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-U450**
FCC ID (Requested):	**A3LSCHU450**
Report No:	**FG-167-R1**
Job No:	**FG-167**
Date issued:	**June 18 , 2009**

- 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
• FCC ID:	A3LSCHU450
• Model:	SCH-U450
• Quantity:	Quantity production is planned
• Emission Designators:	1M29F9W(CDMA), 1M29F9W(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:	0.142 W ERP CDMA (21.51 dBm) 0.345 W EIRP PCS (25.38 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:	June 05-06, 2009
- Place of Test:	SAMSUNG Lab,
- Test Report S/N:	FG-167-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.

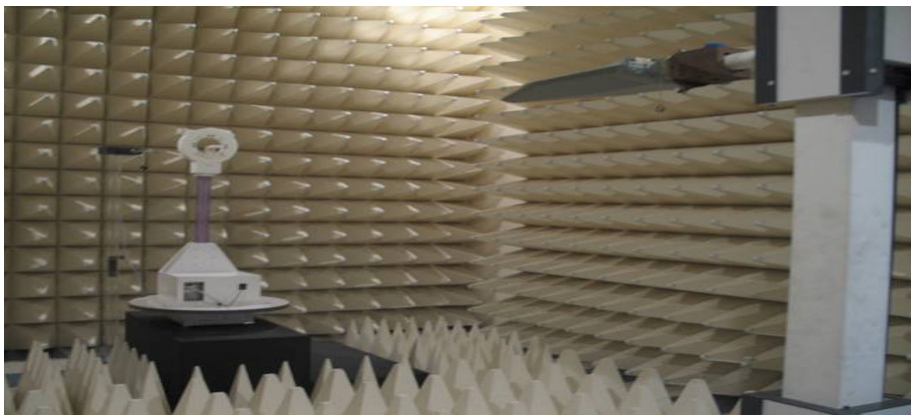

Figure2. Photograph of 3m Fully-Anechoic Chamber

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.

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4. TEST EQUIPMENT LIST

Name Of Equipment	Model	Serial No.	Due Date
Spectrum Analyzer	ESI26	836119/010	2009-10-21
	E4440A(3Hz~26.5GHz)	MY46187454	2010-03-06
	E4440A(3Hz~26.5GHz)	MY41000236	2010-04-14
Network Analyzer	8753E	JP38160590	2009-06-20
Pre-Amplifier	8449B	3008A00691	2009-12-15
Communication test set	8960	MY47510060	2010-03-06
	8960	GB42230535	2009-12-18
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
Power Supply	E3640A	MY40003594	2009-06-20
	E3640A	MY40003595	2010-05-25
	E3632A	MY40022438	2010-03-06
Divider	11636B	51946	Not Required
	11636B	56913	Not Required
	11636B	56918	Not Required
High Pass Filter	WHK/3.0/18G-10SS	492	Not Required
	WHK/3.5/18G-10SS	4	Not Required
Environmental Chamber	SH-241	92000549	2009-11-14
	SH-241	92000548	2009-11-14
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 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 RC1

Band	Channel	CDMA2000 RC	SO2	SO55	TDSO SO32 (F-SCH)	TDSO SO32 (+SCH)
Cellular	1013	RC1	24.83	24.87	-	-
		RC3	24.85	24.98	24.94	24.89
	384	RC1	24.99	24.88	-	-
		RC3	24.93	24.94	24.93	24.90
	777	RC1	24.91	24.81	-	-
		RC3	24.82	24.84	24.83	24.86
PCS	25	RC1	25.06	25.03	-	-
		RC3	24.98	25	24.97	24.97
	600	RC1	24.91	24.94	-	-
		RC3	24.89	24.93	24.87	24.89
	1175	RC1	25.01	24.93	-	-
		RC3	24.93	24.96	24.94	24.92

Table 5-3
Maximum Power Output Table for SCH-U450

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

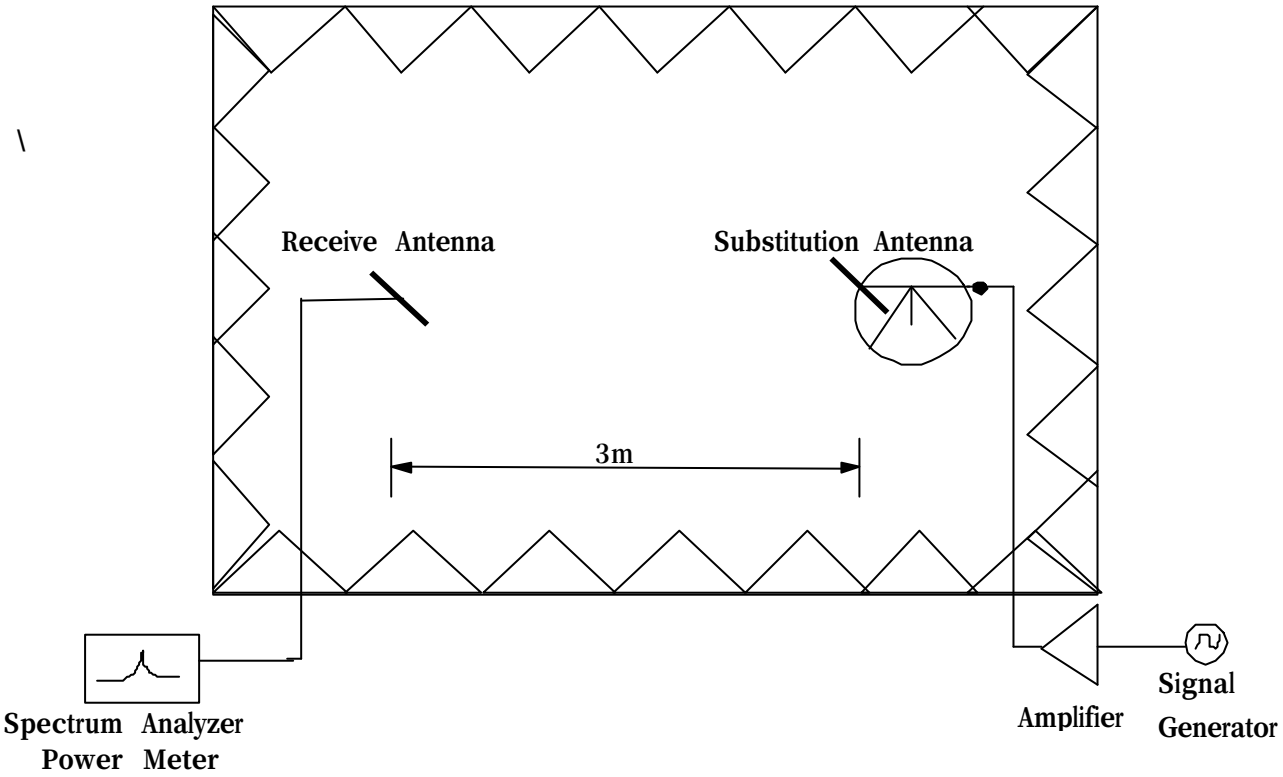

Figure 3. Diagram of ERP/EIRP test Set-up

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

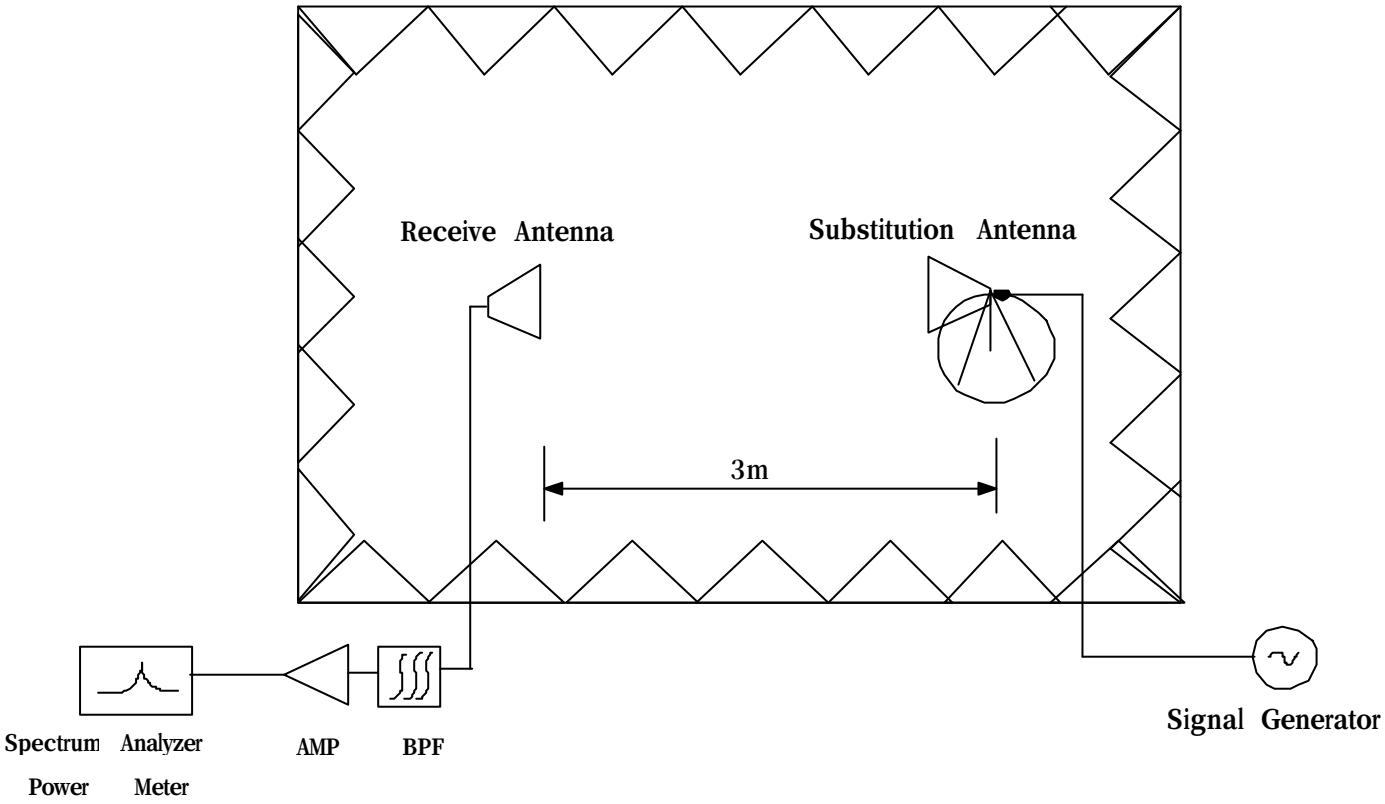

Figure 4. Diagram of Radiated Spurious & Harmonic test Set-up

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 .

5.4 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.

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5.5 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.

5.6 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℃ to +60℃ 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℃ to 27℃ to provide a reference).
2. The equipment is subjected to an overnight "soak" at -30℃ without any power applied.
3. After the overnight "soak" at -30℃ (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℃ 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℃ up to +60℃ 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	19.00	H	-17.83	-0.67	-17.16
		V	-18.19	-0.67	-17.52
836.52	20.00	H	-17.44	-0.73	-16.71
		V	-17.37	-0.73	-16.64
848.31	22.00	H	-17.40	-0.79	-16.61
		V	-16.43	-0.79	-15.64

■Result

Frequency (MHz)	From EUT Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	ERP (dBm)	ERP (W)	Battery
824.70	-17.07	H	282/125	19.09	0.081	Standard
836.52	-16.66	H	283/110	20.05	0.101	Standard
848.31	-17.10	H	280/100	21.51	0.142	Standard
848.31	-17.90	H	280/100	20.75	0.119	Extended

- All modes of operation were investigated, and the worst-case results are reported.

