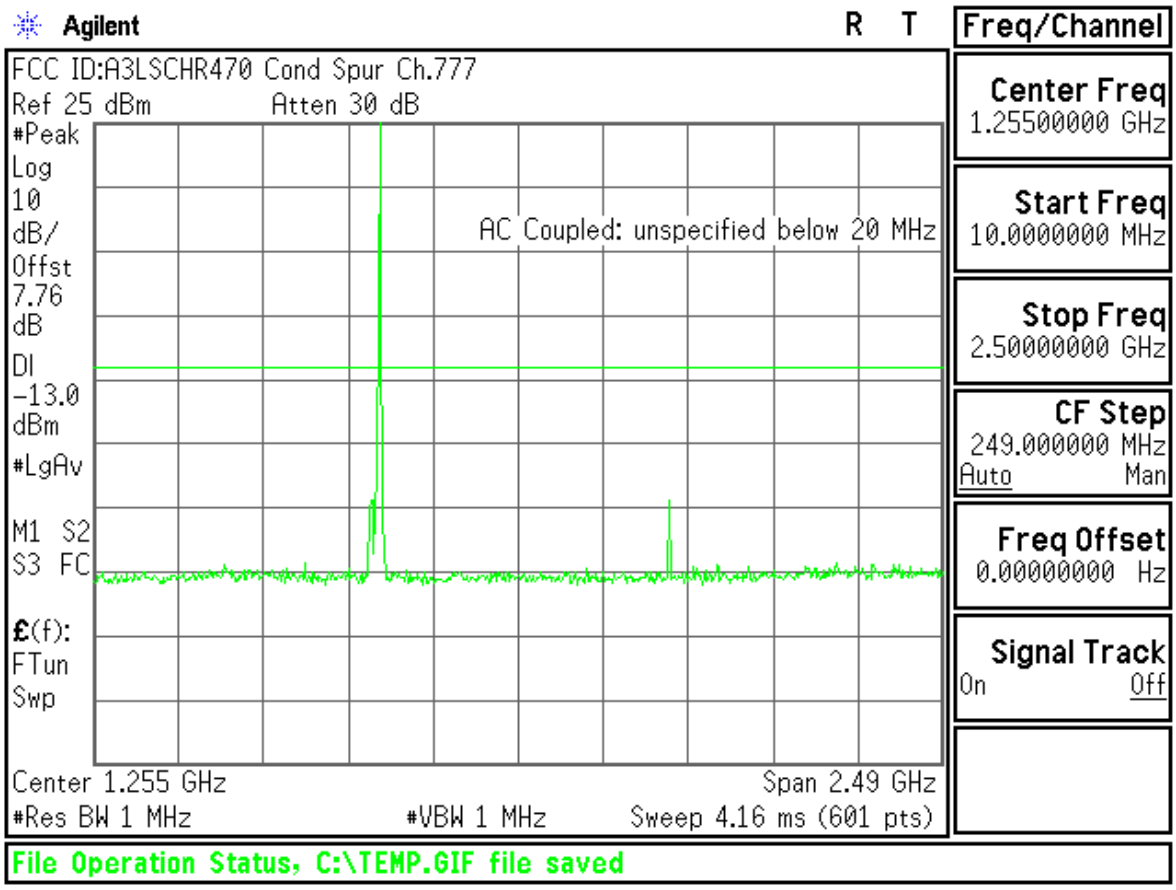

Agilent
R T
FCC ID:A3LSCHR470 Cond Spur Ch.1013
Mkr1 7.938 GHz
Ref 25 dBm
Atten 30 dB
-40.92 dBm
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center 6.250 GHz
Span 7.5 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 12.52 ms (601 pts)
Freq/Channel
Center Freq
6.25000000 GHz
Start Freq
2.50000000 GHz
Stop Freq
10.0000000 GHz
CF Step
750.000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

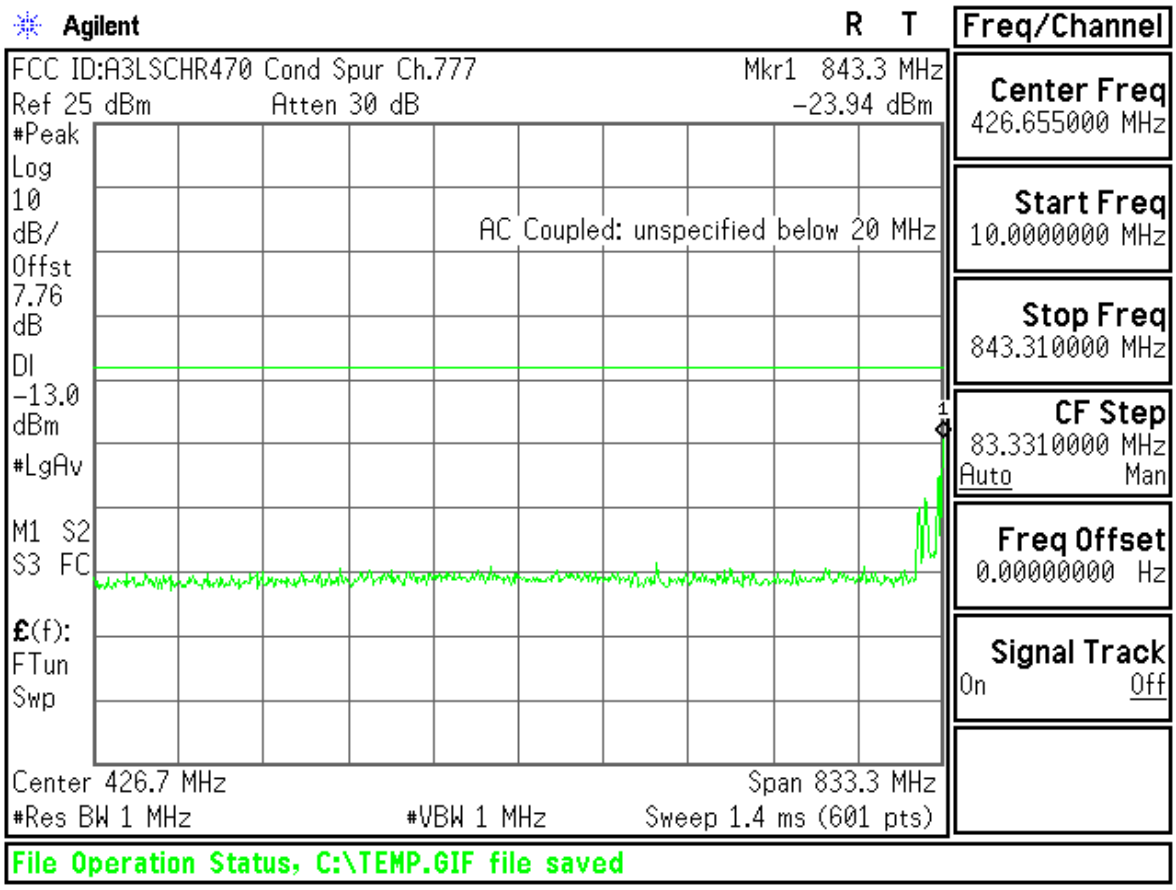

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.384
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Center Freq
1.25500000 GHz
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
File Operation Status, C:\TEMP.GIF file saved

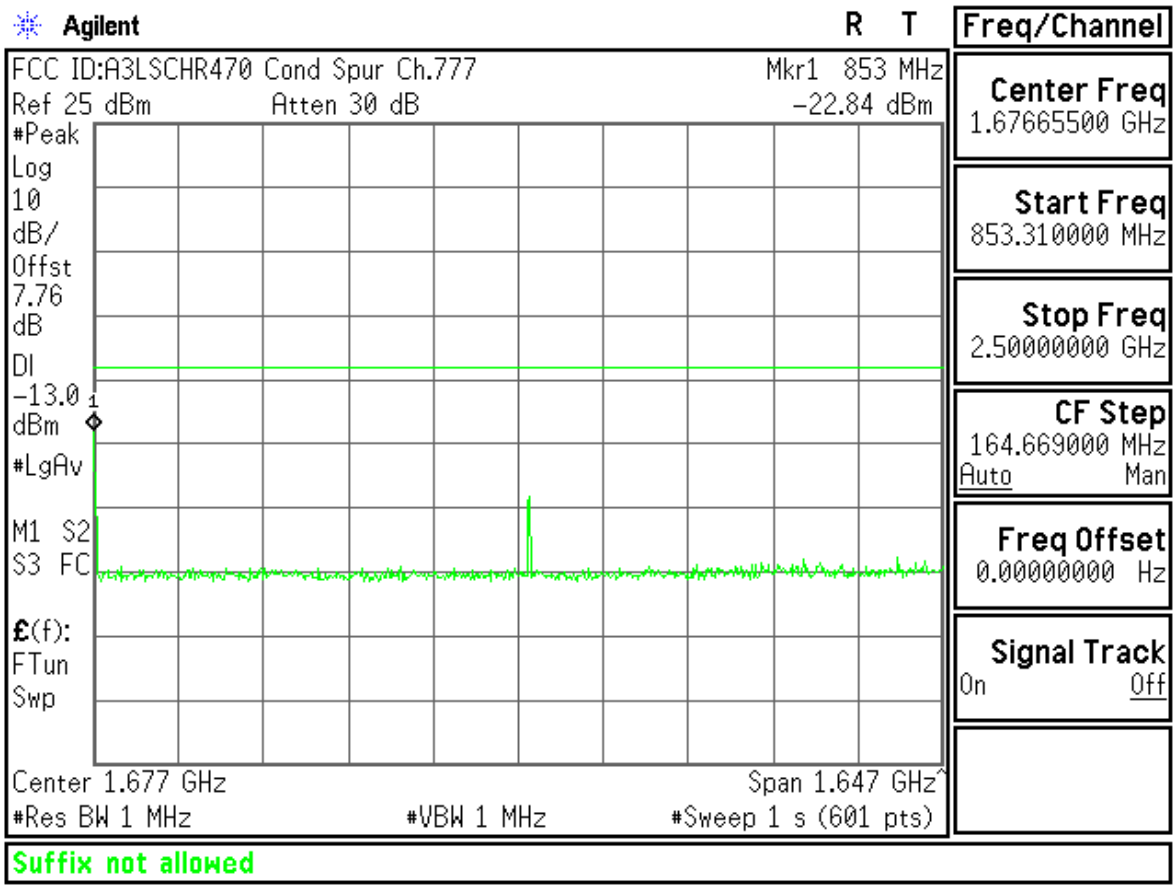

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.384
Mkr1 831.5 MHz
Ref 25 dBm
Atten 30 dB
-23.73 dBm
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 420.8 MHz
Span 821.5 MHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 1.4 ms (601 pts)
Center Freq
420.760000 MHz
Start Freq
10.0000000 MHz
Stop Freq
831.520000 MHz
CF Step
82.1520000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

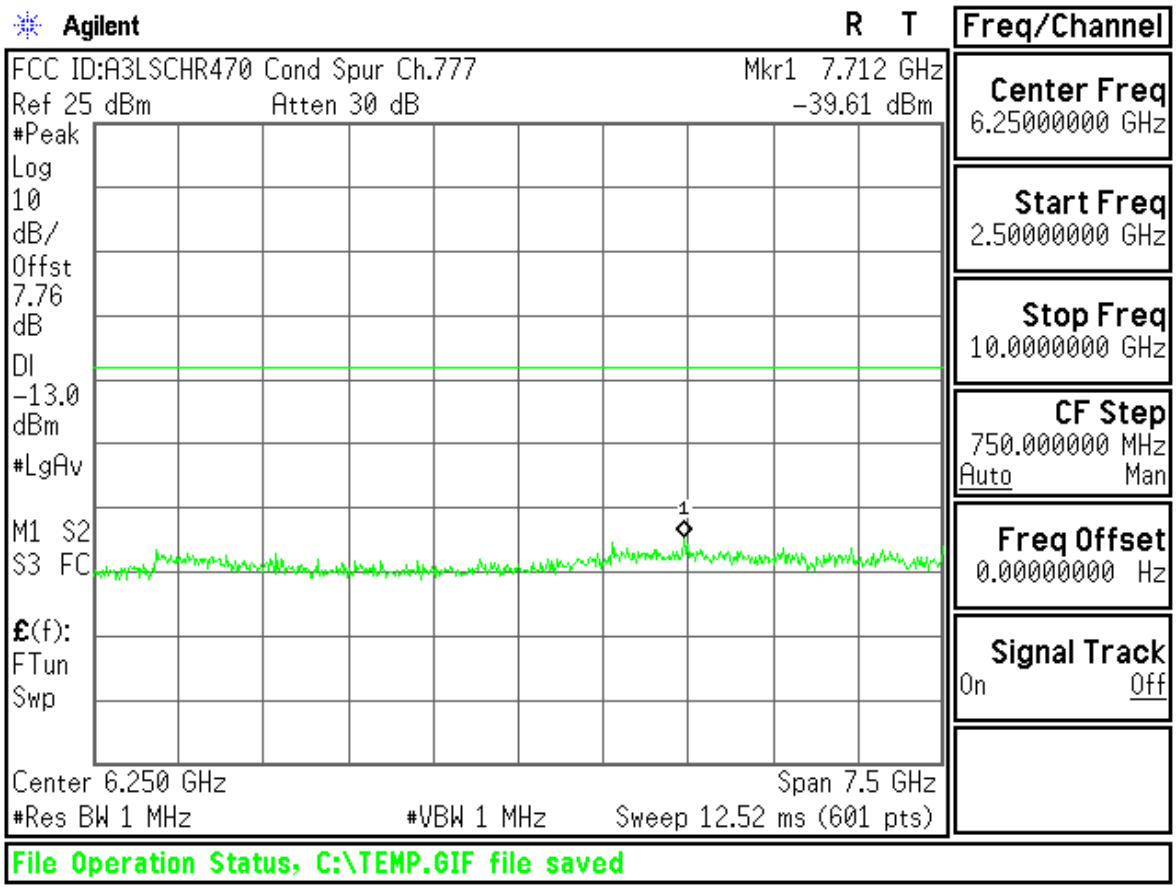

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.384
Mkr1 842 MHz
Ref 25 dBm
Atten 30 dB
-20.93 dBm
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center Freq
1.67076000 GHz
Start Freq
841.520000 MHz
Stop Freq
2.50000000 GHz
CF Step
165.848000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Center 1.671 GHz
Span 1.658 GHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Suffix not allowed