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	24.00	H	-14.80	9.70	-24.50
		V	-14.70	9.70	-24.40
1880.00	24.00	H	-15.22	9.70	-24.92
		V	-15.46	9.70	-25.16
1908.75	25.00	H	-14.36	9.70	-24.06
		V	-14.18	9.70	-23.88

■Result

Frequency (MHz)	From EUT Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	EIRP (dBm)	EIRP (W)	Battery
1851.25	-24.04	V	135/100	24.36	0.273	Standard
1880.00	-25.50	V	236/90	23.66	0.232	Standard
1908.75	-23.50	V	211/90	25.38	0.345	Standard
1908.75	-24.61	V	211/90	24.61	0.289	Extended

- All modes of operation were investigated, and the worst-case results are reported.

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 : 21.51 dBm = 0.142 W

Modulation Signal : CDMA

Limit : 43 + 10log$_{10}$(P) = 34.51 dBc

■**Result**

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	POL (H/V)	Result (dBc)
1013	2	1649.40	-54.48	H	64.16
	3	2474.10	-63.12	H	67.63
	4	3298.80	-66.51	H	67.85
	5	4123.50	-	-	-
	6	4948.20	-	-	-
	7	5772.90	-	-	-
384	2	1673.04	-56.10	H	64.24
	3	2509.56	-66.91	H	71.16
	4	3346.08	-66.20	V	67.25
	5	4182.68	-	-	-
	6	5019.12	-	-	-
	7	5855.64	-	-	-
777	2	1696.62	-47.80	V	56.70
	3	2544.93	-66.58	H	70.49
	4	3393.24	-66.18	V	67.37
	5	4241.55	-	-	-
	6	5089.86	-	-	-
	7	5938.17	-	-	-

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 : 25.38 dBm = 0.345 W

Modulation Signal : PCS

Limit : 43 + 10log$_{10}$(P) = 38.38 dBc

■**Result**

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	POL (H/V)	Result (dBc)
25	2	3702.50	-59.71	H	60.37
	3	5553.75	-66.00	H	61.57
	4	7405.55	-68.57	H	59.54
	5	9256.25	-	-	-
	6	11107.50	-	-	-
	7	12958.75	-	-	-
600	2	3760.00	-59.66	V	59.89
	3	5640.00	-67.15	V	62.23
	4	7520.00	-67.91	H	58.66
	5	9400.00	-	-	-
	6	11280.00	-	-	-
	7	13160.00	-	-	-
1175	2	3817.50	-56.35	V	56.54
	3	5726.25	-66.74	V	61.50
	4	7635.00	-68.44	H	58.72
	5	9543.75	-	-	-
	6	11452.50	-	-	-
	7	13361.25	-	-	-

Radiated Spurious Emission measurements at 3 meters by Substitution Method

6.5 CDMA Radiated Spurious & Harmonic Conversion Table

Date : June 06, 2009

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	-9.02	9.50	-13.50	-26.68	-27.10	-54.48	-54.61	64.45	64.16
	3	2474.10	-11.25	10.70	-12.50	-32.14	-31.45	-63.12	-67.61	67.63	72.81
	4	3298.80	-13.26	12.30	-12.00	-35.31	-35.43	-66.51	-66.82	67.85	68.04
	5	4123.50	-14.79	12.50	-10.70	-38.87	-38.90	-	-	-	-
	6	4948.20	-16.60	12.70	-9.10	-40.93	-40.69	-	-	-	-
	7	5772.90	-18.02	12.90	-7.90	-43.59	-43.30	-	-	-	-
384	2	1673.04	-9.05	9.50	-13.50	-28.00	-28.63	-56.10	-56.22	64.75	64.24
	3	2509.56	-11.31	10.70	-12.40	-32.40	-31.64	-66.91	-67.45	71.16	72.46
	4	3346.08	-13.33	12.30	-12.00	-35.73	-35.60	-66.55	-66.20	67.47	67.25
	5	4182.68	-15.01	12.50	-10.50	-39.30	-39.11	-	-	-	-
	6	5019.12	-16.84	12.70	-8.90	-41.59	-41.32	-	-	-	-
	7	5855.64	-18.26	12.90	-7.60	-43.87	-43.84	-	-	-	-
777	2	1696.62	-9.07	9.50	-13.40	-28.83	-27.75	-50.09	-47.80	57.91	56.70
	3	2544.93	-11.35	10.70	-12.40	-32.38	-32.94	-66.58	-66.78	70.85	70.49
	4	3393.24	-13.26	12.30	-12.00	-35.94	-35.46	-67.38	-66.18	68.09	67.37
	5	4241.55	-15.20	12.50	-10.30	-39.34	-39.07	-	-	-	-
	6	5089.86	-16.99	12.70	-8.70	-41.96	-41.42	-	-	-	-
	7	5938.17	-18.38	12.90	-7.50	-43.98	-43.32	-	-	-	-

6.6 PCS Radiated Spurious & Harmonic Conversion Table

Date : June 06, 2009

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	-14.02	12.40	-11.40	-37.72	-37.72	-59.71	-63.67	60.37	64.33
	3	5553.75	-17.68	12.90	-8.20	-42.81	-43.00	-66.00	-66.76	61.57	62.14
	4	7405.00	-20.47	10.50	-3.00	-47.41	-47.39	-68.57	-68.57	59.54	59.56
	5	9256.25	-23.65	11.20	-0.50	-50.87	-51.74	-	-	-	-
	6	11107.50	-26.73	11.60	2.10	-55.94	-55.98	-	-	-	-
	7	12958.75	-28.60	12.90	2.70	-59.18	-59.44	-	-	-	-
600	2	3760.00	-14.17	12.40	-11.20	-38.11	-38.15	-62.58	-59.66	62.85	59.89
	3	5640.00	-17.83	12.90	-8.10	-42.84	-43.30	-67.26	-67.15	62.80	62.23
	4	7520.00	-20.58	10.60	-3.00	-47.63	-47.25	-67.91	-68.08	58.66	59.21
	5	9400.00	-23.19	11.60	-1.40	-51.86	-52.85	-	-	-	-
	6	11280.00	-26.31	12.10	1.20	-56.33	-56.80	-	-	-	-
	7	13160.00	-28.22	12.80	2.40	-59.42	-59.52	-	-	-	-
1175	2	3817.50	-14.18	12.40	-11.20	-38.30	-38.19	-60.34	-56.35	60.42	56.54
	3	5726.25	-17.92	13.00	-8.10	-43.67	-43.62	-67.19	-66.74	61.90	61.50
	4	7635.00	-20.95	11.20	-3.30	-47.83	-48.14	-68.44	-68.48	58.99	58.72
	5	9543.75	-23.60	11.70	-1.10	-52.43	-52.81	-	-	-	-
	6	11452.50	-26.67	11.70	2.00	-56.85	-56.63	-	-	-	-
	7	13361.25	-28.41	12.30	3.10	-60.50	-59.87	-	-	-	-

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)	-6.90	836,519,993	-0.000001	-0.008
100%		-30	4.50	836,520,005	0.000001	0.005
100%		-20	3.50	836,520,004	0.000000	0.004
100%		-10	-49.60	836,519,950	-0.000006	-0.059
100%		0	40.50	836,520,041	0.000005	0.048
100%		+10	32.50	836,520,033	0.000004	0.039
100%		+20	-6.90	836,519,993	-0.000001	-0.008
100%		+30	-31.90	836,519,968	-0.000004	-0.038
100%		+40	4.90	836,520,005	0.000001	0.006
100%		+50	-12.20	836,519,988	-0.000001	-0.015
100%		+60	48.30	836,520,048	0.000006	0.058
85%	3.25	+20	30.50	836,520,031	0.000004	0.036
115%	4.26	+20	-22.20	836,519,978	-0.000003	-0.027
Batt. Endpoint	3.25	+20	30.50	836,520,031	0.000004	0.036

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

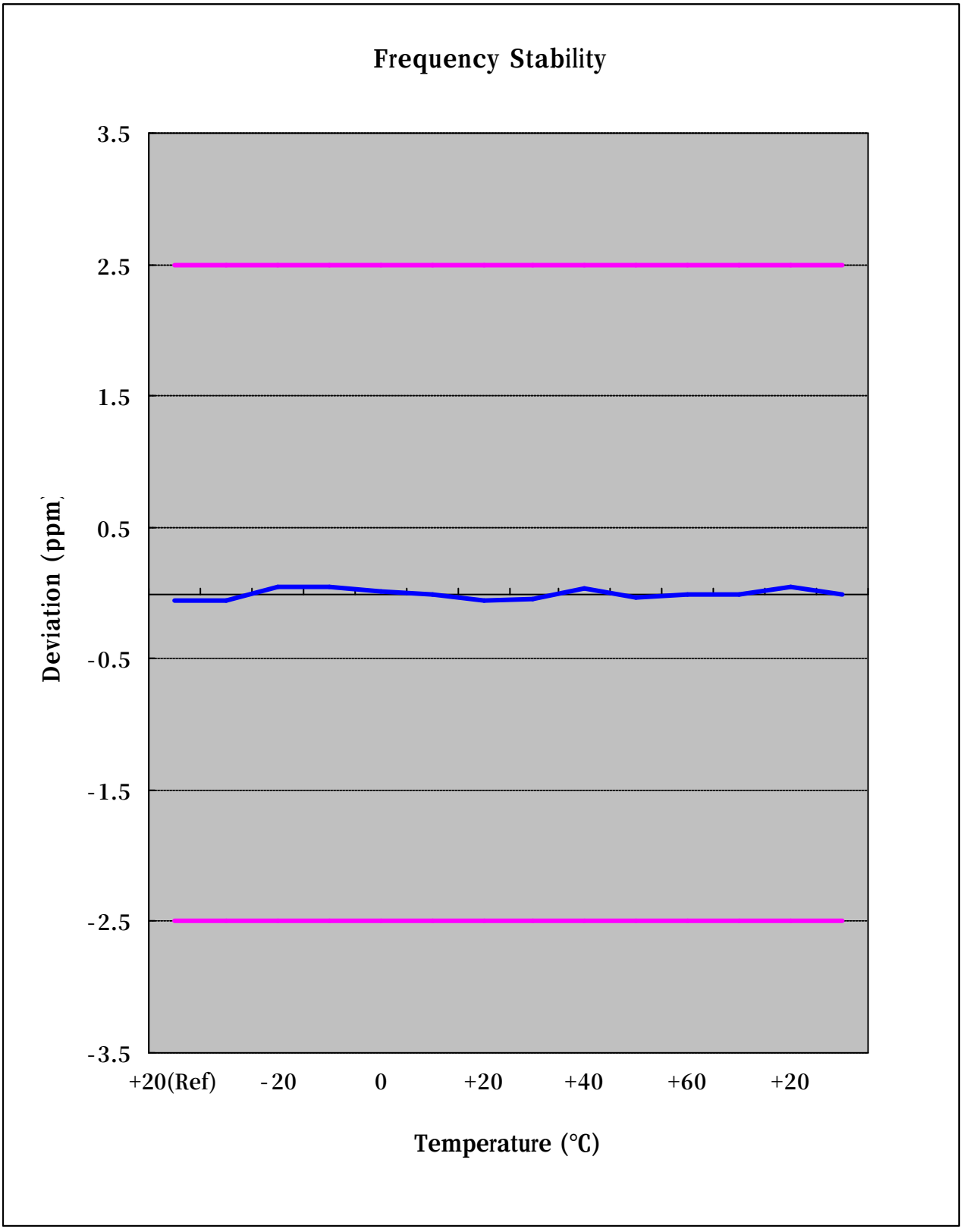
Deviation Limit : ±0.00025 % or 2.5ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency Error (Hz)	Frequency (Hz)	Deviation (%)	ppm
100%	3.70	+20(Ref)	49.90	1,880,000,050	0.000003	0.027
100%		-30	-20.70	1,879,999,979	-0.000001	-0.011
100%		-20	26.60	1,880,000,027	0.000001	0.014
100%		-10	-11.00	1,879,999,989	-0.000001	-0.006
100%		0	-39.60	1,879,999,960	-0.000002	-0.021
100%		+10	37.70	1,880,000,038	0.000002	0.020
100%		+20	49.90	1,880,000,050	0.000003	0.027
100%		+30	-27.60	1,879,999,972	-0.000001	-0.015
100%		+40	16.40	1,880,000,016	0.000001	0.009
100%		+50	-41.10	1,879,999,959	-0.000002	-0.022
100%		+60	10.70	1,880,000,011	0.000001	0.006
85%	3.25	+20	38.30	1,880,000,038	0.000002	0.020
115%	4.26	+20	-43.90	1,879,999,956	-0.000002	-0.023
Batt. Endpoint	3.25	+20	38.30	1,880,000,038	0.000002	0.020

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

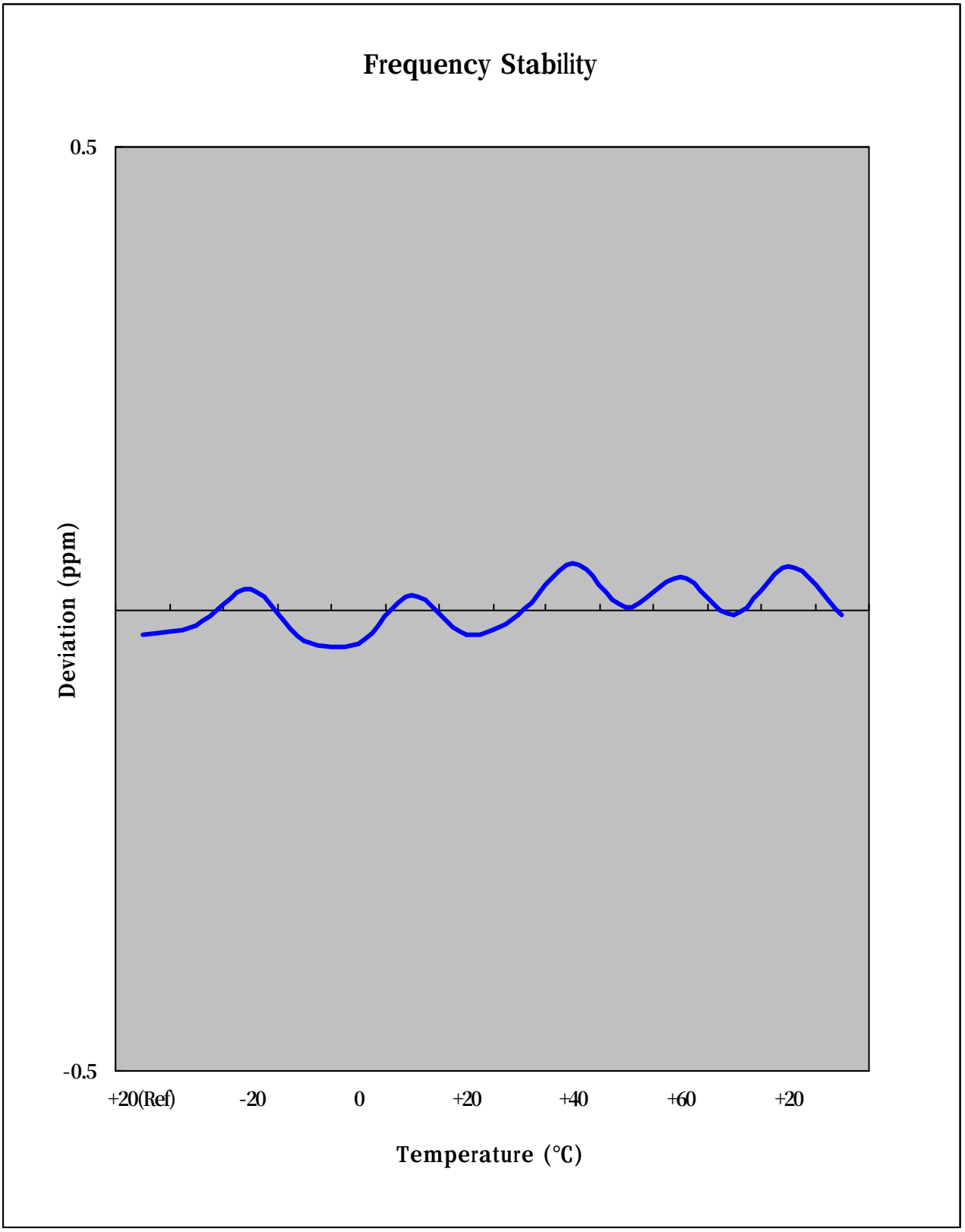
The EUT is tested down to the battery end point