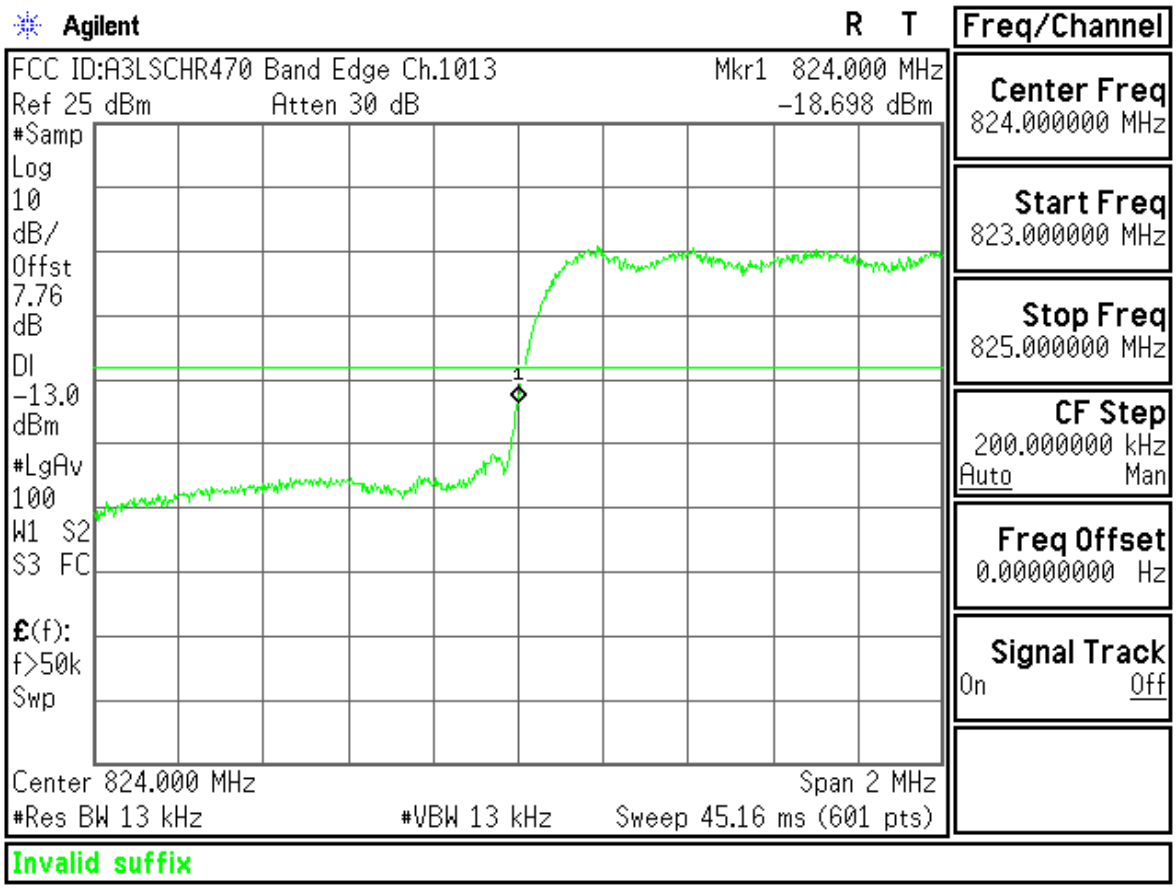

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.384
Mkr1 7.150 GHz
Ref 25 dBm
Atten 30 dB
-40.24 dBm
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center Freq
6.25000000 GHz
Start Freq
2.50000000 GHz
Stop Freq
10.0000000 GHz
CF Step
750.000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Center 6.250 GHz
Span 7.5 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 12.52 ms (601 pts)
File Operation Status, C:\TEMP.GIF file saved

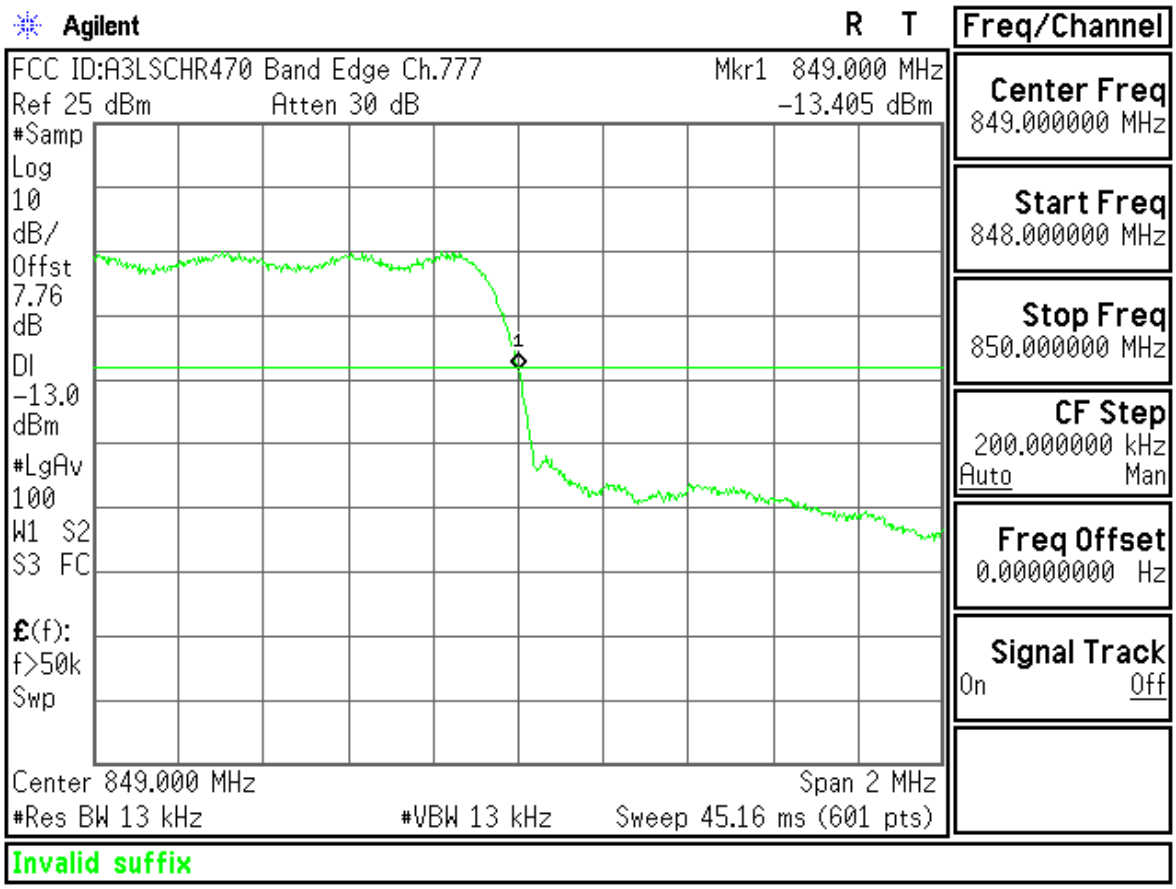

Agilent
R T
FCC ID:A3LSCHR470 Cond Spur Ch.777
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Freq/Channel
Center Freq
1.25500000 GHz
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
File Operation Status, C:\TEMP.GIF file saved

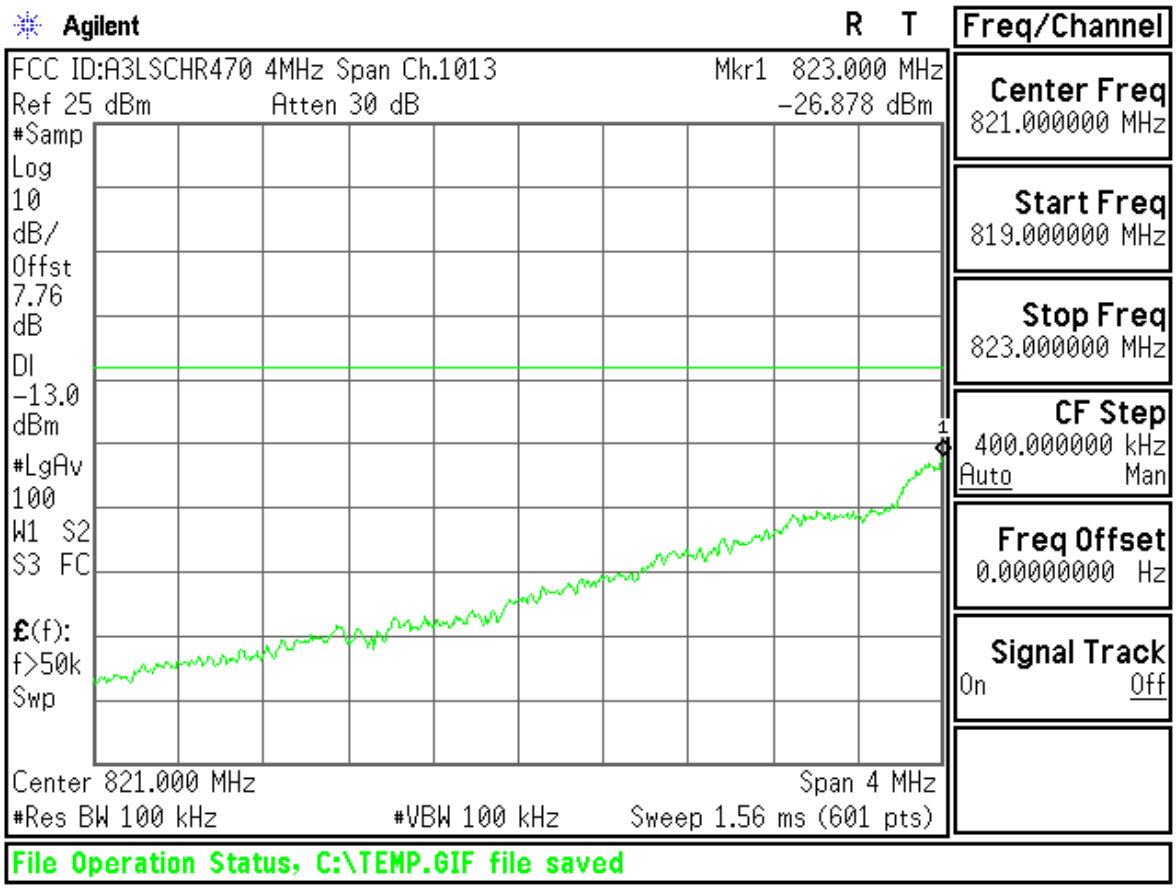

Agilent
R T
FCC ID:A3LSCHR470 Cond Spur Ch.777
Mkr1 843.3 MHz
Ref 25 dBm
Atten 30 dB
-23.94 dBm
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 426.7 MHz
Span 833.3 MHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 1.4 ms (601 pts)
Freq/Channel
Center Freq
426.655000 MHz
Start Freq
10.0000000 MHz
Stop Freq
843.310000 MHz
CF Step
83.3310000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

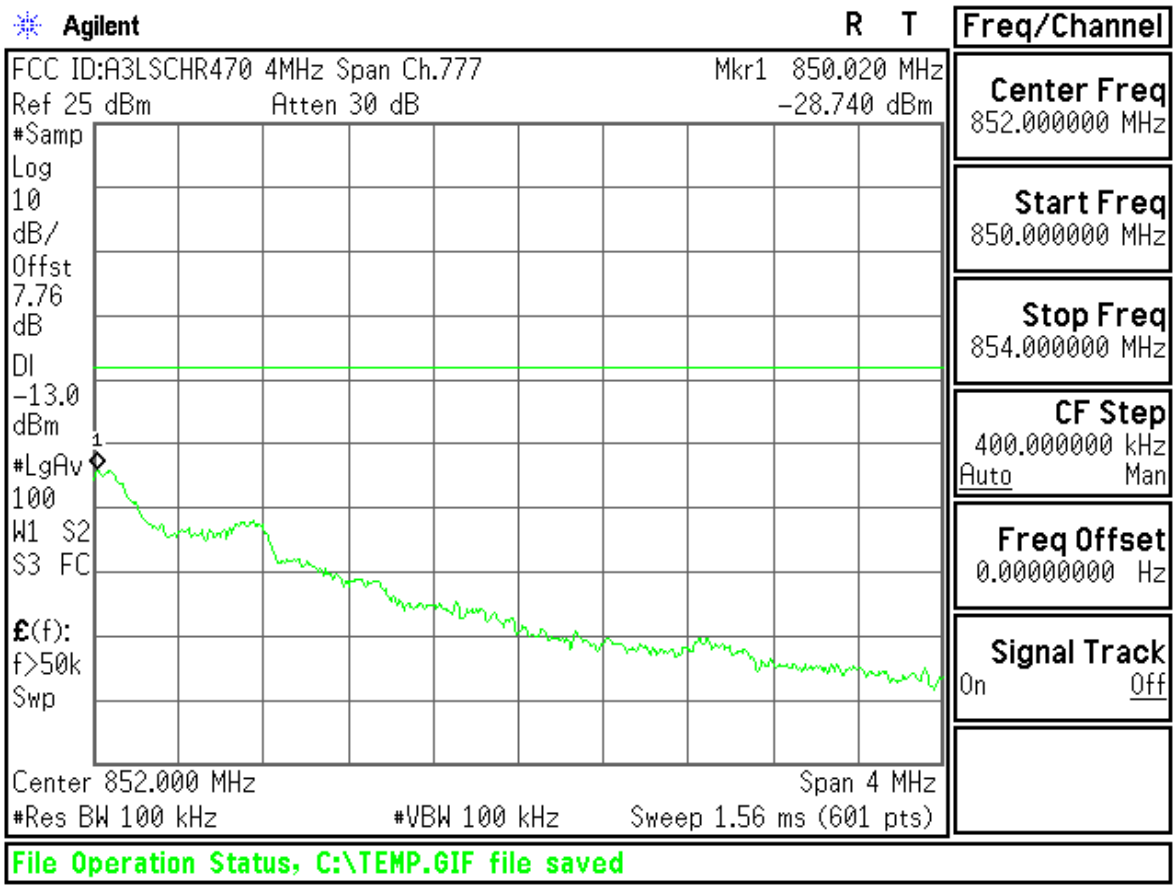

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.777
Mkr1 853 MHz
Ref 25 dBm
Atten 30 dB
-22.84 dBm
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center 1.677 GHz
Span 1.647 GHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Center Freq
1.67665500 GHz
Start Freq
853.310000 MHz
Stop Freq
2.50000000 GHz
CF Step
164.669000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Suffix not allowed


Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.777
Mkr1 7.712 GHz
Ref 25 dBm
Atten 30 dB
-39.61 dBm
#Peak
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center 6.250 GHz
Span 7.5 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 12.52 ms (601 pts)
Center Freq
6.25000000 GHz
Start Freq
2.50000000 GHz
Stop Freq
10.0000000 GHz
CF Step
750.000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

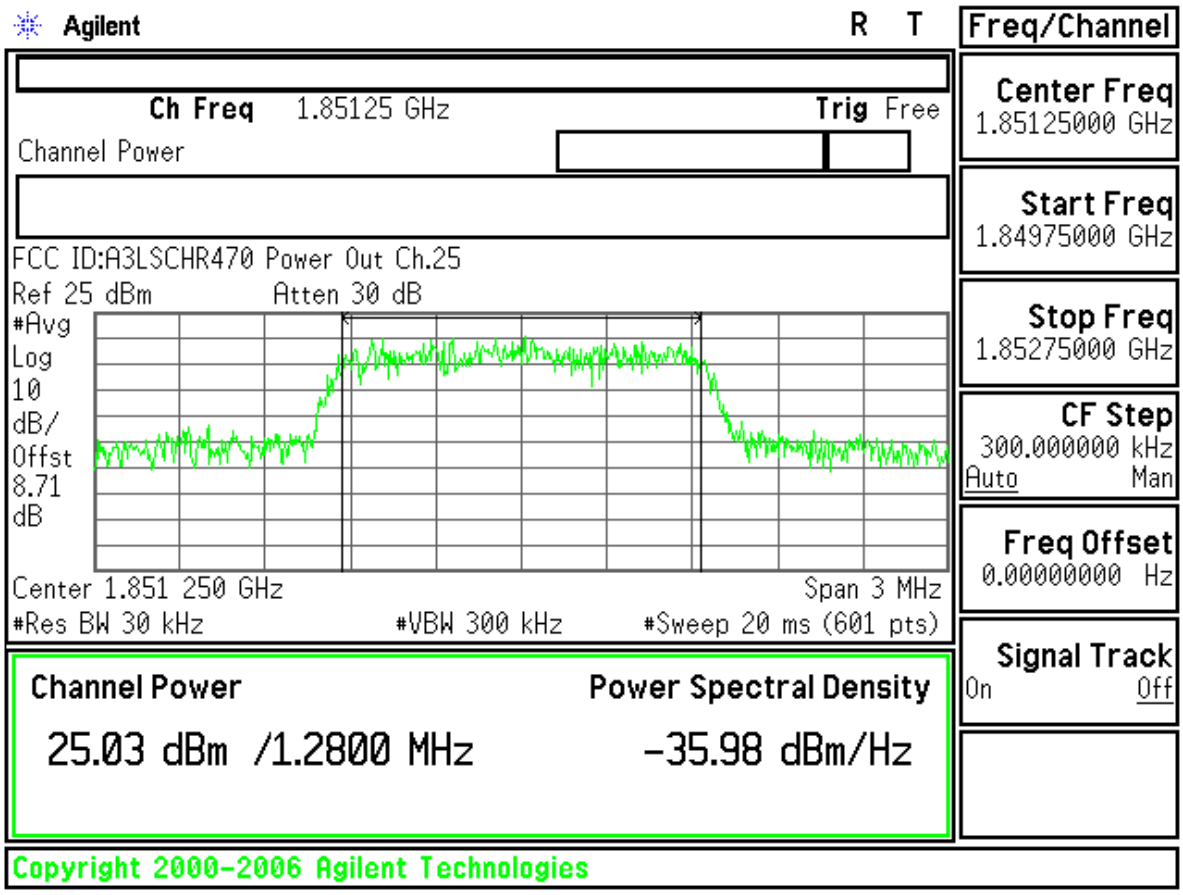

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Band Edge Ch.1013
Mkr1 824.000 MHz
Ref 25 dBm
Atten 30 dB
-18.698 dBm
#Samp
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
100
W1 S2
S3 FC
£(f):
f>50k
Swp
Center 824.000 MHz
Span 2 MHz
#Res BW 13 kHz
#VBW 13 kHz
Sweep 45.16 ms (601 pts)
Center Freq
824.000000 MHz
Start Freq
823.000000 MHz
Stop Freq
825.000000 MHz
CF Step
200.000000 kHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Invalid suffix