6.7.3 CDMA Frequency Stability Graph



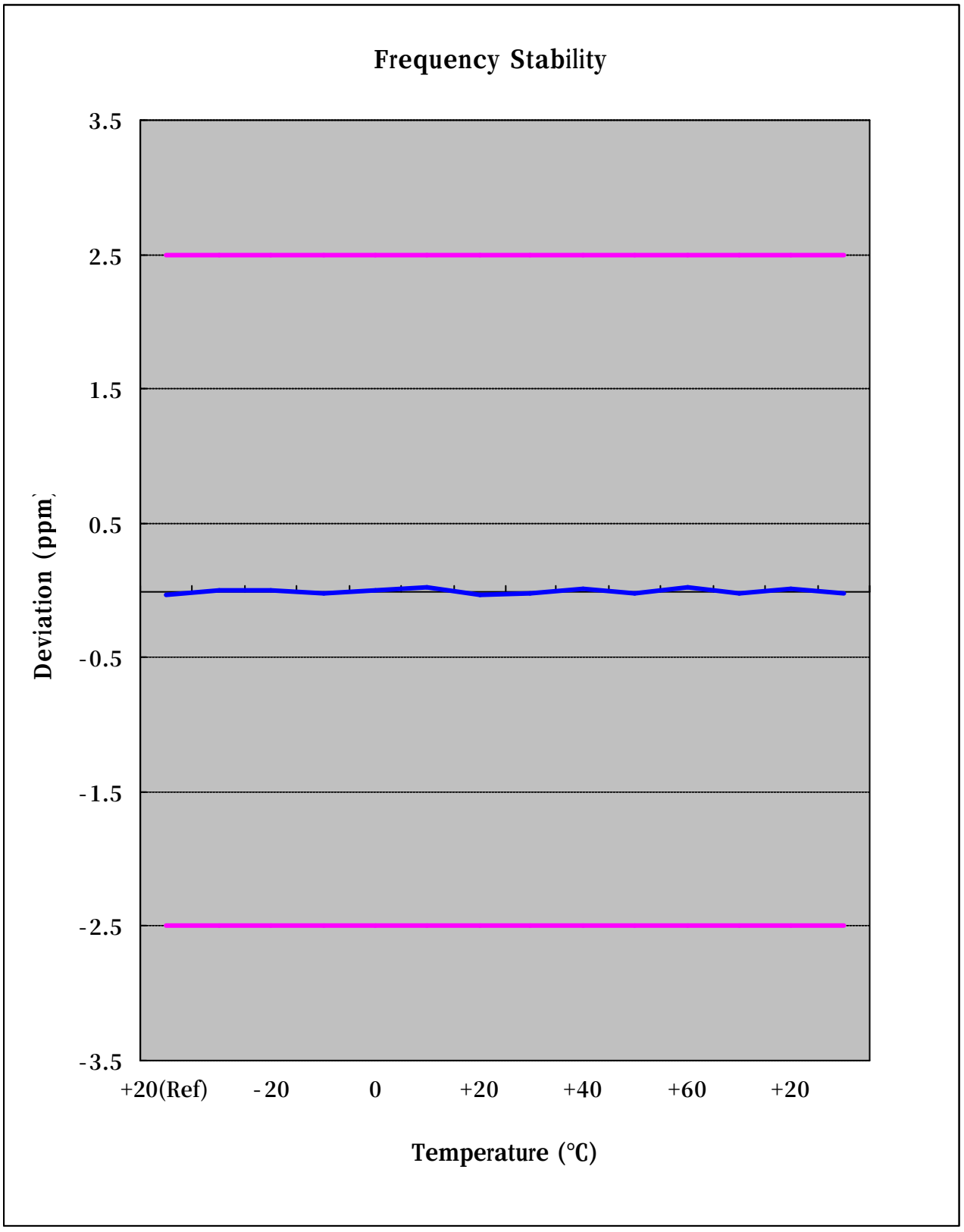
– End of page –

Zoom In



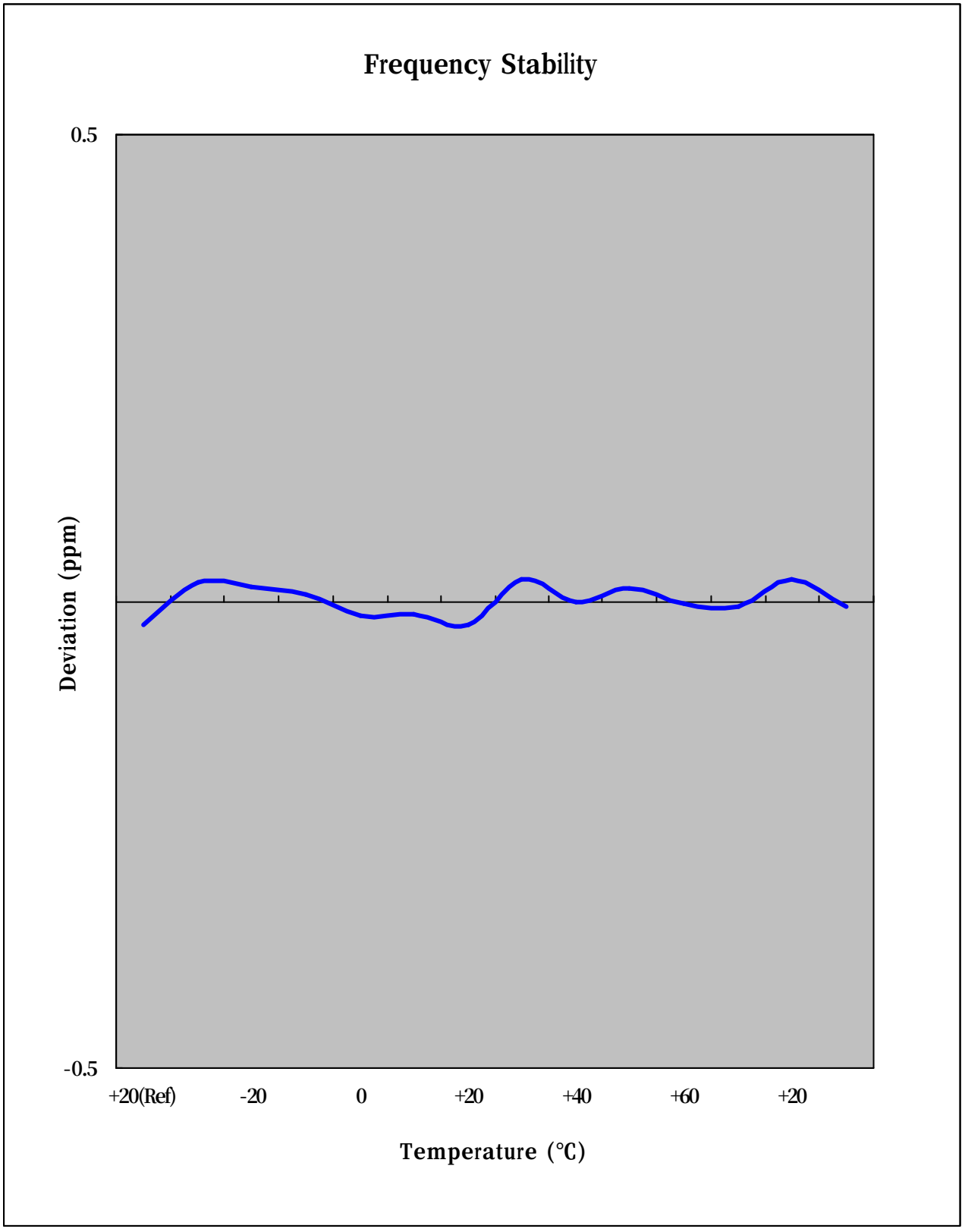
– End of page –

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 –

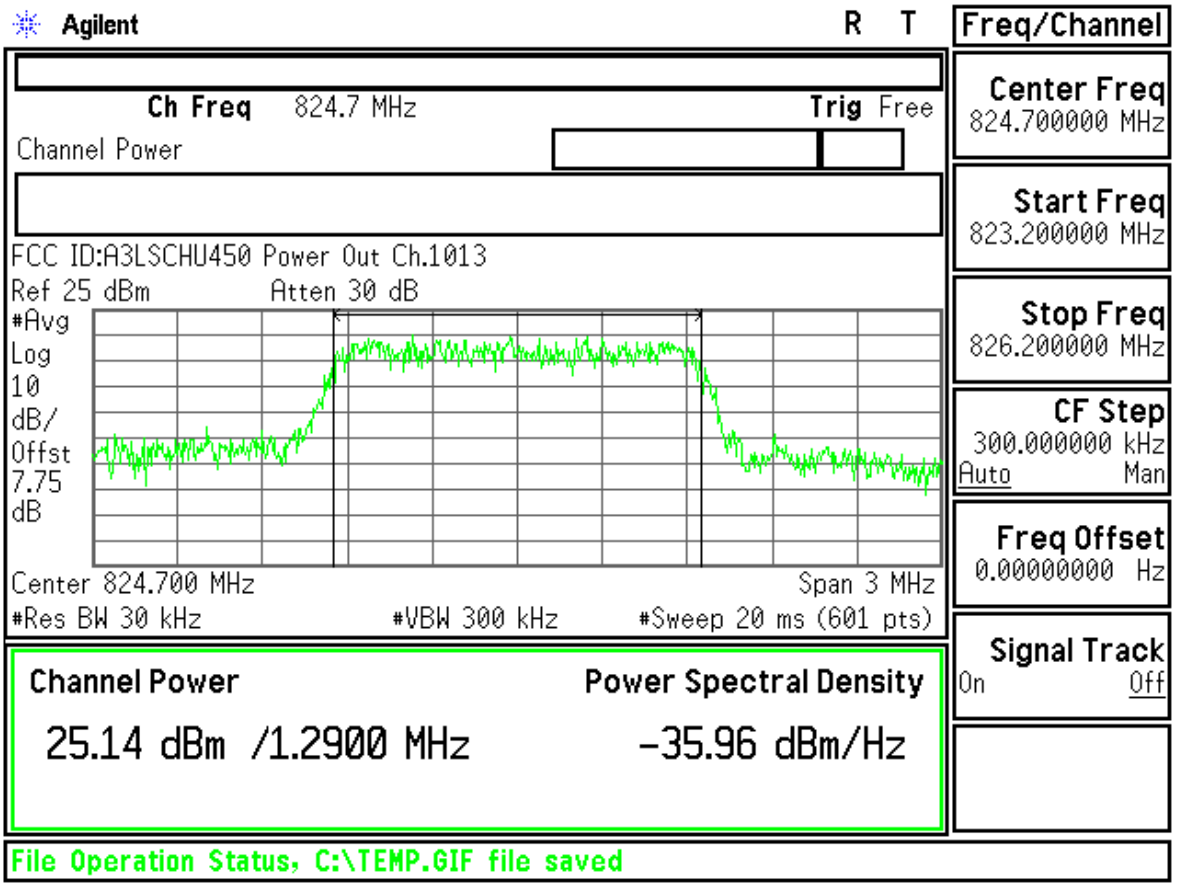
8. CONCLUSION

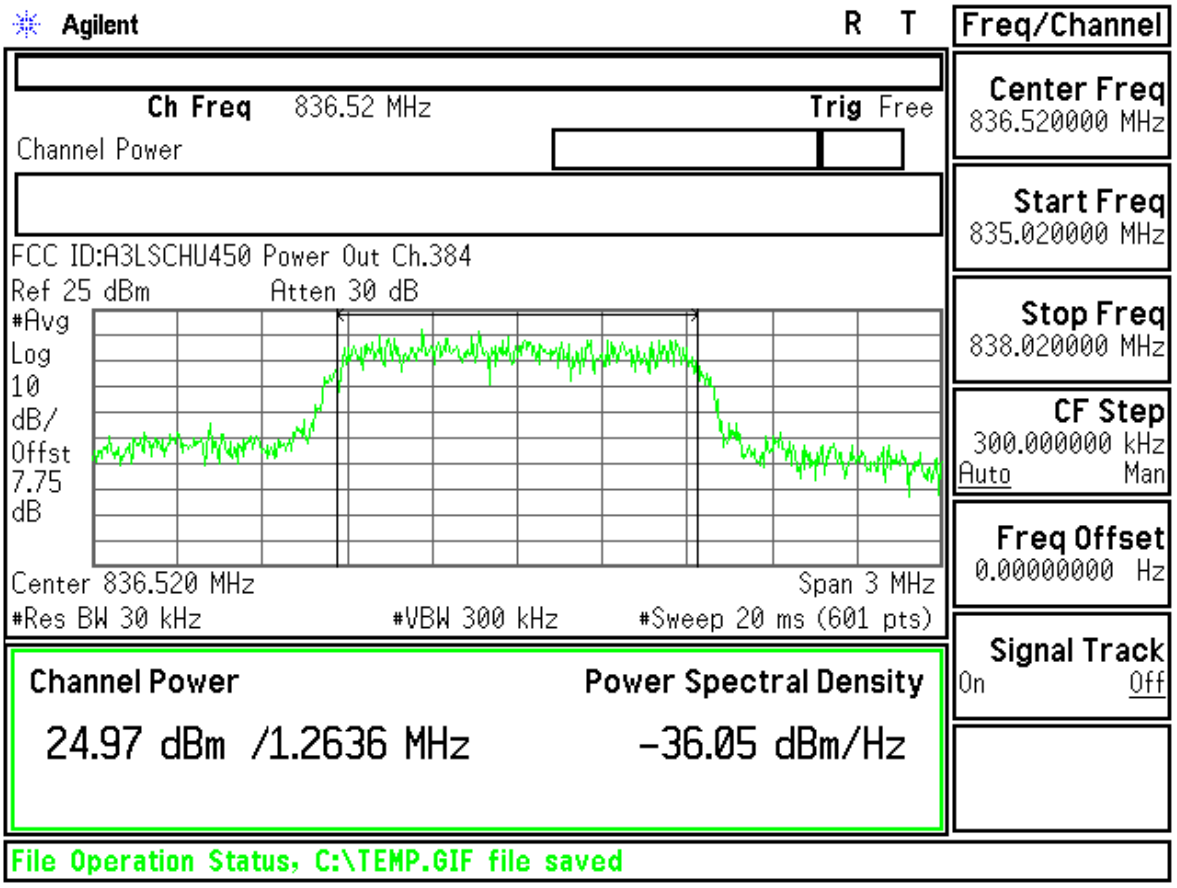
The data collected shows that the SAMSUNG Cellular/PCS CDMA Phone with Bluetooth FCC ID : A3LSCHU450 complies with all the requirements of Parts 2, 22, 24 of the FCC Rules.

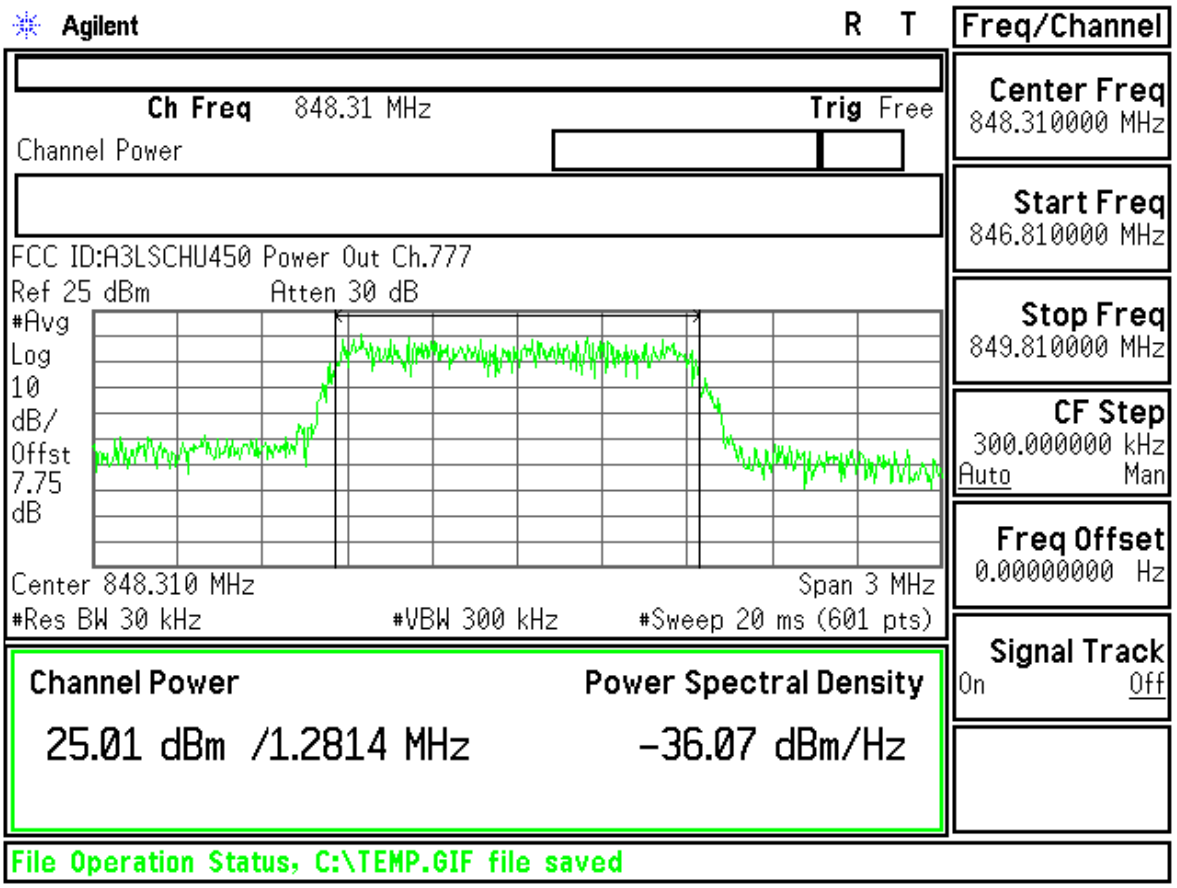
– End of page -

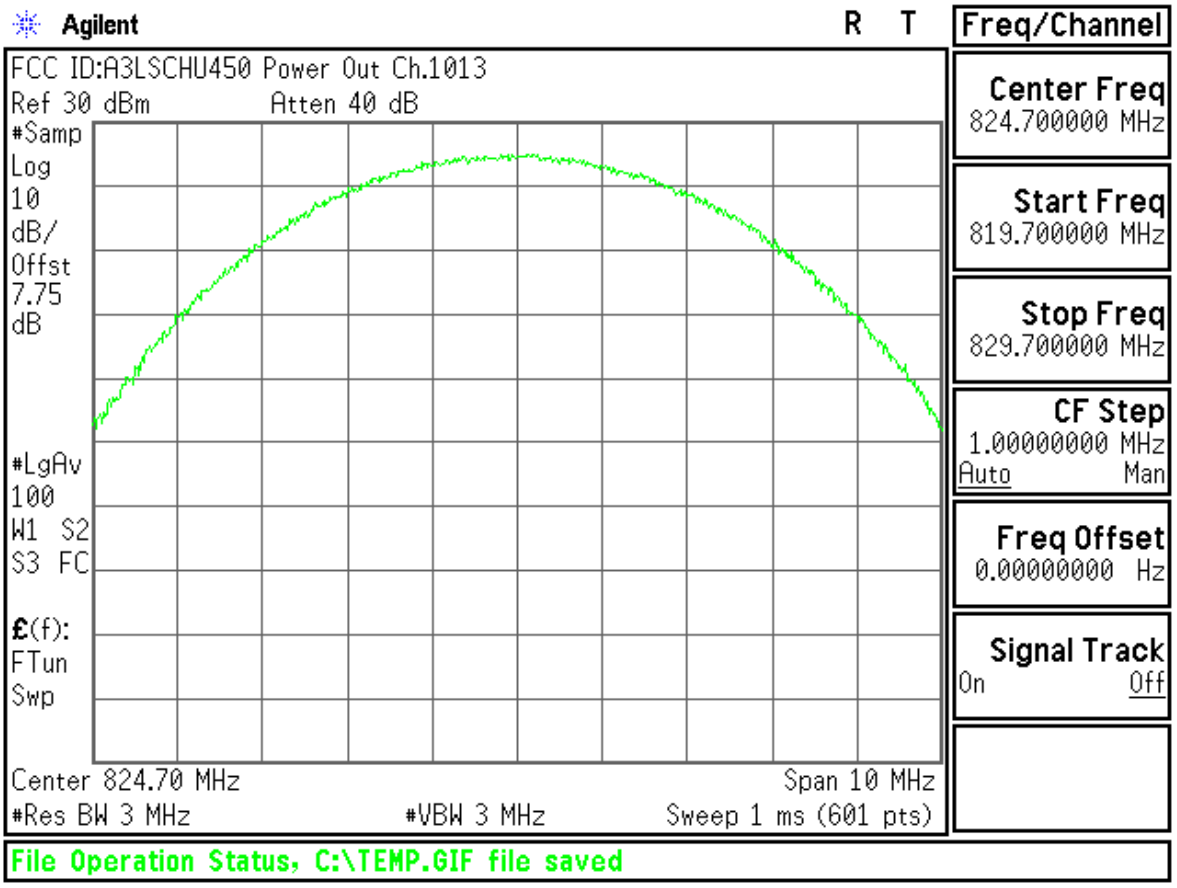
9. TEST PLOTS

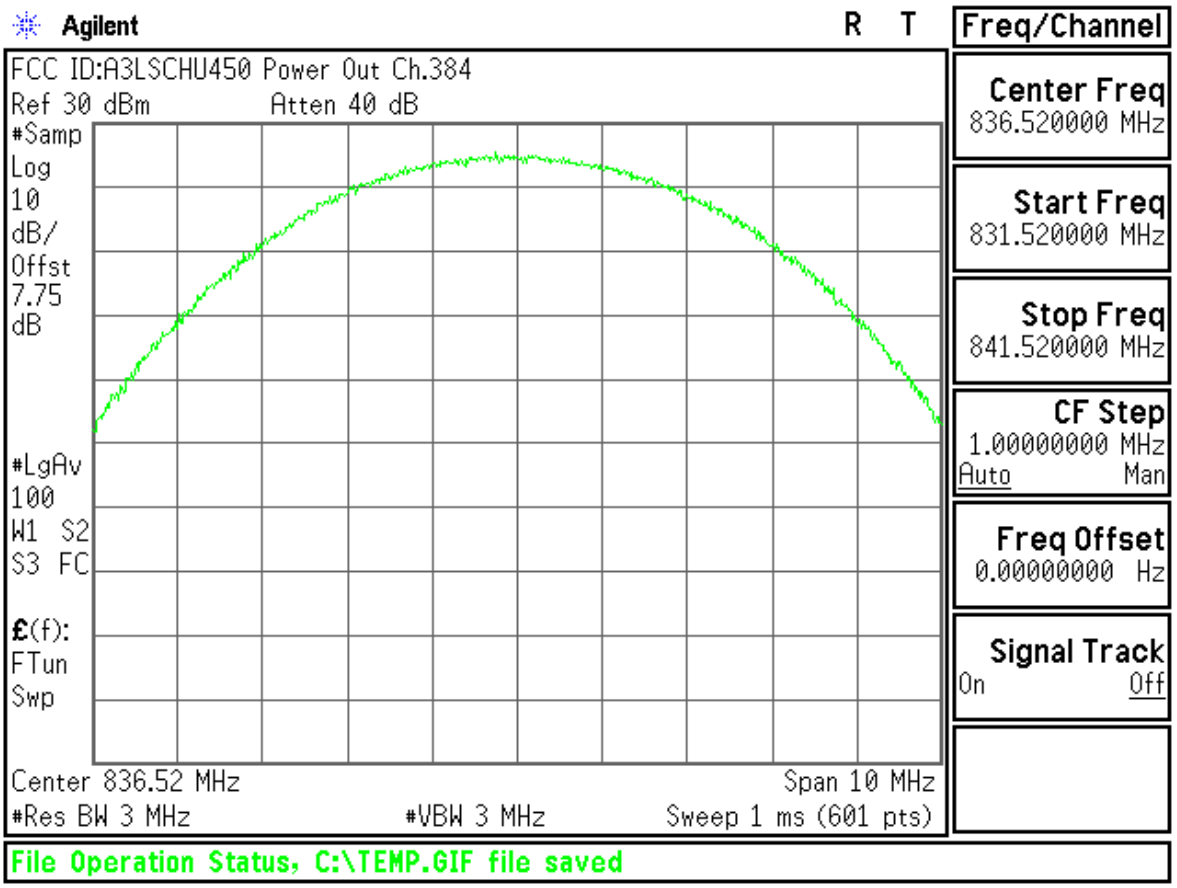
A3LSCHU450CDMA

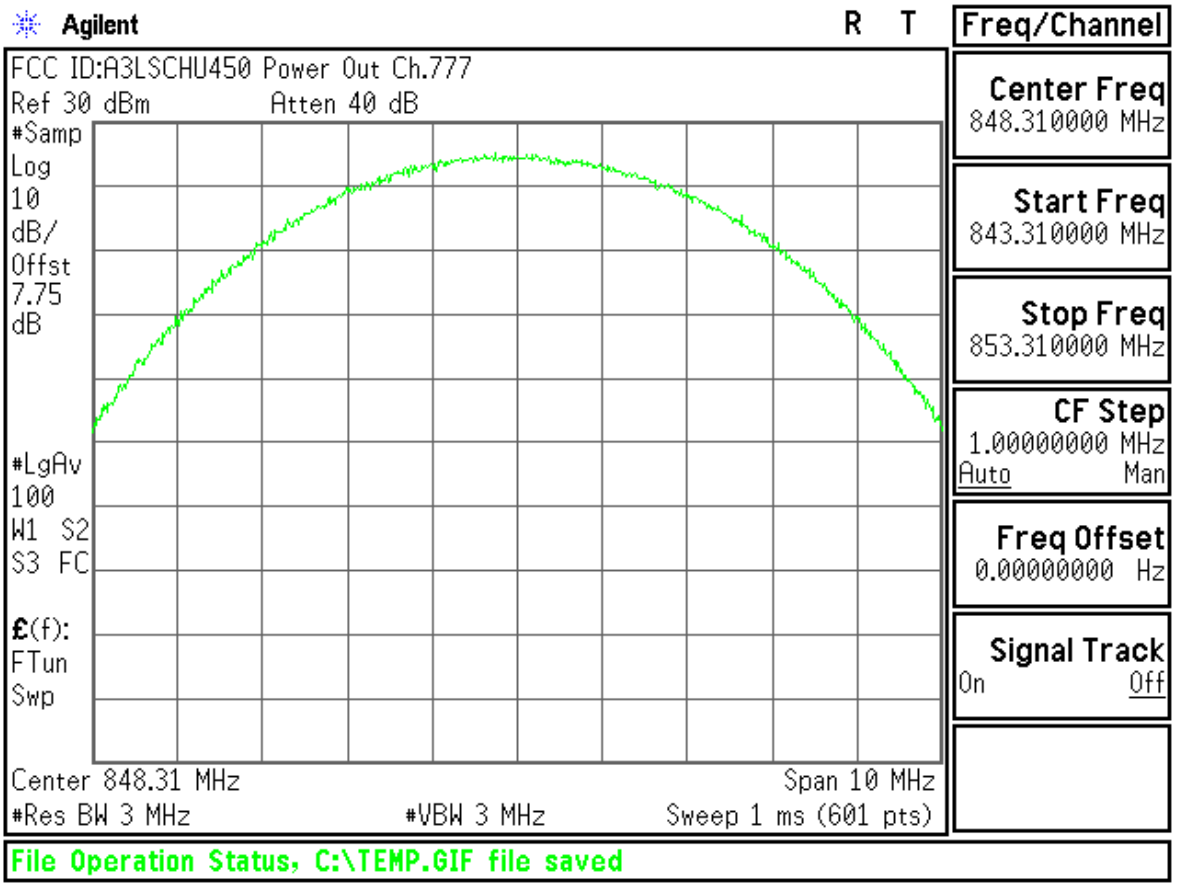


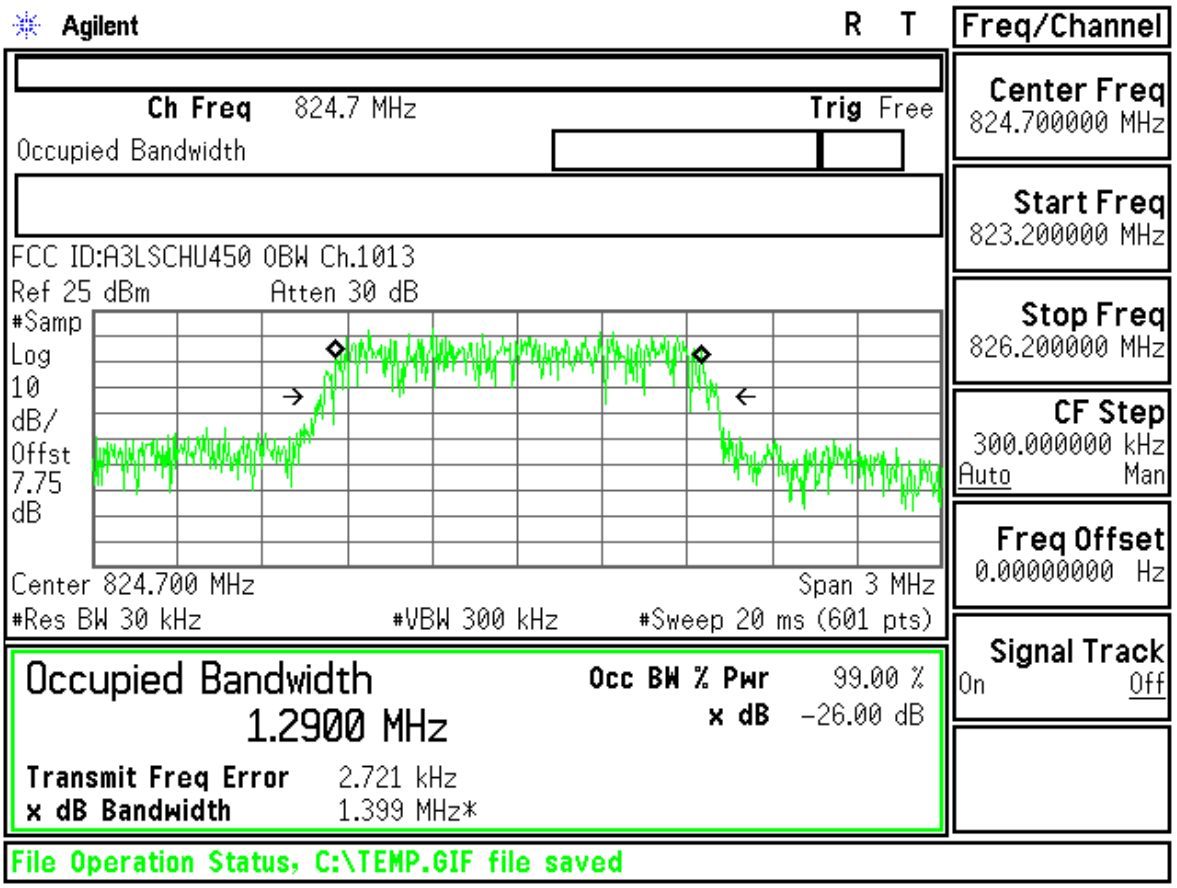


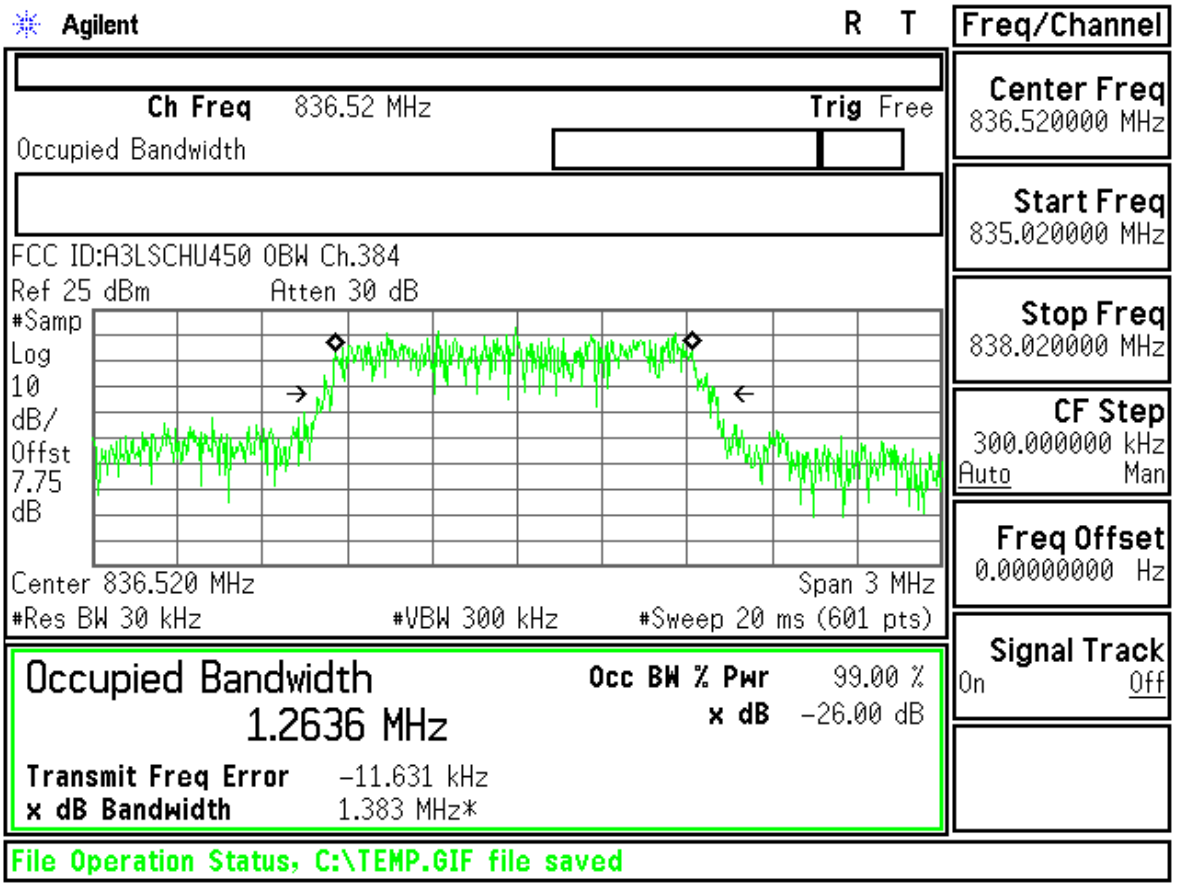

Agilent
R T
Freq/Channel
Ch Freq 848.31 MHz
Trig Free
Channel Power
FCC ID:A3LSCHU450 Power Out Ch.777
Ref 25 dBm
Atten 30 dB
#Avg
Log
10
dB/
Offst
7.75
dB
Center 848.310 MHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Channel Power
25.01 dBm /1.2814 MHz
Power Spectral Density
-36.07 dBm/Hz
File Operation Status, C:\TEMP.GIF file saved
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

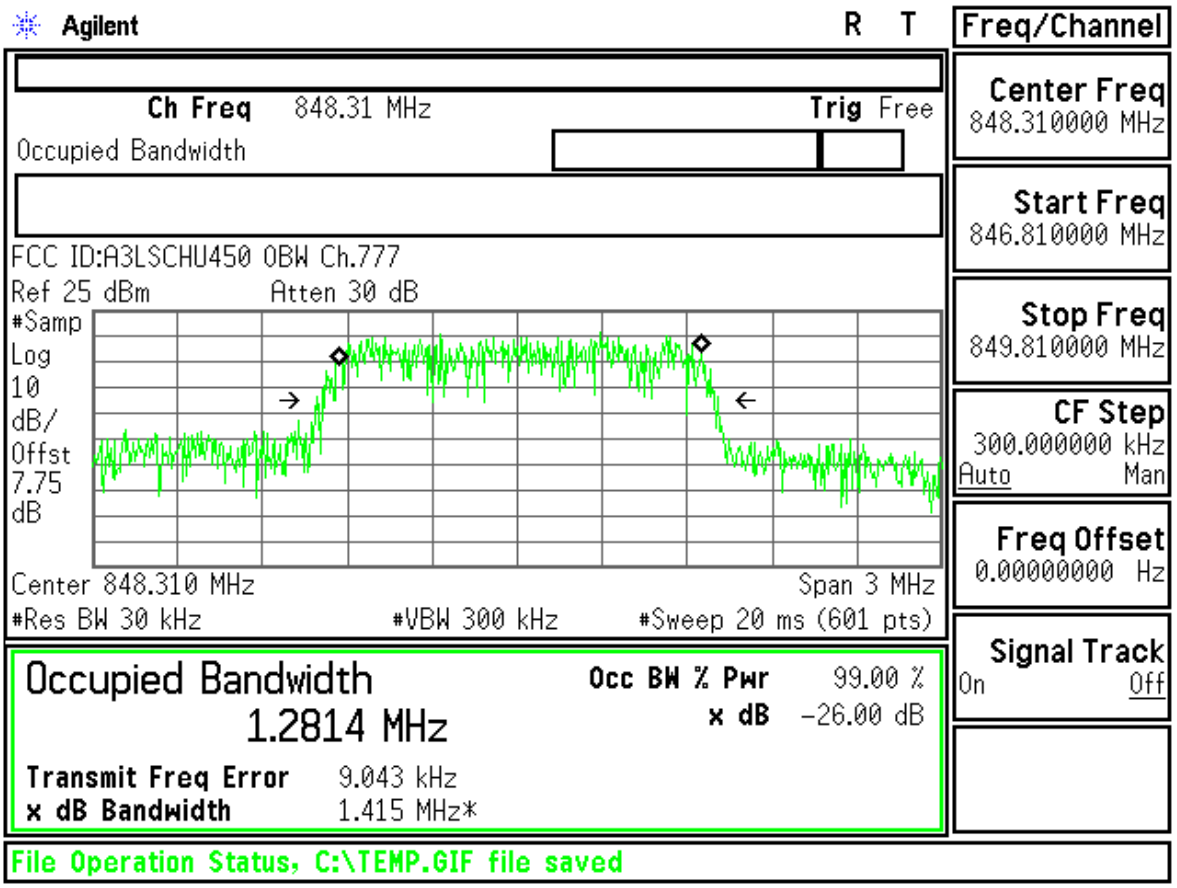