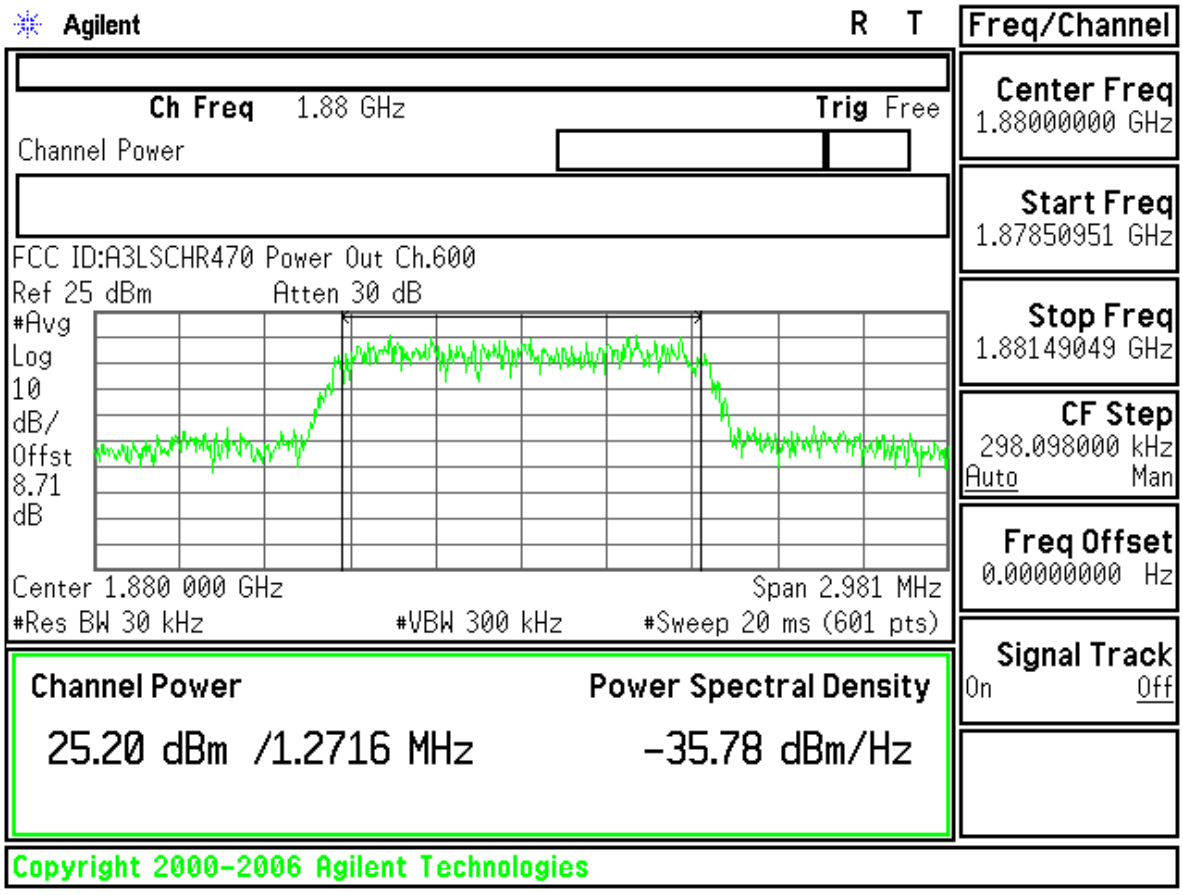

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Band Edge Ch.777
Mkr1 849.000 MHz
Ref 25 dBm
Atten 30 dB
-13.405 dBm
#Samp
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
100
W1 S2
S3 FC
£(f):
f>50k
Swp
Center 849.000 MHz
Span 2 MHz
#Res BW 13 kHz
#VBW 13 kHz
Sweep 45.16 ms (601 pts)
Center Freq
849.000000 MHz
Start Freq
848.000000 MHz
Stop Freq
850.000000 MHz
CF Step
200.000000 kHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
Invalid suffix

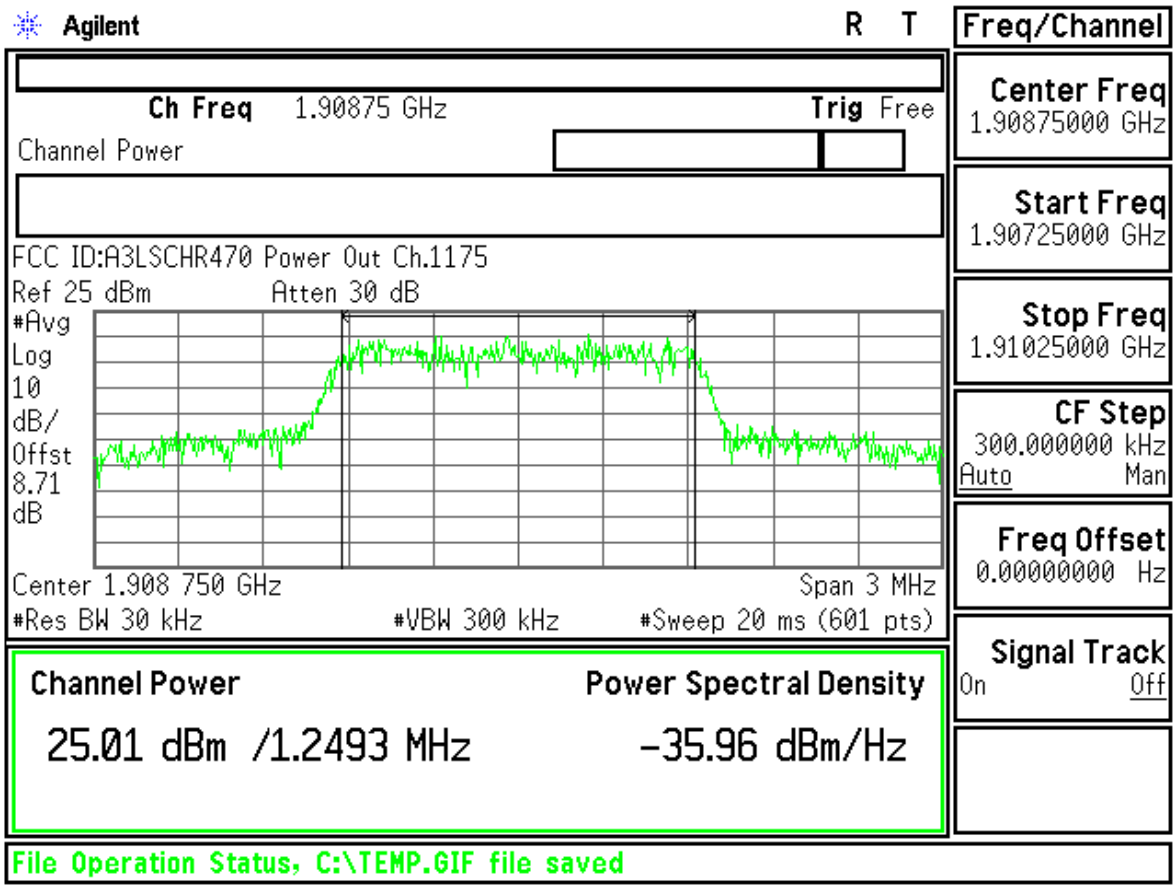

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 4MHz Span Ch.1013
Mkr1 823.000 MHz
Ref 25 dBm
Atten 30 dB
-26.878 dBm
#Samp
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
100
W1 S2
S3 FC
£(f):
f>50k
Swp
Center 821.000 MHz
Span 4 MHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 1.56 ms (601 pts)
Center Freq
821.000000 MHz
Start Freq
819.000000 MHz
Stop Freq
823.000000 MHz
CF Step
400.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

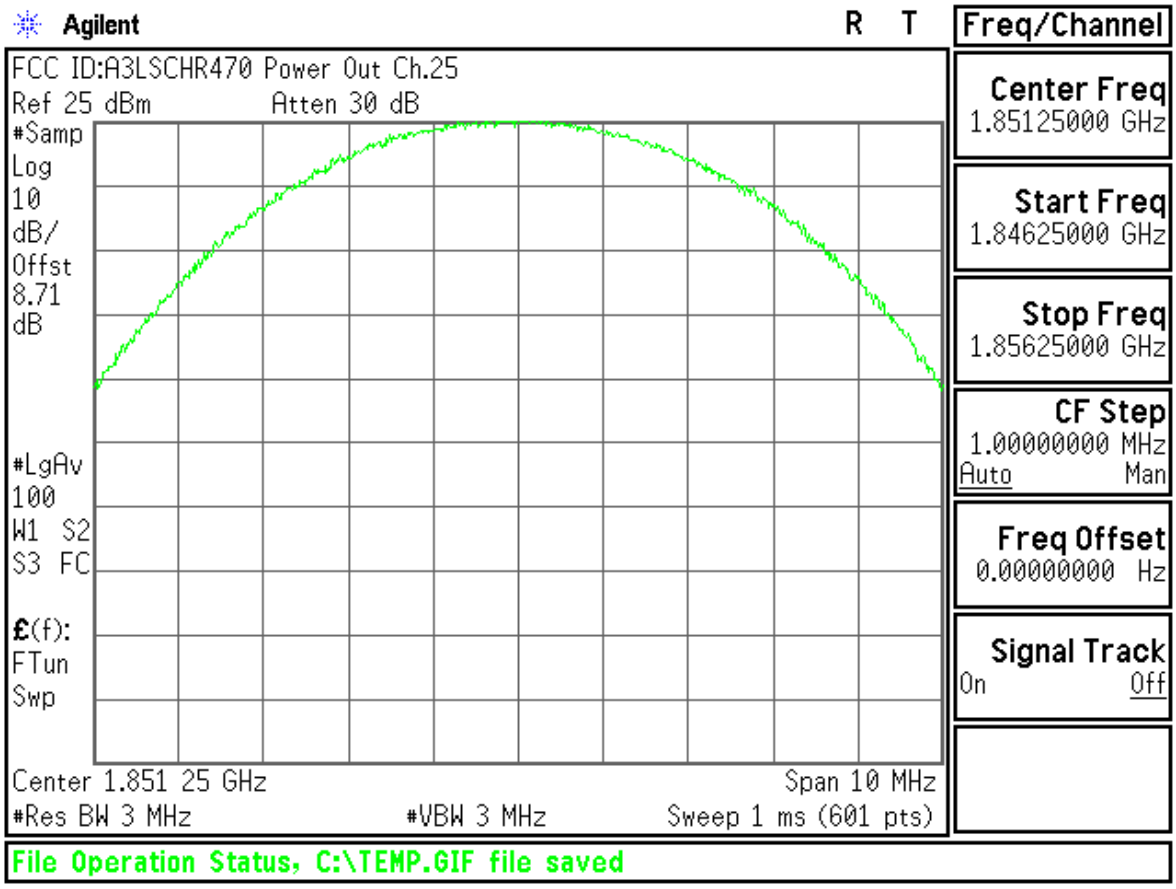

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 4MHz Span Ch.777
Mkr1 850.020 MHz
Ref 25 dBm
Atten 30 dB
-28.740 dBm
#Samp
Log
10
dB/
Offst
7.76
dB
Dl
-13.0
dBm
#LgAv
100
W1 S2
S3 FC
£(f):
f>50k
Swp
Center 852.000 MHz
Span 4 MHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 1.56 ms (601 pts)
Center Freq
852.000000 MHz
Start Freq
850.000000 MHz
Stop Freq
854.000000 MHz
CF Step
400.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