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Power Out Ch.1013
Ref 30 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
7.75
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 824.70 MHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\TEMP.GIF file saved
Center Freq
824.700000 MHz
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

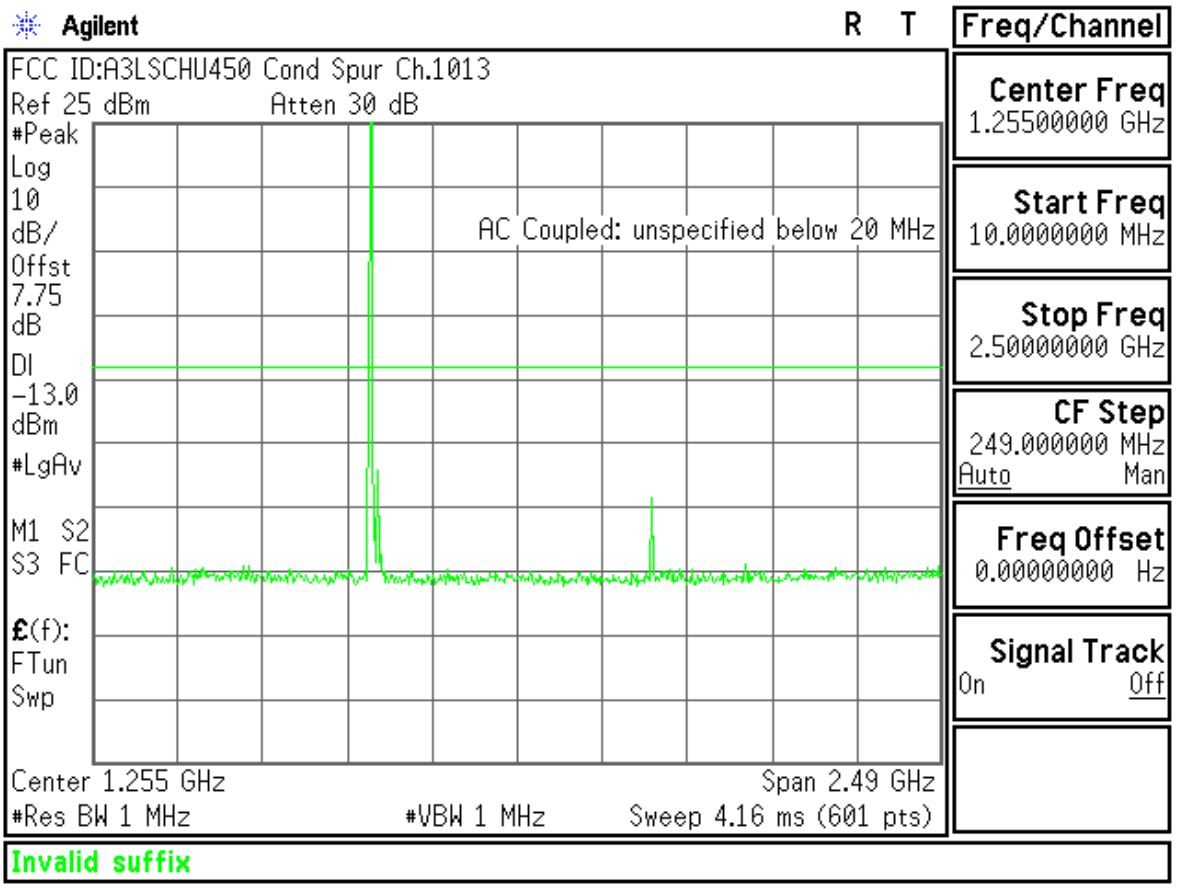

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Power Out Ch.384
Ref 30 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
7.75
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 836.52 MHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Center Freq
836.520000 MHz
Start Freq
831.520000 MHz
Stop Freq
841.520000 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