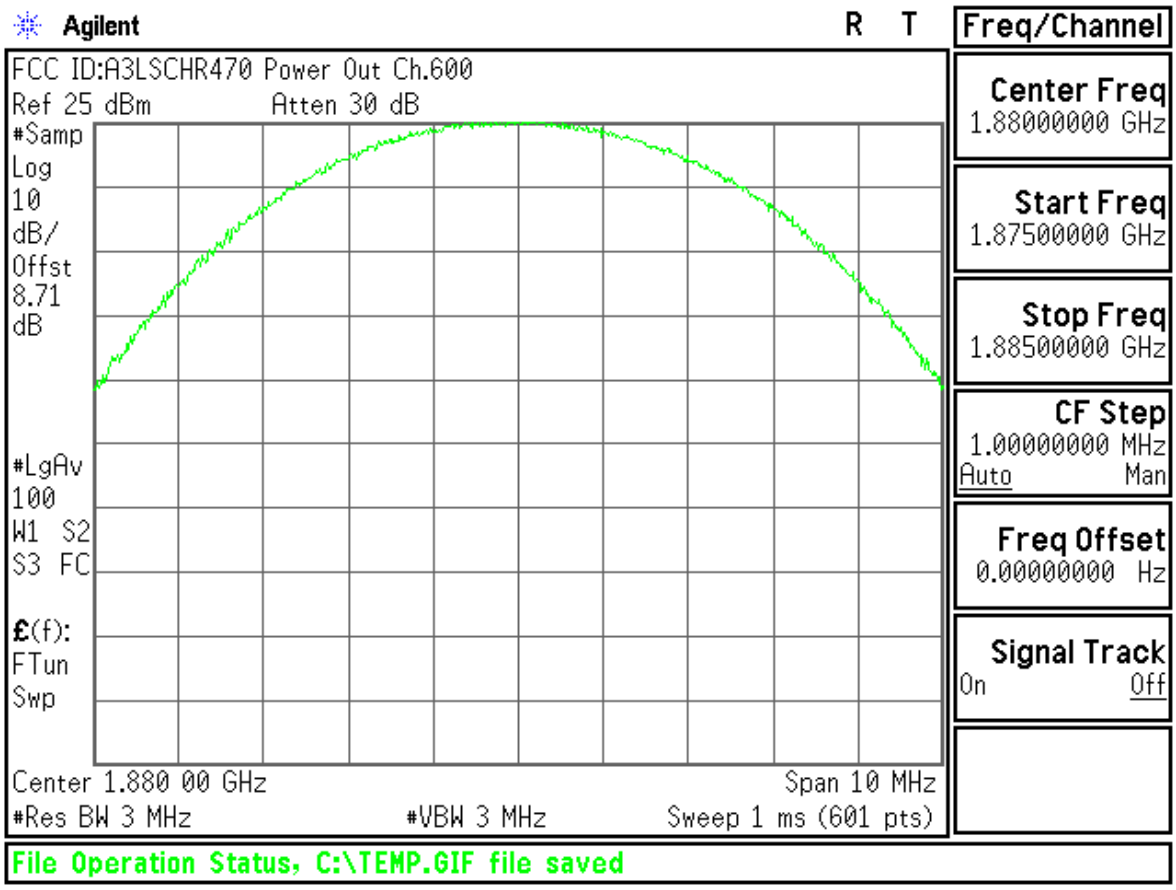
A3LSCHR470PCS

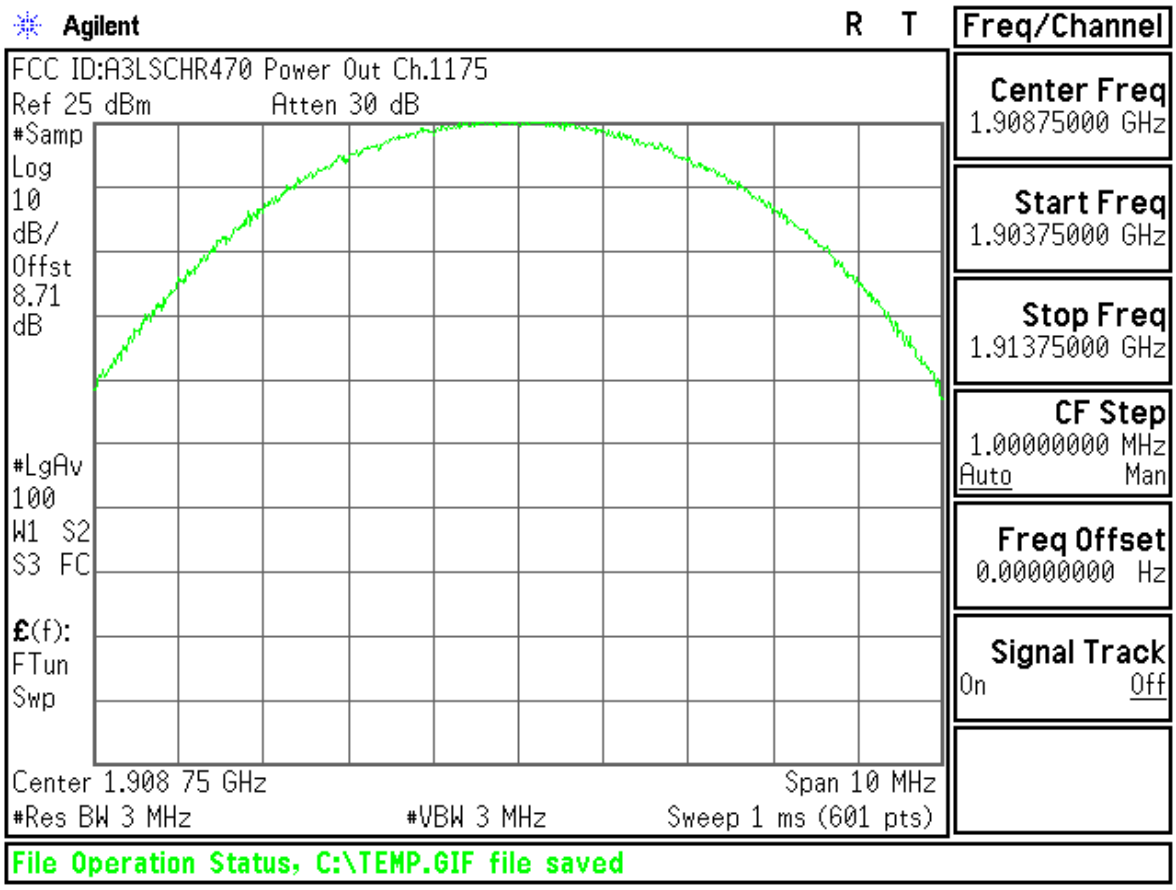


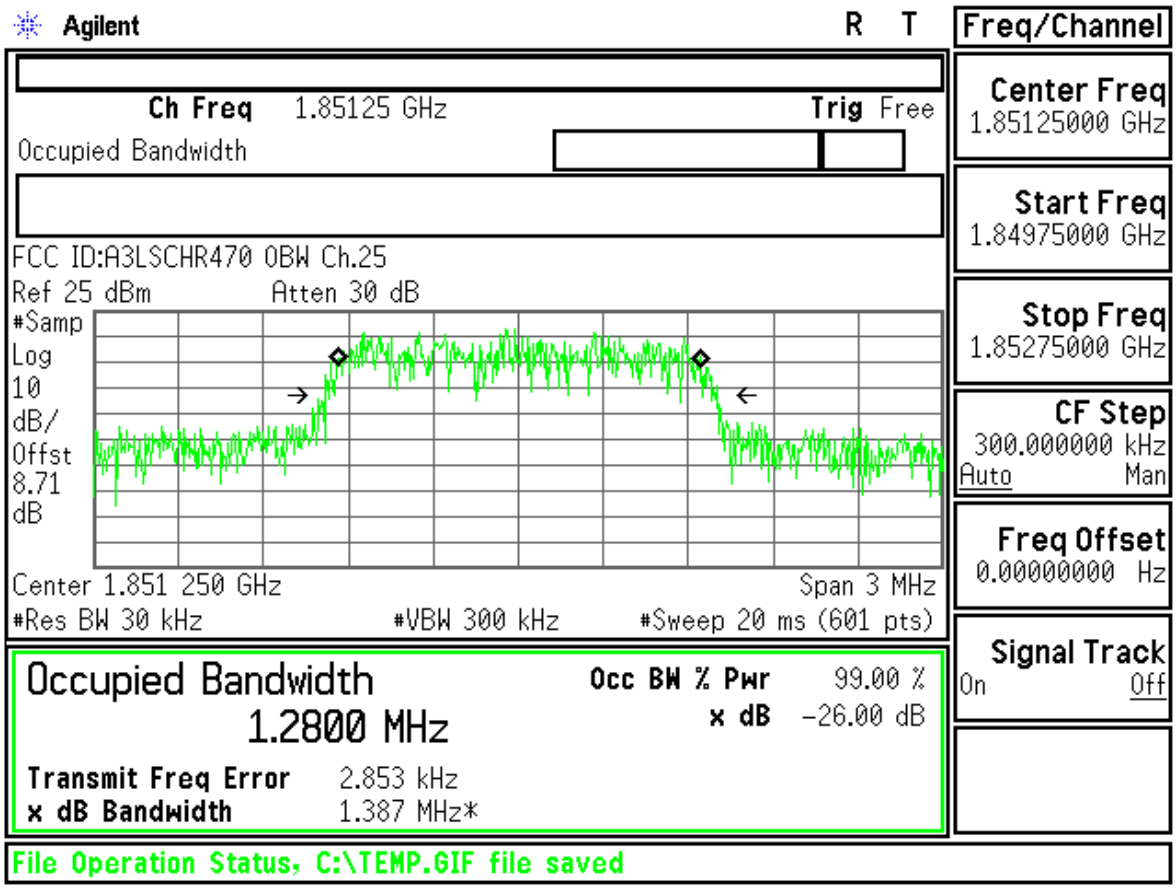


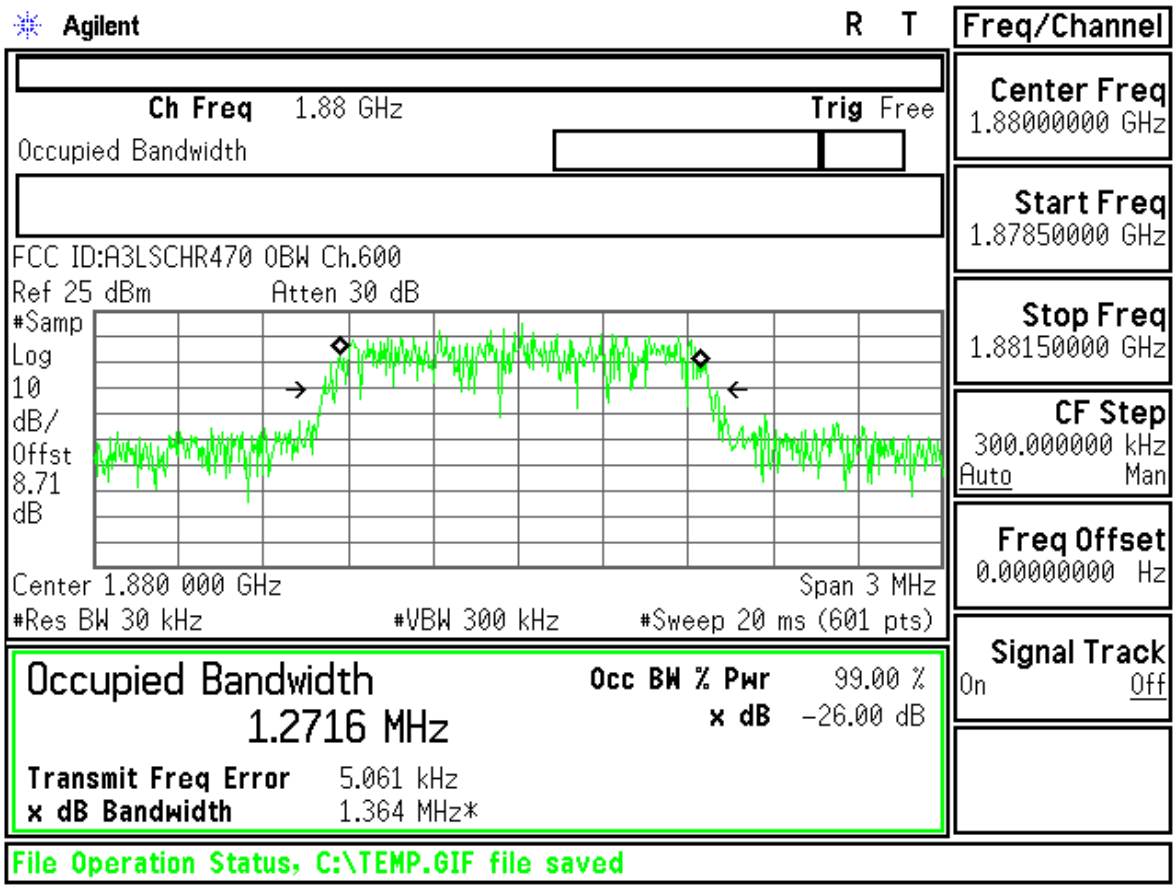

Agilent
R T
Freq/Channel
Ch Freq 1.90875 GHz
Trig Free
Channel Power
FCC ID:A3LSCHR470 Power Out Ch.1175
Ref 25 dBm
Atten 30 dB
#Avg
Log
10
dB/
Offst
8.71
dB
Center 1.908 750 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Channel Power
25.01 dBm /1.2493 MHz
Power Spectral Density
-35.96 dBm/Hz
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
File Operation Status, C:\TEMP.GIF file saved

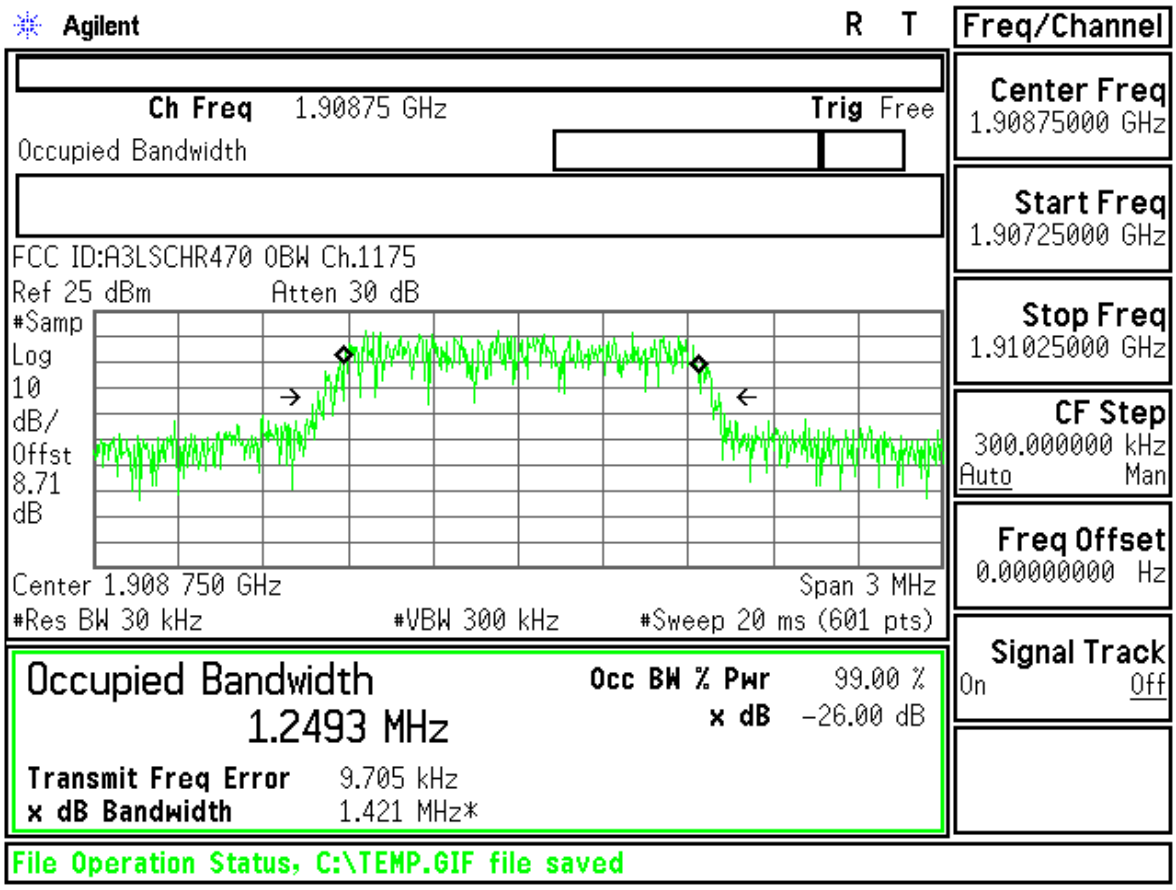

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Power Out Ch.25
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
8.71
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 1.851 25 GHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Center Freq
1.85125000 GHz
Start Freq
1.84625000 GHz
Stop Freq
1.85625000 GHz
CF Step
1.00000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

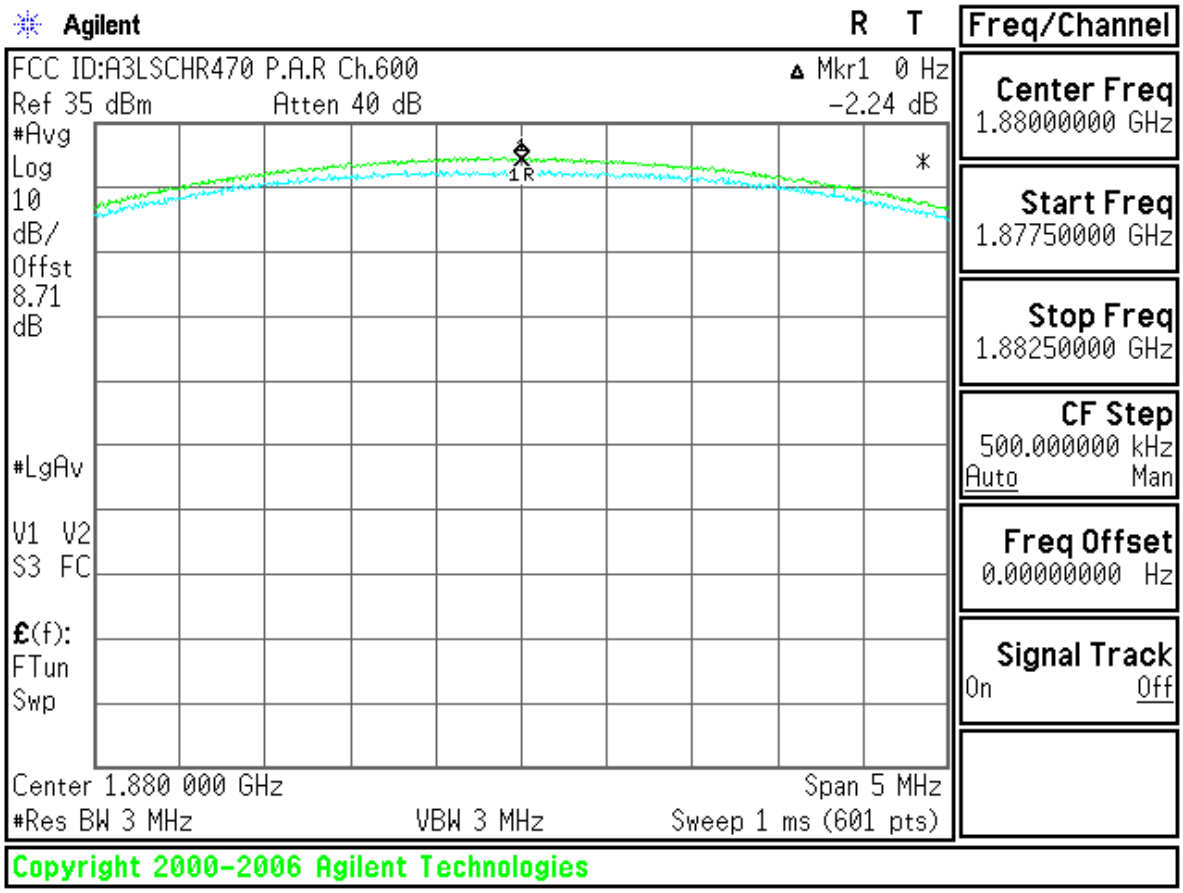

Agilent
R T
FCC ID:A3LSCHR470 Power Out Ch.600
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
8.71
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 1.880 00 GHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Freq/Channel
Center Freq
1.88000000 GHz
Start Freq
1.87500000 GHz
Stop Freq
1.88500000 GHz
CF Step
1.00000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

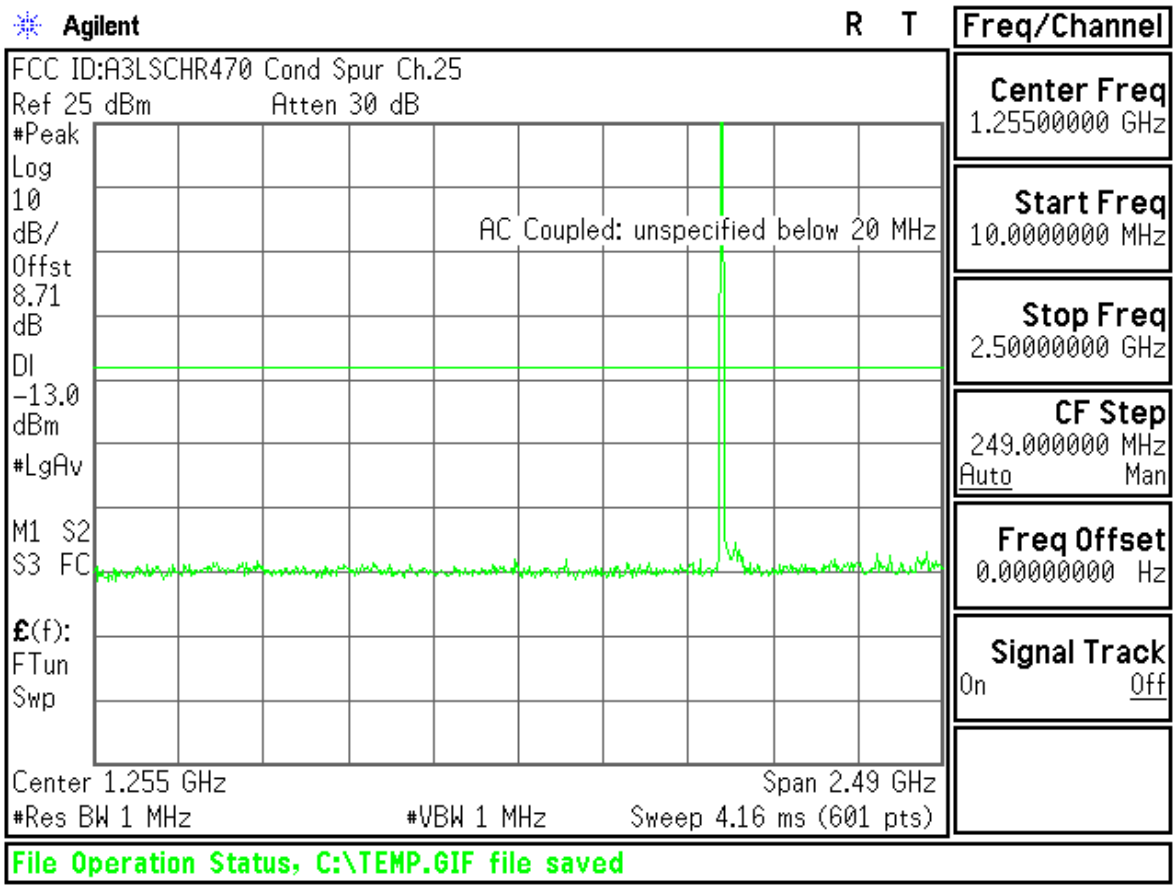

Agilent
R T
FCC ID:A3LSCHR470 Power Out Ch.1175
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
8.71
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 1.908 75 GHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Freq/Channel
Center Freq
1.90875000 GHz
Start Freq
1.90375000 GHz
Stop Freq
1.91375000 GHz
CF Step
1.00000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

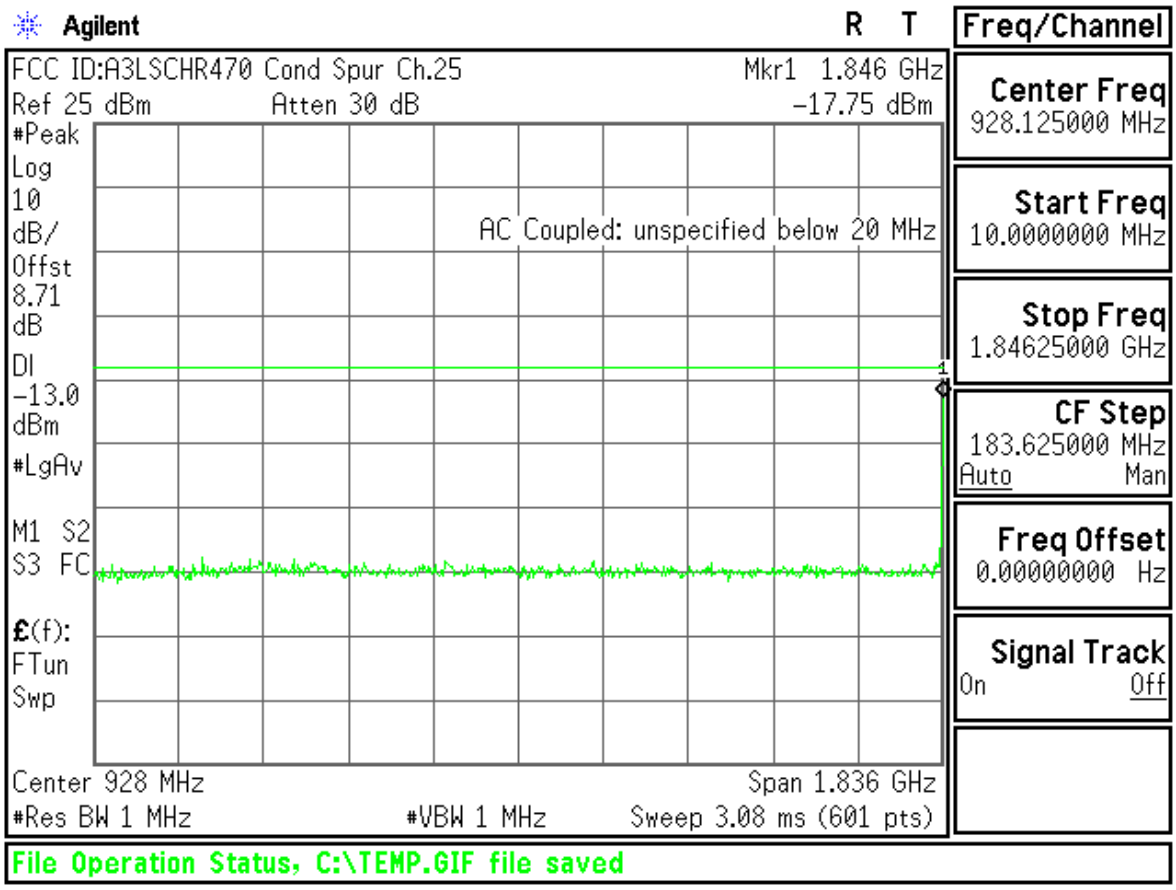

Agilent
R T
Freq/Channel
Ch Freq 1.85125 GHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHR470 OBW Ch.25
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
8.71
dB
Center 1.851 250 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2800 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 2.853 kHz
x dB Bandwidth 1.387 MHz*
File Operation Status, C:\TEMP.GIF file saved
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

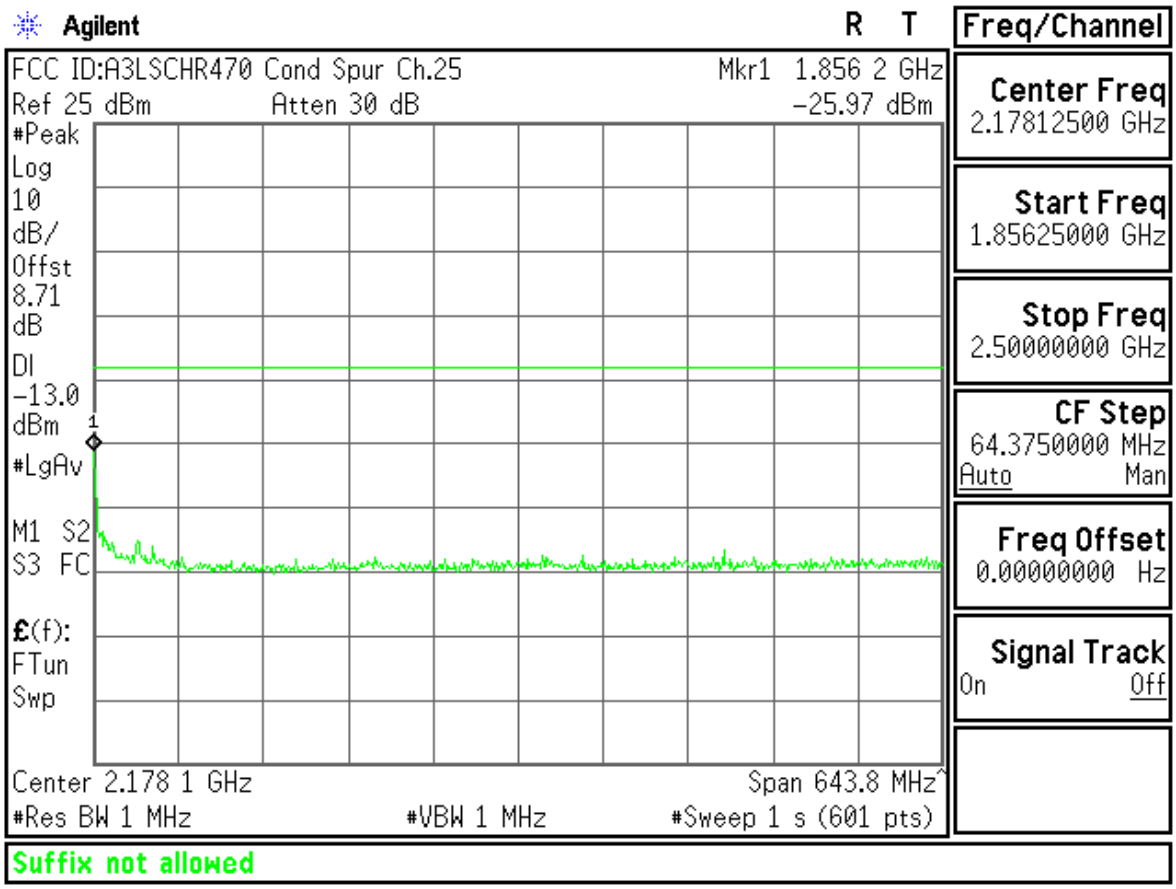

Agilent
R T
Freq/Channel
Ch Freq 1.88 GHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHR470 OBW Ch.600
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
8.71
dB
Center 1.880 000 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2716 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 5.061 kHz
x dB Bandwidth 1.364 MHz*
File Operation Status, C:\TEMP.GIF file saved
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

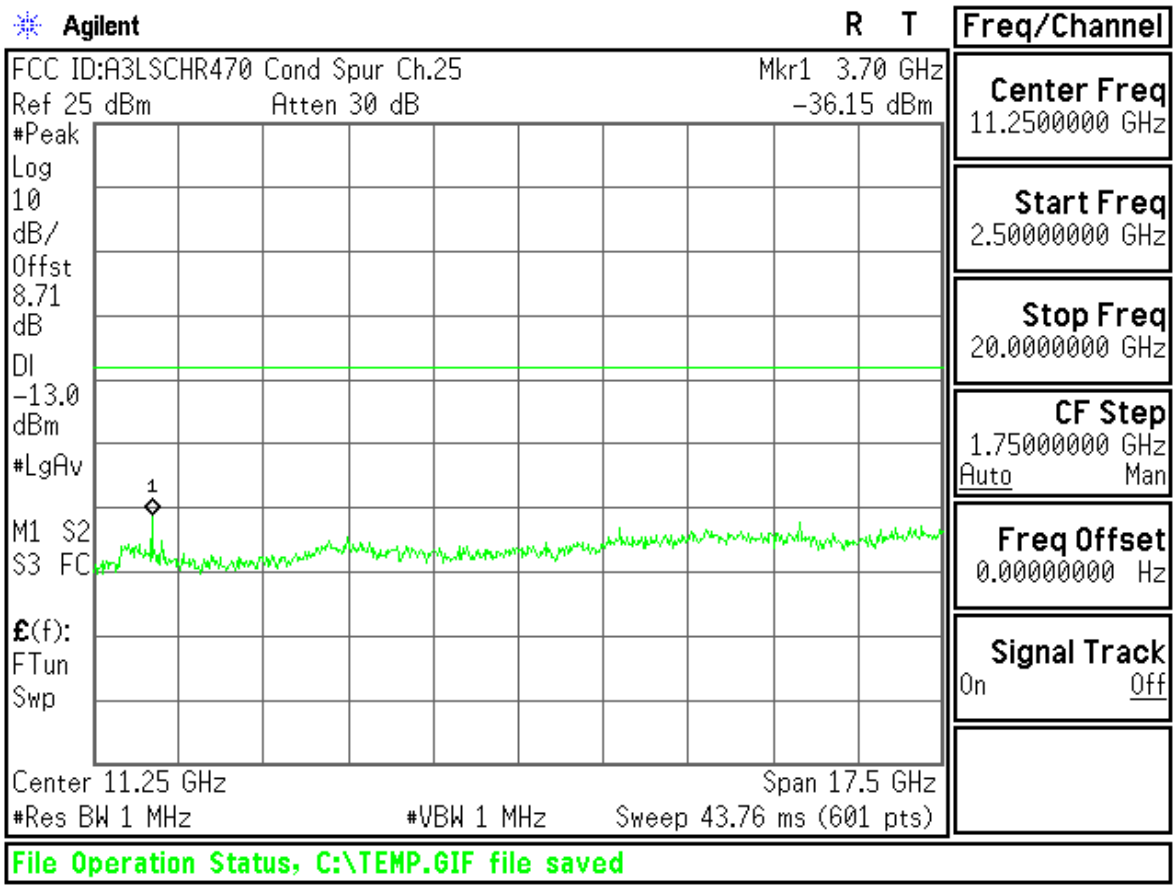

Agilent
R T
Freq/Channel
Ch Freq 1.90875 GHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHR470 OBW Ch.1175
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
8.71
dB
Center 1.908 750 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2493 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 9.705 kHz
x dB Bandwidth 1.421 MHz*
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
File Operation Status, C:\TEMP.GIF file saved