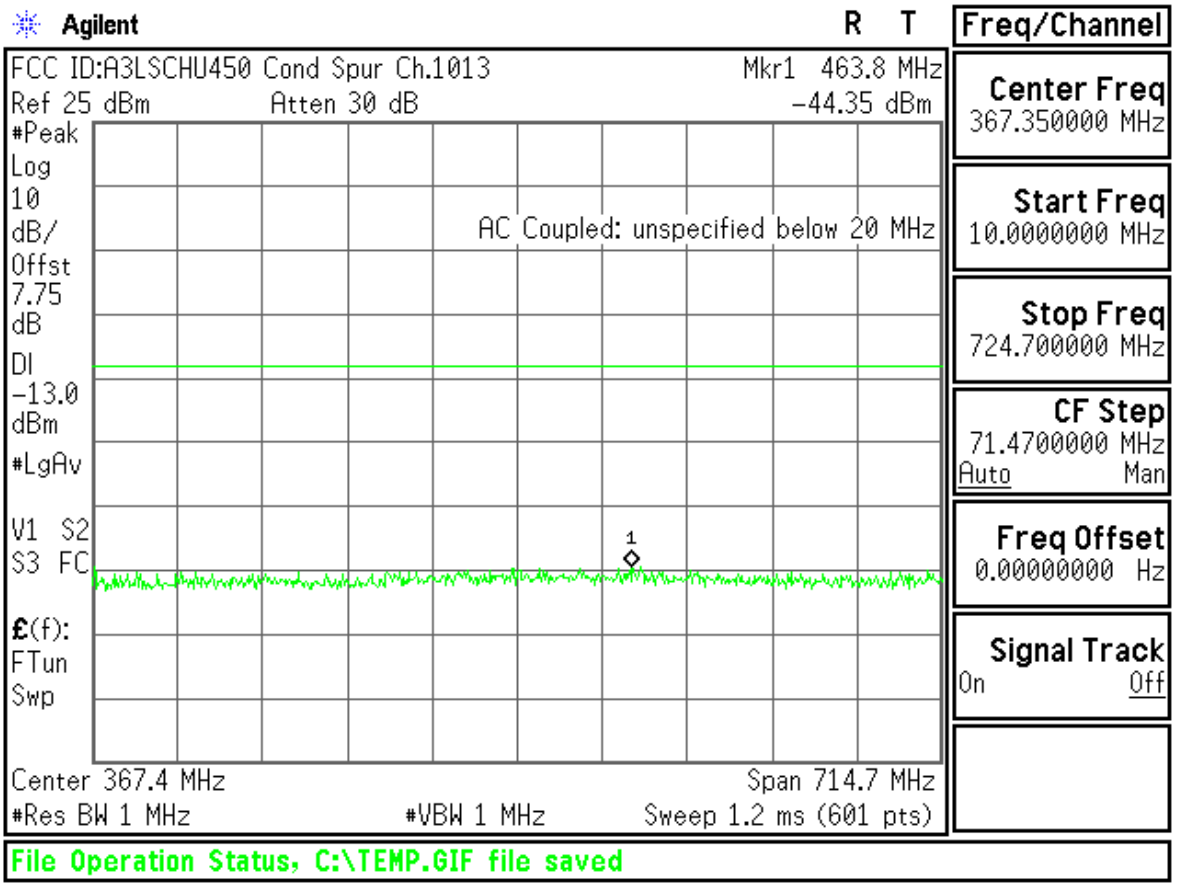

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Power Out Ch.777
Ref 30 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
7.75
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 848.31 MHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Center Freq
848.310000 MHz
Start Freq
843.310000 MHz
Stop Freq
853.310000 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

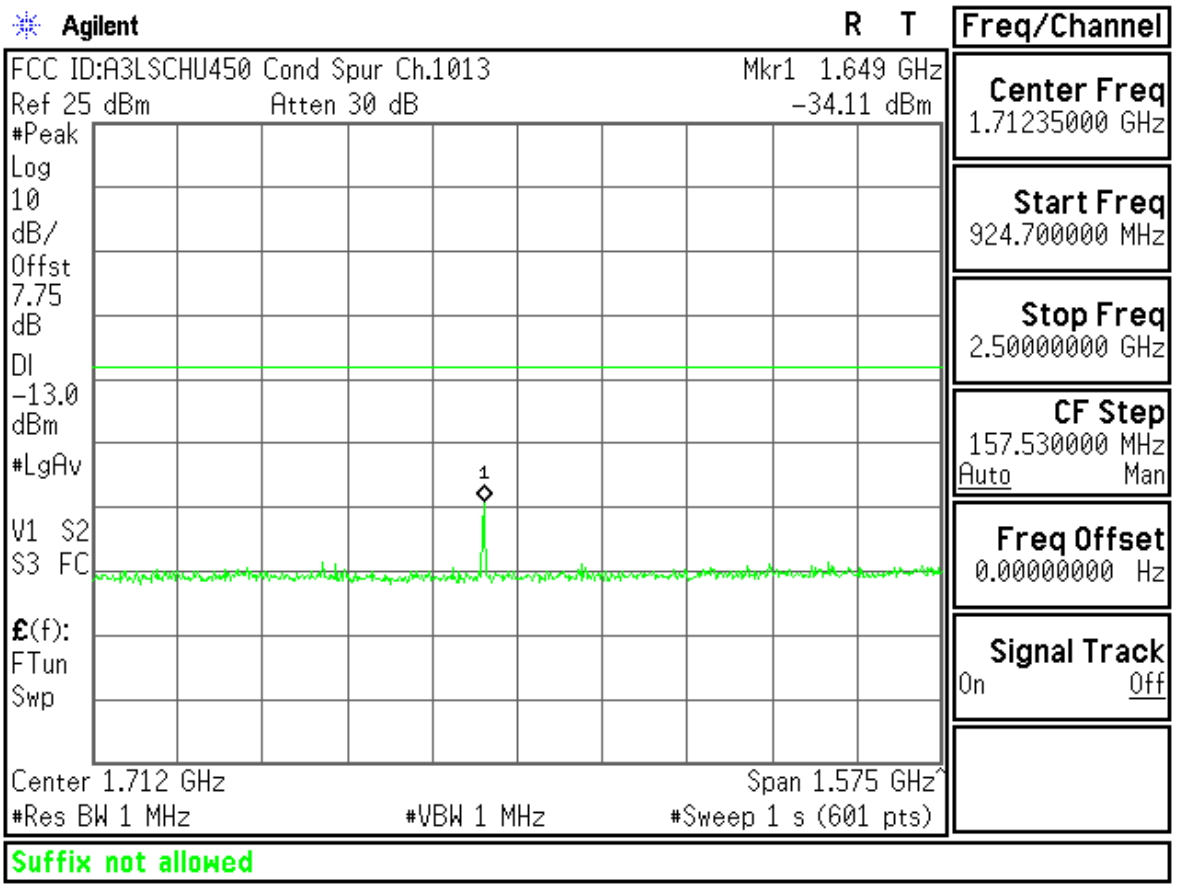

Agilent
R T
Freq/Channel
Ch Freq 824.7 MHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHU450 OBW Ch.1013
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
7.75
dB
Center 824.700 MHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2900 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 2.721 kHz
x dB Bandwidth 1.399 MHz*
File Operation Status, C:\TEMP.GIF file saved
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

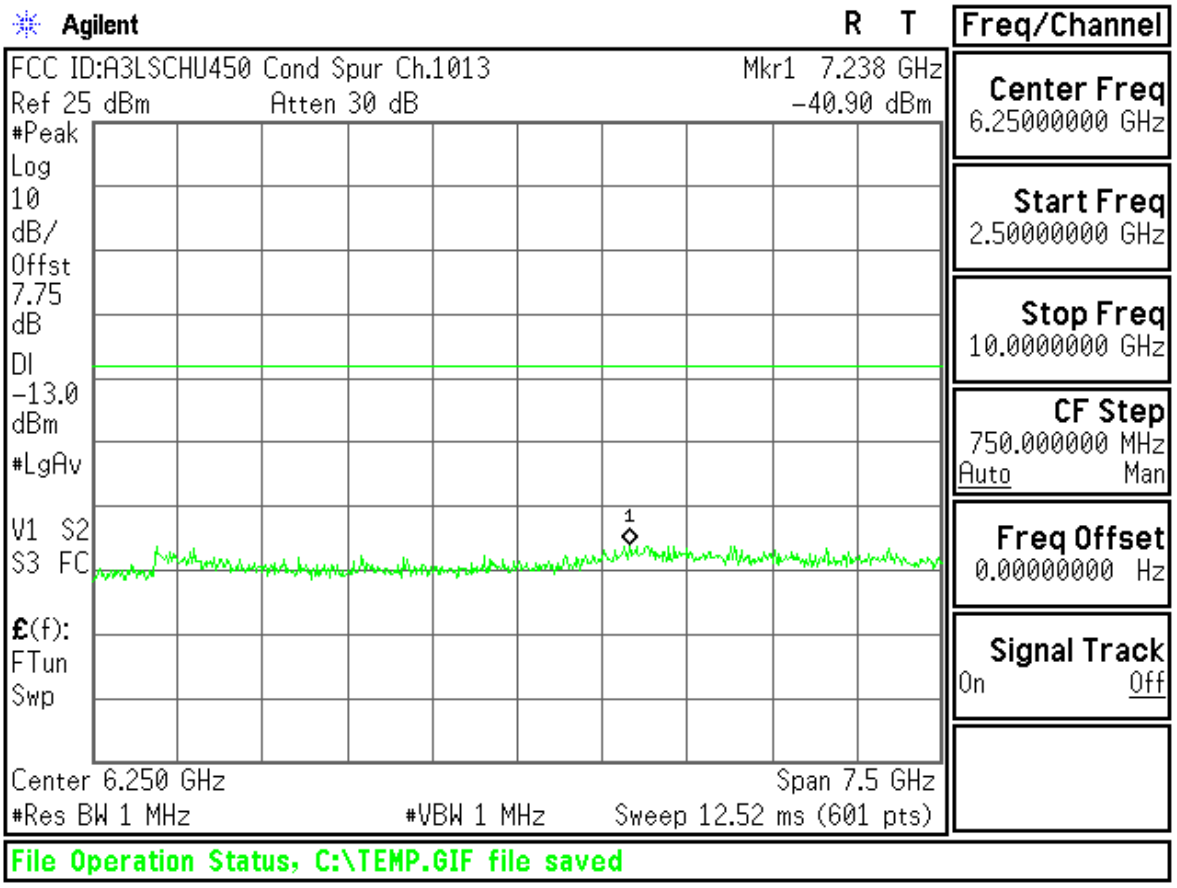

Agilent
R T
Freq/Channel
Ch Freq 836.52 MHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHU450 OBW Ch.384
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
7.75
dB
Center 836.520 MHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2636 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error -11.631 kHz
x dB Bandwidth 1.383 MHz*
File Operation Status, C:\TEMP.GIF file saved
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