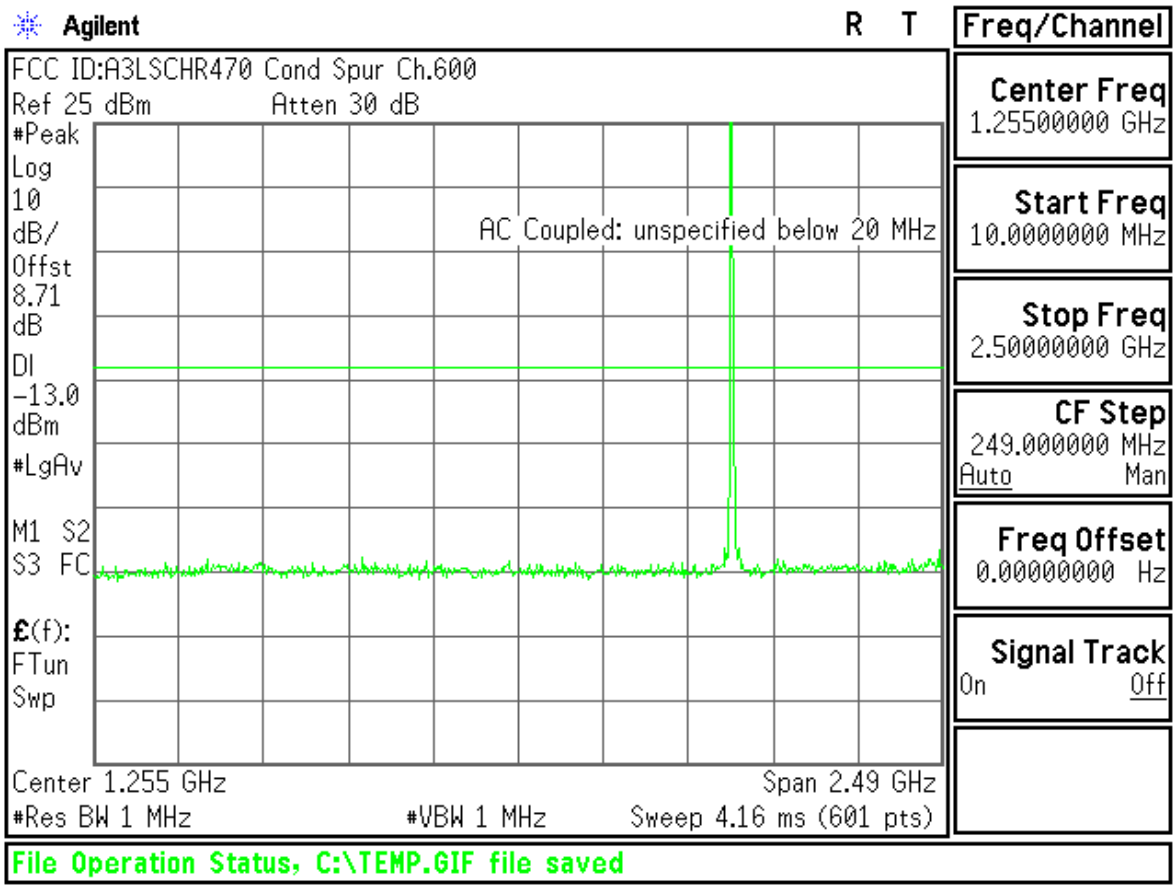

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 P.A.R Ch.600
Ref 35 dBm
Atten 40 dB
Mkr1 0 Hz
-2.24 dB
#Avg
Log
10
dB/
Offst
8.71
dB
#LgAv
V1 V2
S3 FC
£(f):
FTun
Swp
1R
Center 1.880 000 GHz
Span 5 MHz
#Res BW 3 MHz
VBW 3 MHz
Sweep 1 ms (601 pts)
Center Freq
1.88000000 GHz
Start Freq
1.87750000 GHz
Stop Freq
1.88250000 GHz
CF Step
500.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2006 Agilent Technologies

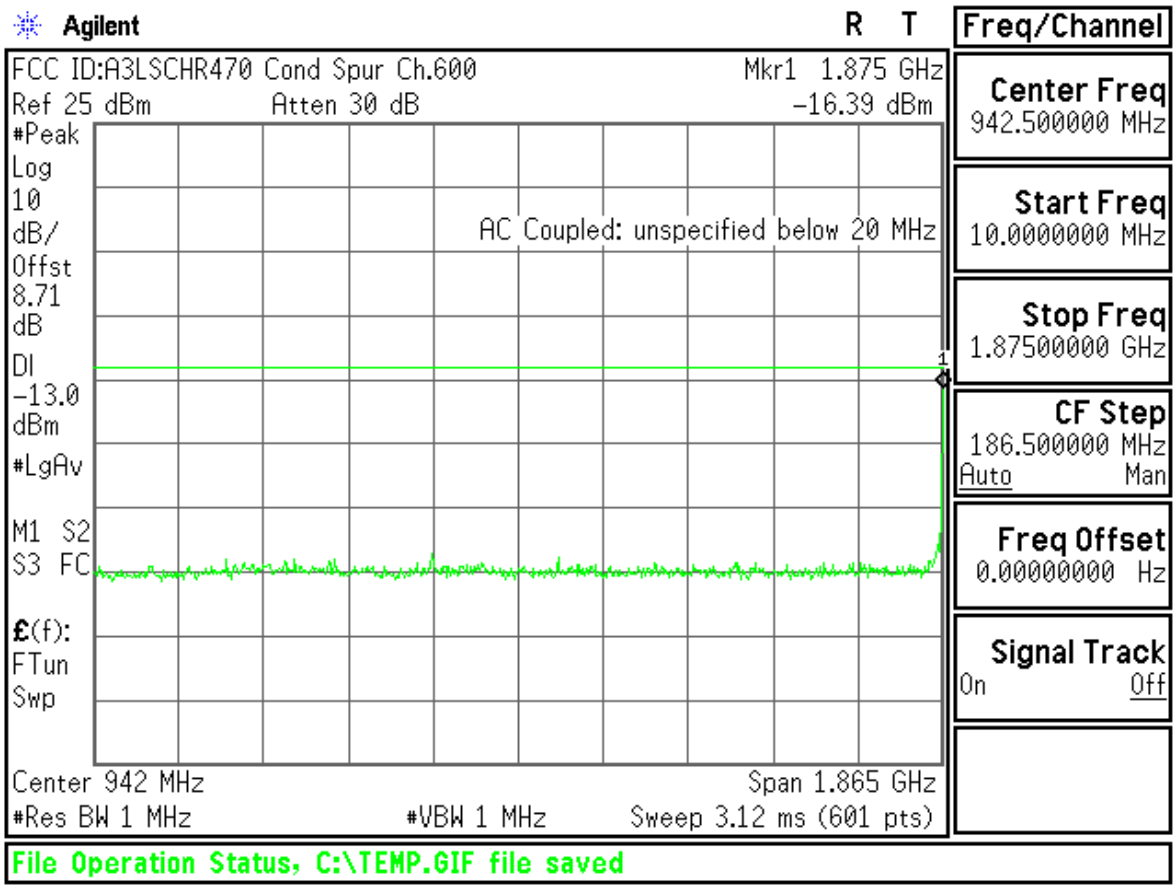

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.25
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Center Freq
1.25500000 GHz
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
File Operation Status, C:\TEMP.GIF file saved

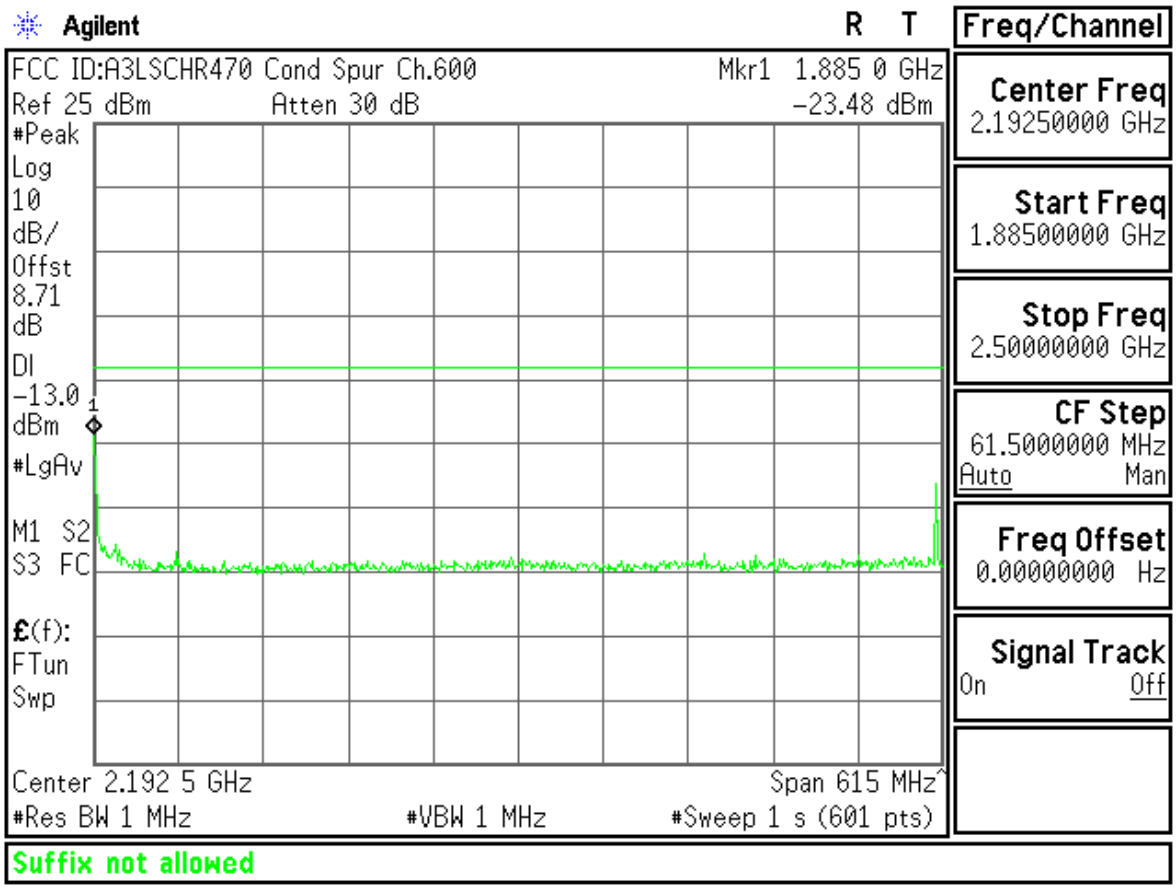

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.25
Mkr1 1.846 GHz
Ref 25 dBm
Atten 30 dB
-17.75 dBm
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 928 MHz
Span 1.836 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 3.08 ms (601 pts)
Center Freq
928.125000 MHz
Start Freq
10.0000000 MHz
Stop Freq
1.84625000 GHz
CF Step
183.625000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

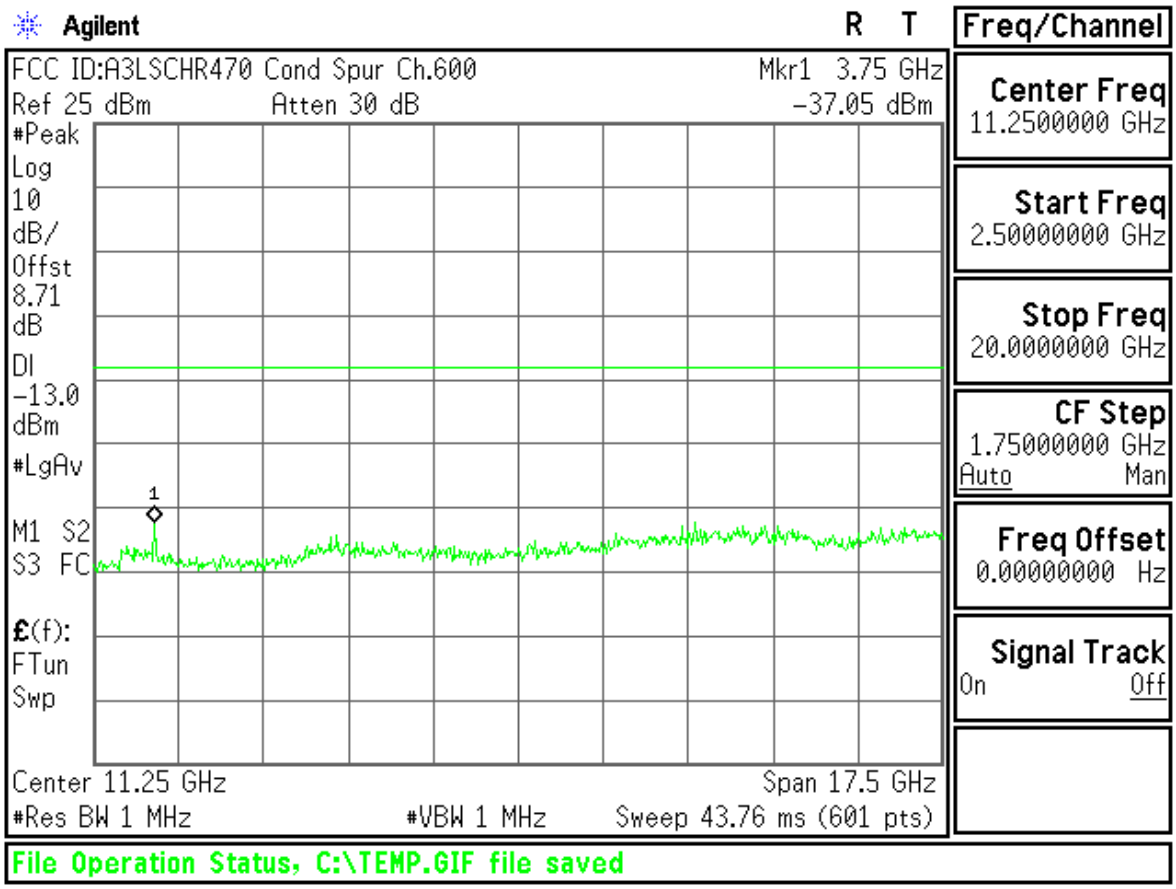

Agilent
R T
FCC ID:A3LSCHR470 Cond Spur Ch.25
Mkr1 1.856 2 GHz
Ref 25 dBm
Atten 30 dB
-25.97 dBm
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center 2.178 1 GHz
Span 643.8 MHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Freq/Channel
Center Freq
2.17812500 GHz
Start Freq
1.85625000 GHz
Stop Freq
2.50000000 GHz
CF Step
64.3750000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Suffix not allowed

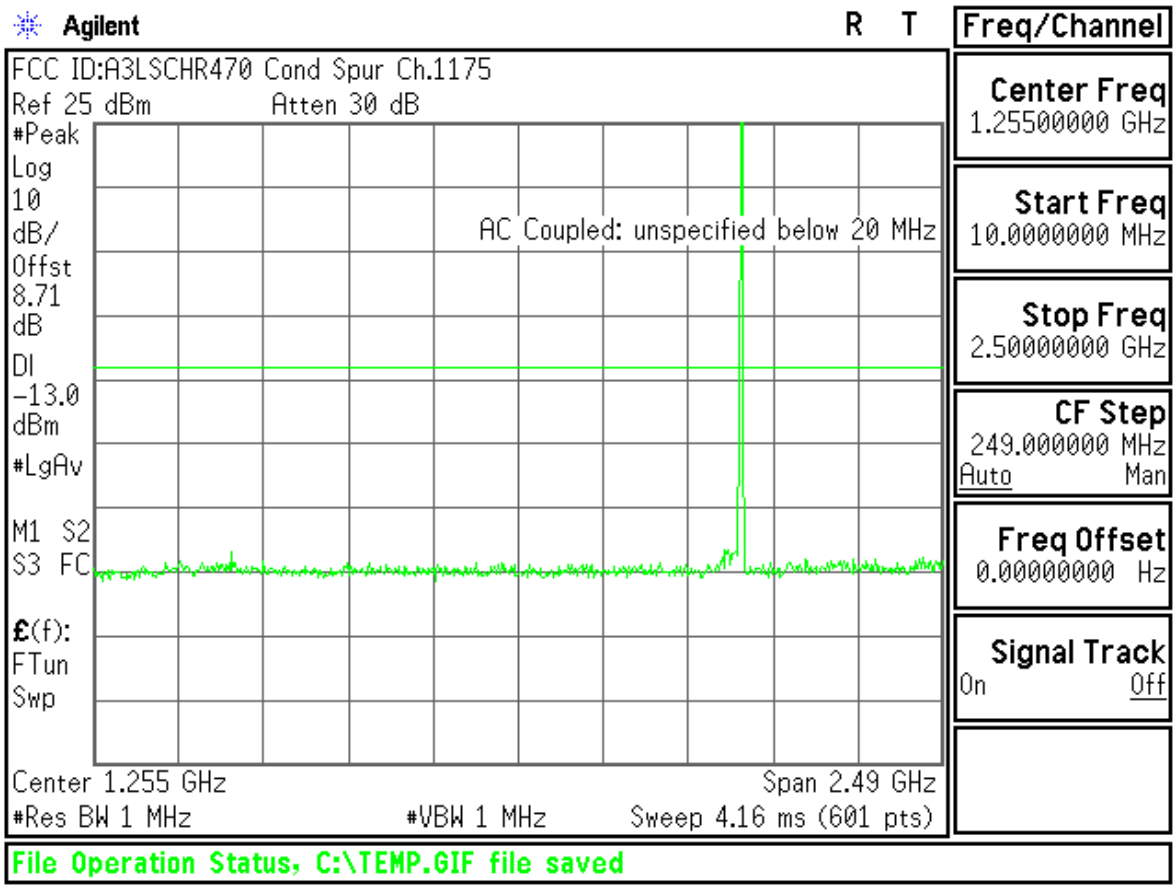

Agilent
R T
FCC ID:A3LSCHR470 Cond Spur Ch.25
Mkr1 3.70 GHz
Ref 25 dBm
Atten 30 dB
-36.15 dBm
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center 11.25 GHz
Span 17.5 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 43.76 ms (601 pts)
Freq/Channel
Center Freq
11.2500000 GHz
Start Freq
2.50000000 GHz
Stop Freq
20.0000000 GHz
CF Step
1.75000000 GHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

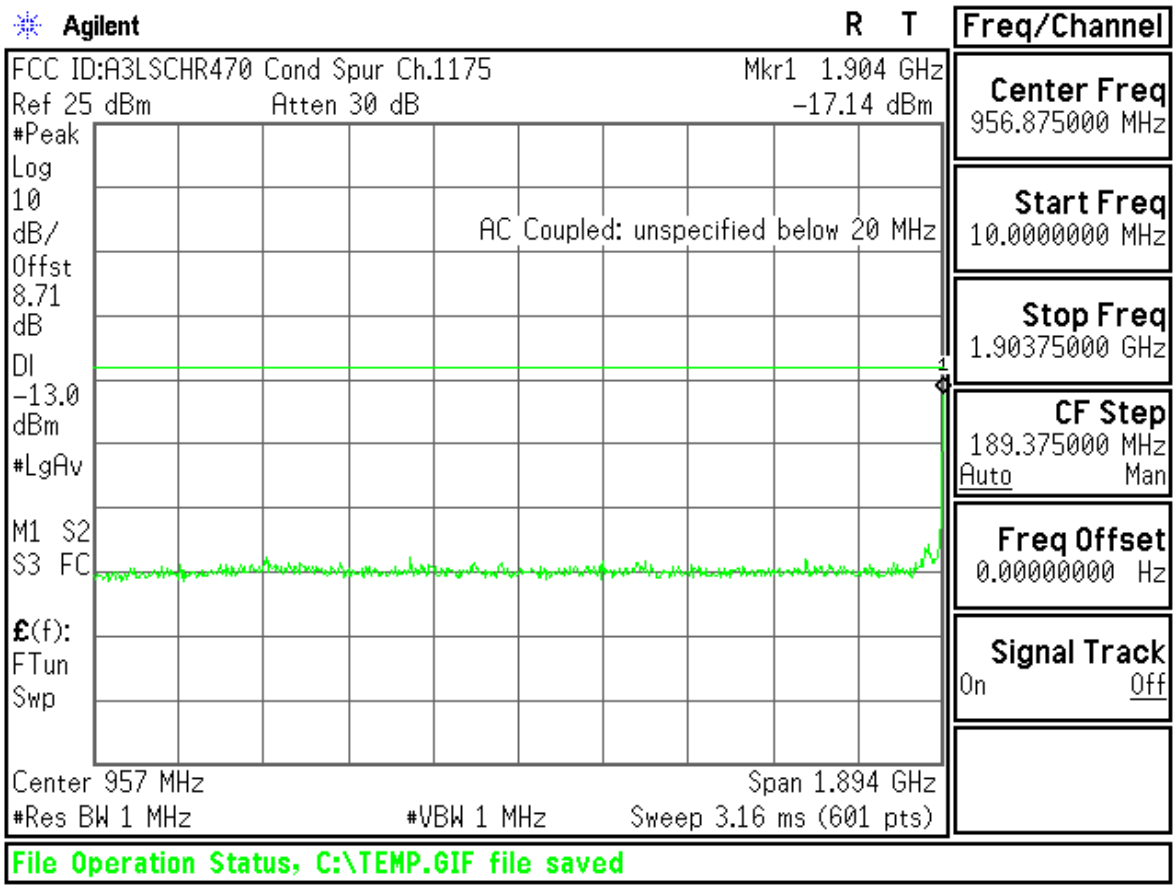

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.600
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Center Freq
1.25500000 GHz
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
File Operation Status, C:\TEMP.GIF file saved

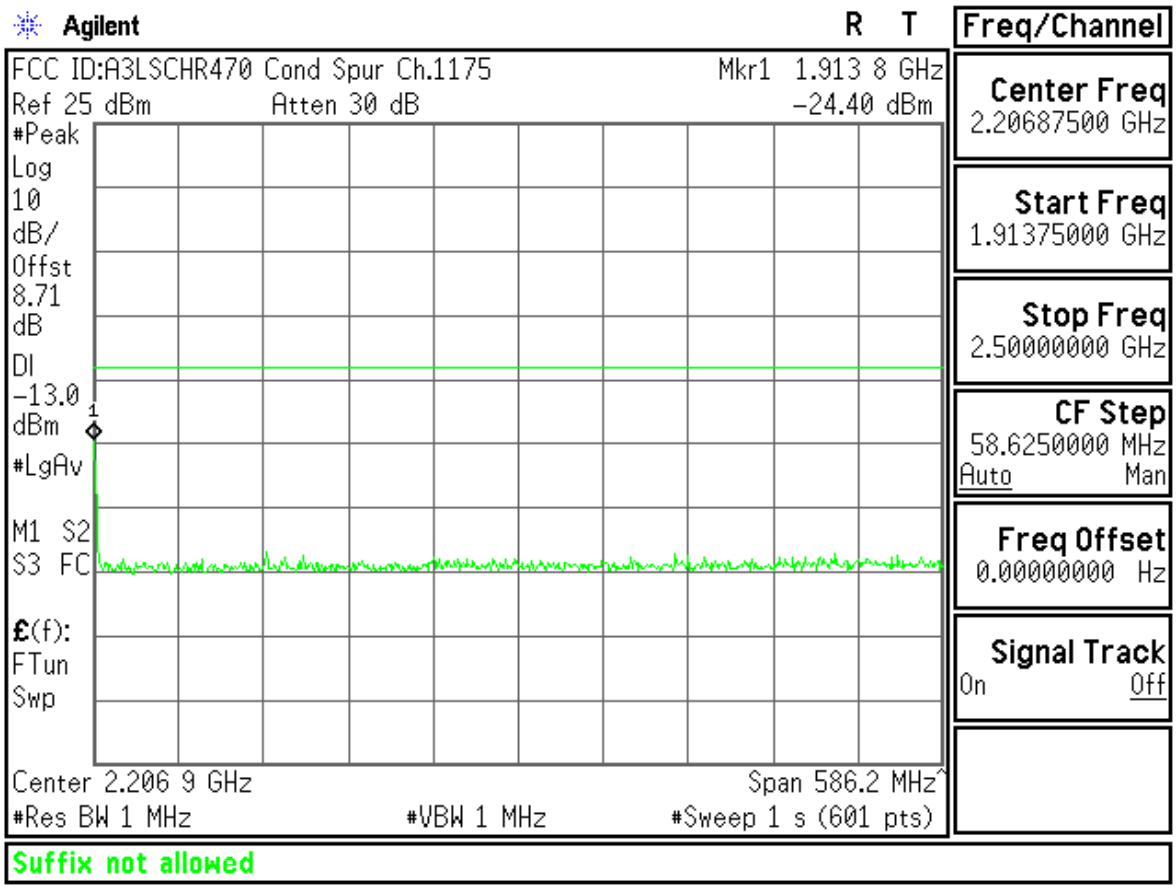

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.600
Mkr1 1.875 GHz
Ref 25 dBm
Atten 30 dB
-16.39 dBm
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 942 MHz
Span 1.865 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 3.12 ms (601 pts)
Center Freq
942.500000 MHz
Start Freq
10.0000000 MHz
Stop Freq
1.87500000 GHz
CF Step
186.500000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

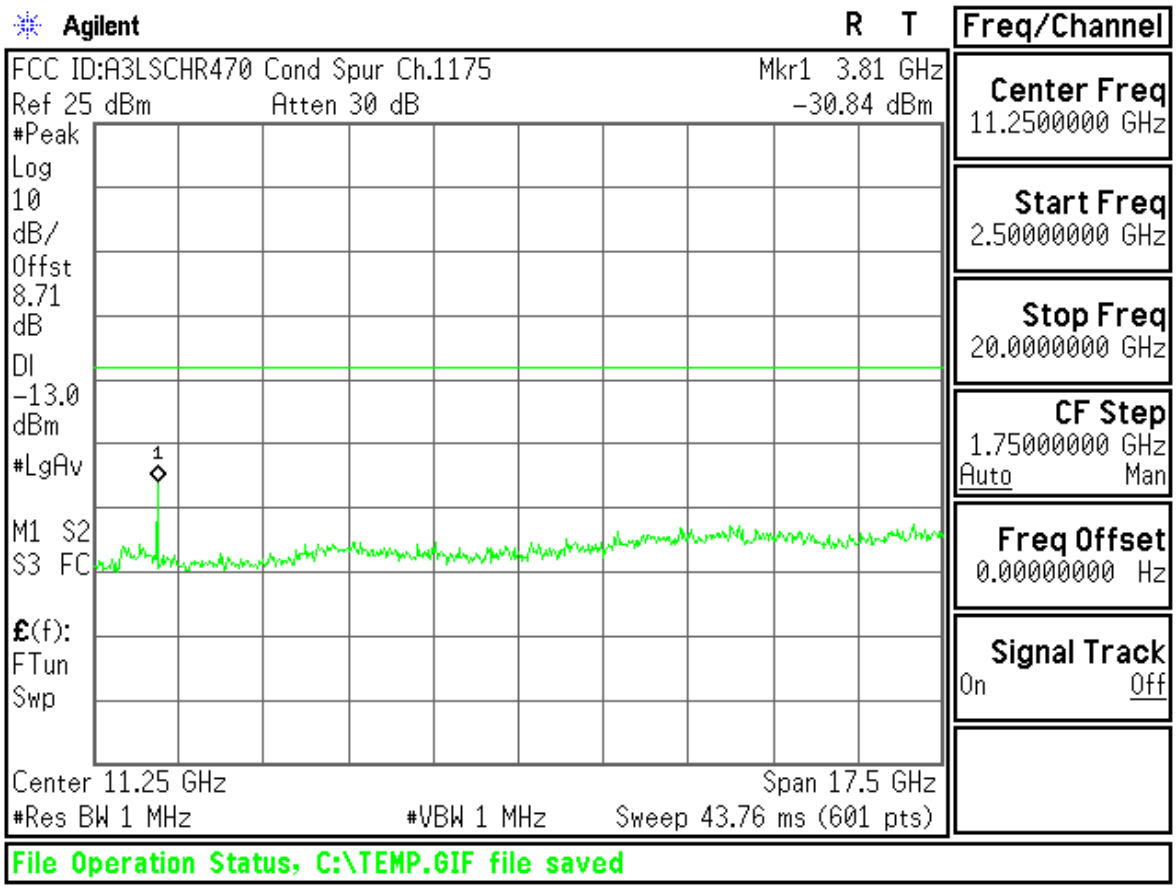

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.600
Mkr1 1.885 0 GHz
Ref 25 dBm
Atten 30 dB
-23.48 dBm
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center 2.192 5 GHz
Span 615 MHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Center Freq
2.19250000 GHz
Start Freq
1.88500000 GHz
Stop Freq
2.50000000 GHz
CF Step
61.5000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Suffix not allowed

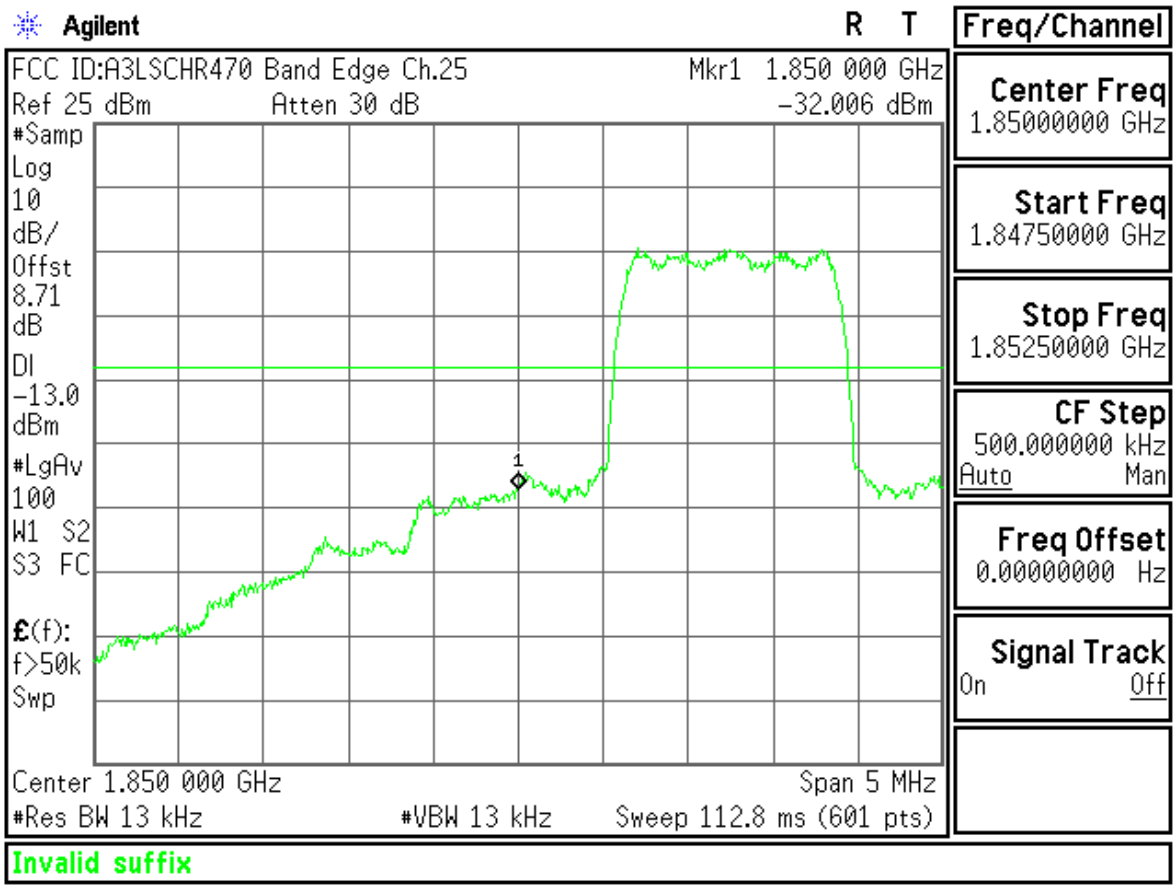

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.600
Mkr1 3.75 GHz
Ref 25 dBm
Atten 30 dB
-37.05 dBm
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center 11.25 GHz
Span 17.5 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 43.76 ms (601 pts)
Center Freq
11.2500000 GHz
Start Freq
2.50000000 GHz
Stop Freq
20.0000000 GHz
CF Step
1.75000000 GHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
File Operation Status, C:\TEMP.GIF file saved

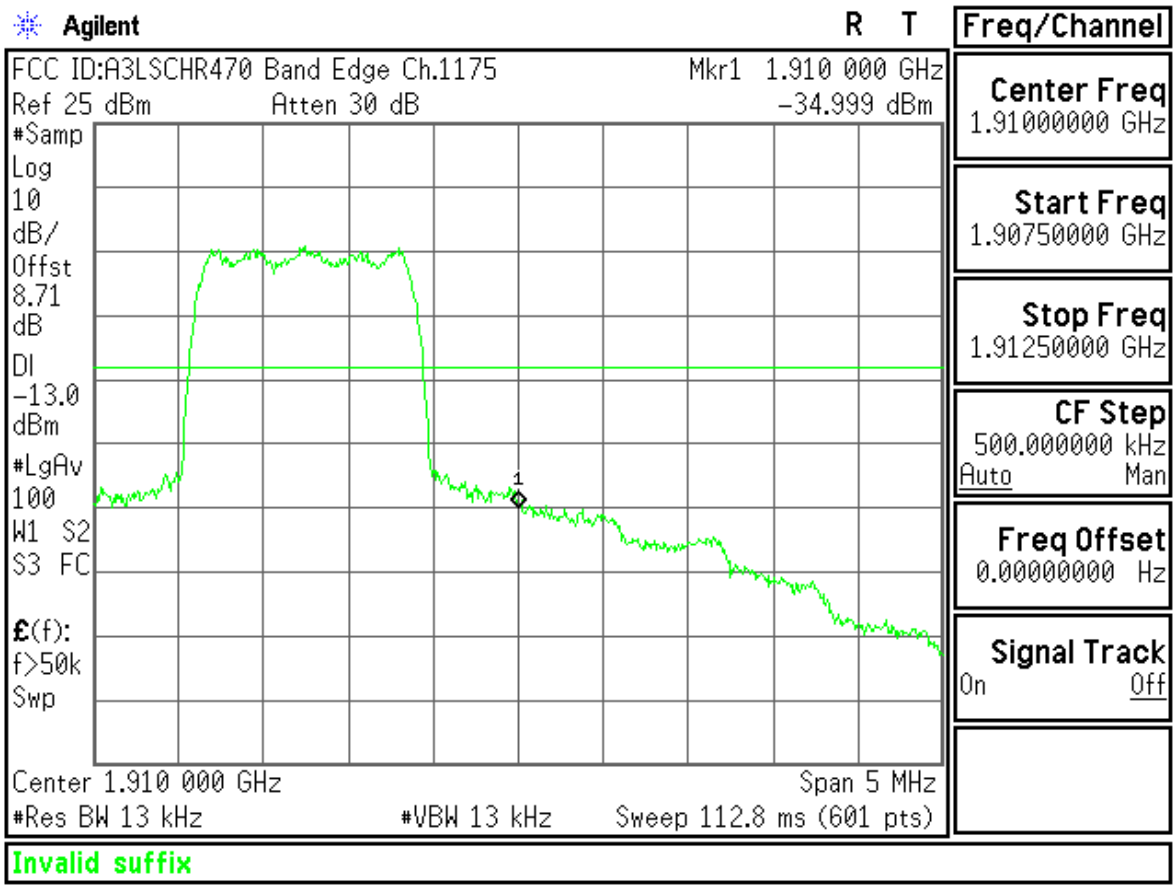

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.1175
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Center Freq
1.25500000 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
File Operation Status, C:\TEMP.GIF file saved

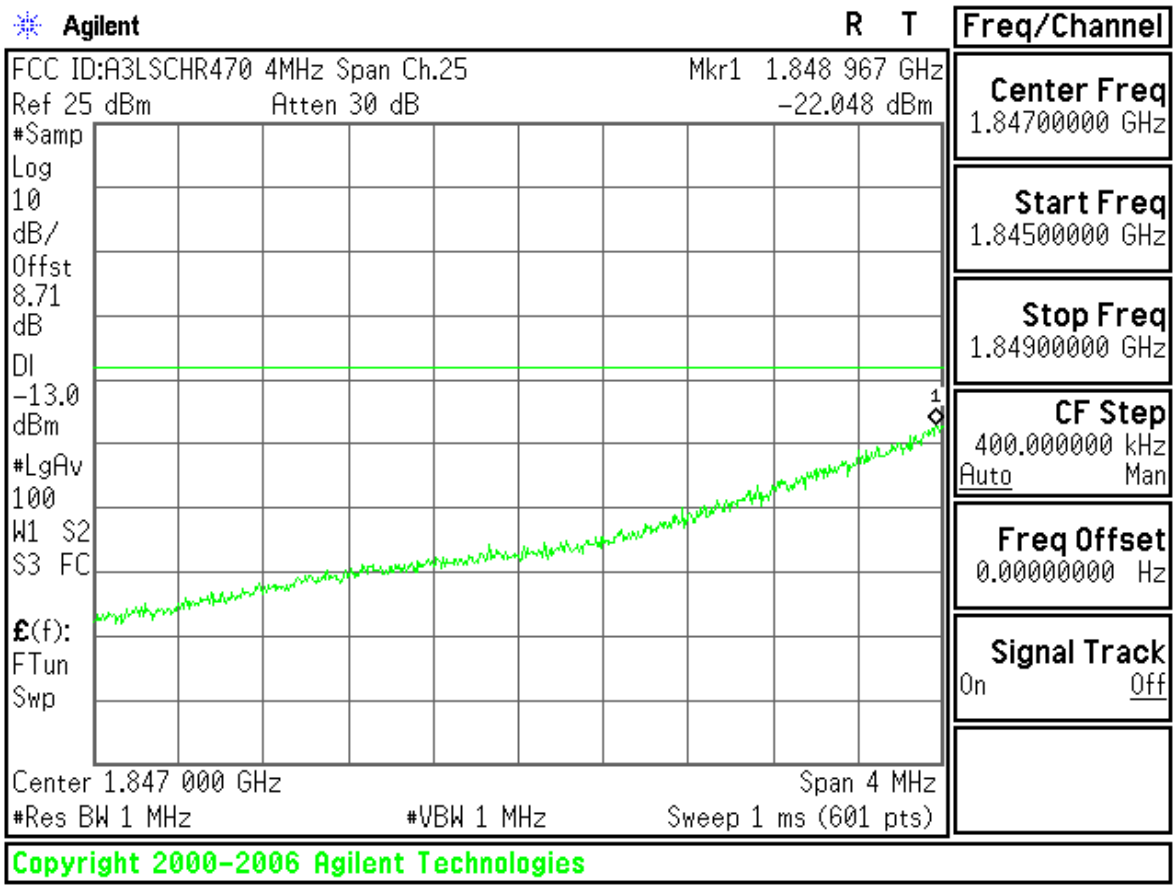

Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Cond Spur Ch.1175
Mkr1 1.904 GHz
Ref 25 dBm
Atten 30 dB
-17.14 dBm
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 957 MHz
Span 1.894 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 3.16 ms (601 pts)
Center Freq
956.875000 MHz
Start Freq
10.0000000 MHz
Stop Freq
1.90375000 GHz
CF Step
189.375000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved


Agilent
R T
FCC ID:A3LSCHR470 Cond Spur Ch.1175
Mkr1 1.913 8 GHz
Ref 25 dBm
Atten 30 dB
-24.40 dBm
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center 2.206 9 GHz
Span 586.2 MHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Freq/Channel
Center Freq
2.20687500 GHz
Start Freq
1.91375000 GHz
Stop Freq
2.50000000 GHz
CF Step
58.6250000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Suffix not allowed


Agilent
R T
FCC ID:A3LSCHR470 Cond Spur Ch.1175
Mkr1 3.81 GHz
Ref 25 dBm
Atten 30 dB
-30.84 dBm
#Peak
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
Center 11.25 GHz
Span 17.5 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
File Operation Status, C:\TEMP.GIF file saved


Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Band Edge Ch.25
Mkr1 1.850 000 GHz
Ref 25 dBm
Atten 30 dB
-32.006 dBm
#Samp
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
100
W1 S2
S3 FC
£(f):
f>50k
Swp
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
Center 1.850 000 GHz
Span 5 MHz
#Res BW 13 kHz
#VBW 13 kHz
Sweep 112.8 ms (601 pts)
Invalid suffix


Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 Band Edge Ch.1175
Mkr1 1.910 000 GHz
Ref 25 dBm
Atten 30 dB
-34.999 dBm
#Samp
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
100
W1 S2
S3 FC
£(f):
f>50k
Swp
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
Center 1.910 000 GHz
Span 5 MHz
#Res BW 13 kHz
#VBW 13 kHz
Sweep 112.8 ms (601 pts)
Invalid suffix


Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 4MHz Span Ch.25
Mkr1 1.848 967 GHz
Ref 25 dBm
Atten 30 dB
-22.048 dBm
#Samp
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
100
W1 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)
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
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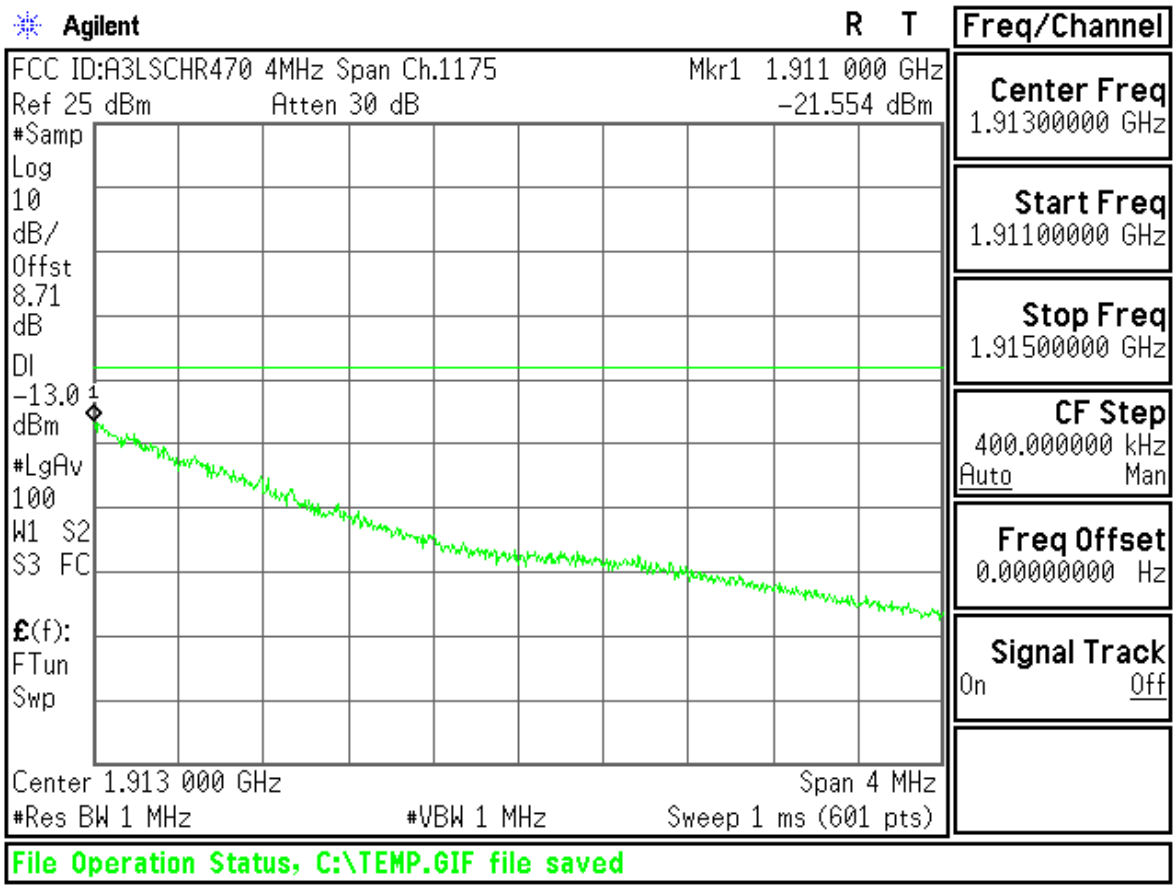
Agilent
R T
Freq/Channel
FCC ID:A3LSCHR470 4MHz Span Ch.1175
Mkr1 1.911 000 GHz
Ref 25 dBm
Atten 30 dB
-21.554 dBm
#Samp
Log
10
dB/
Offst
8.71
dB
Dl
-13.0
dBm
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 1.913 000 GHz
Span 4 MHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 1 ms (601 pts)
Center Freq
1.91300000 GHz
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
File Operation Status, C:\TEMP.GIF file saved