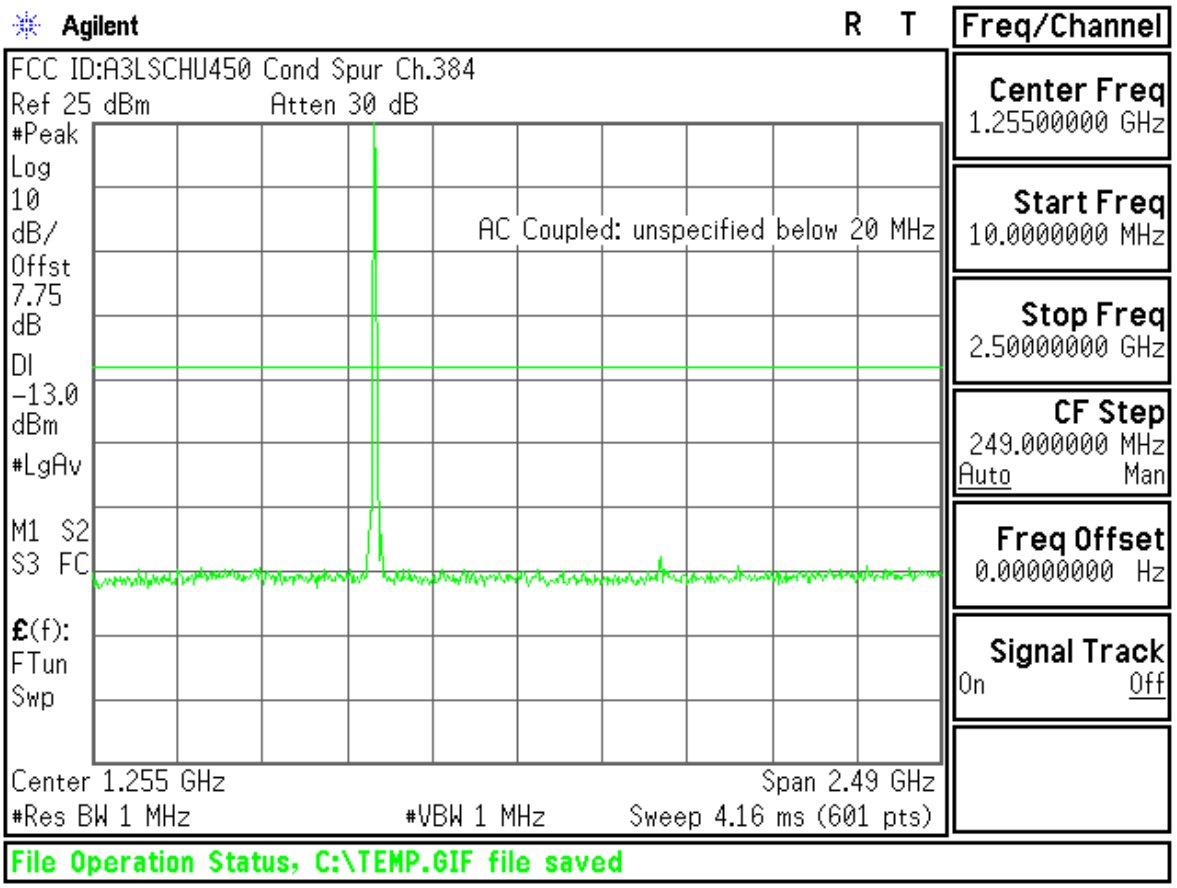

Agilent
R T
Freq/Channel
Ch Freq 848.31 MHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHU450 OBW Ch.777
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
7.75
dB
Center 848.310 MHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2814 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 9.043 kHz
x dB Bandwidth 1.415 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

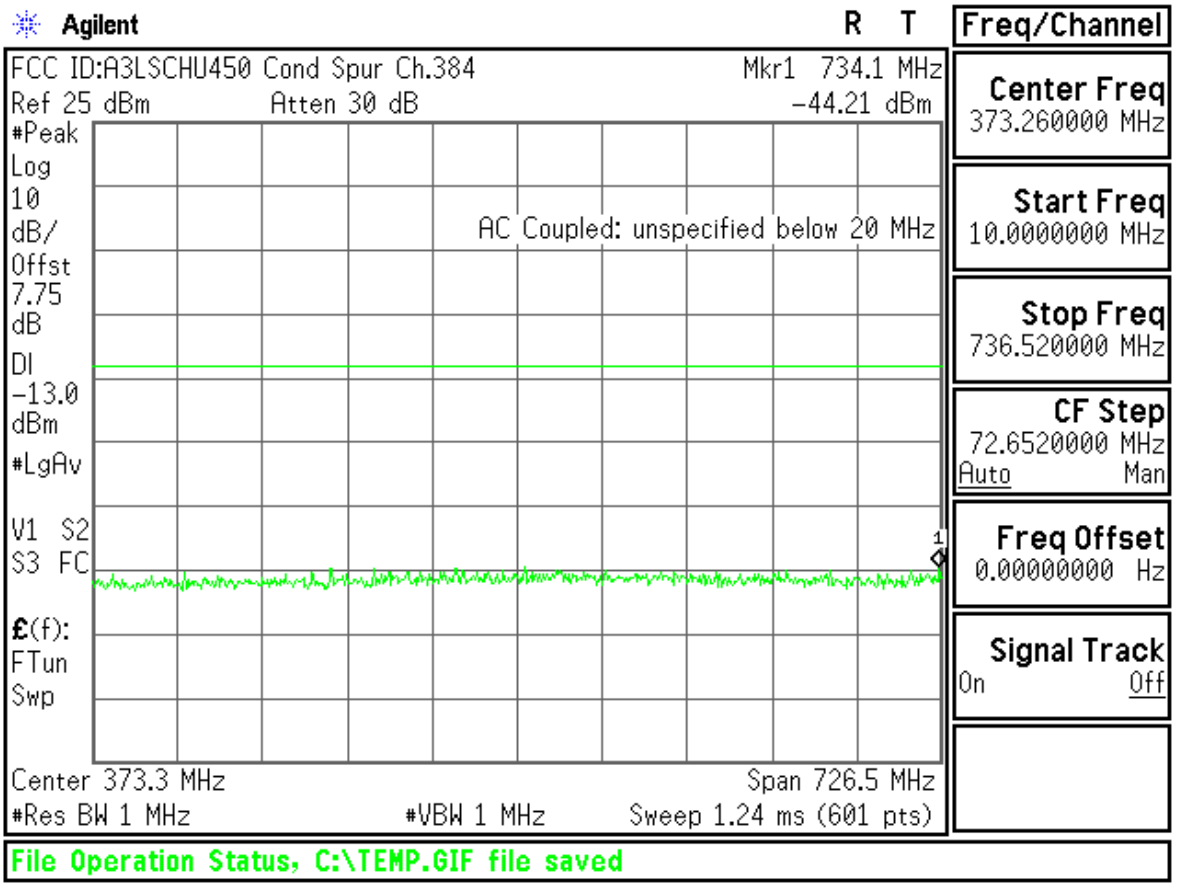

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.1013
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Center Freq
1.25500000 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

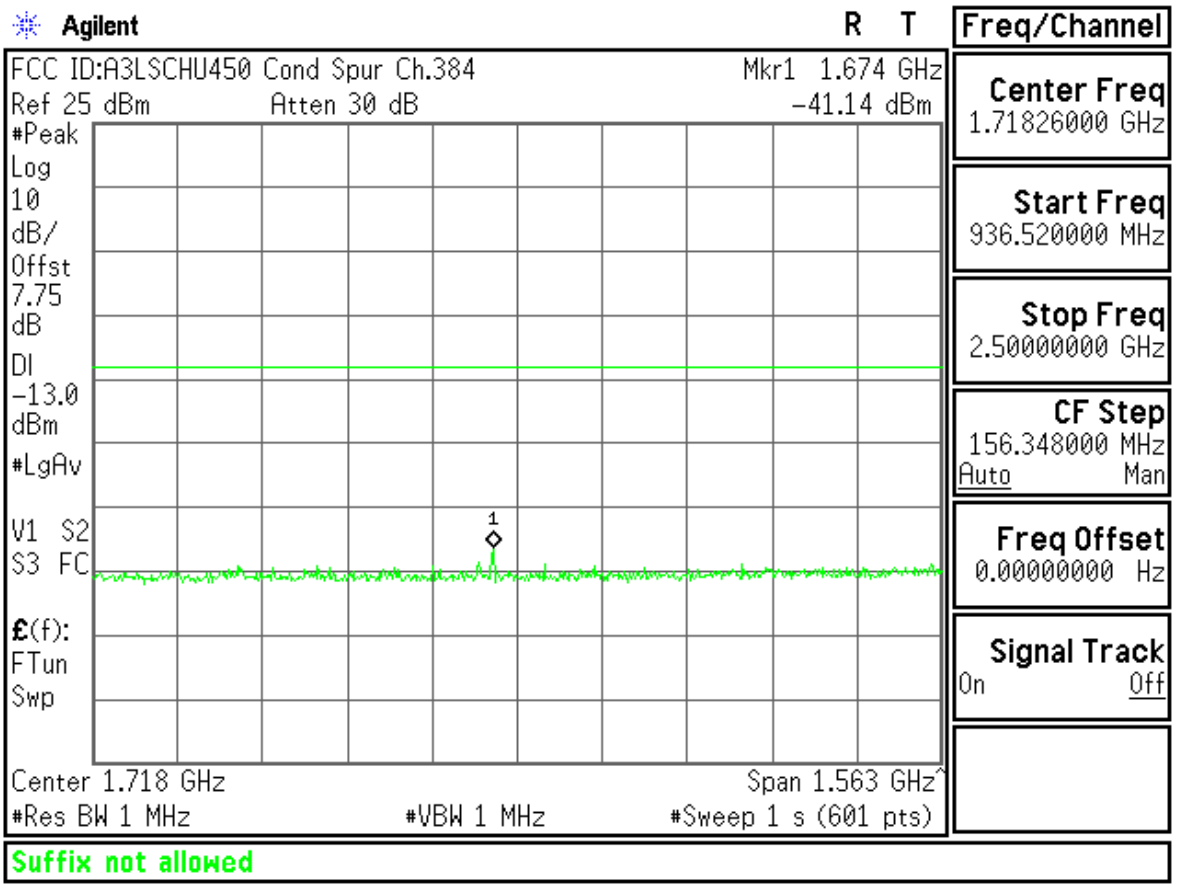

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.1013
Mkr1 463.8 MHz
Ref 25 dBm
Atten 30 dB
-44.35 dBm
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
1
Center 367.4 MHz
Span 714.7 MHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 1.2 ms (601 pts)
Center Freq
367.350000 MHz
Start Freq
10.0000000 MHz
Stop Freq
724.700000 MHz
CF Step
71.4700000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

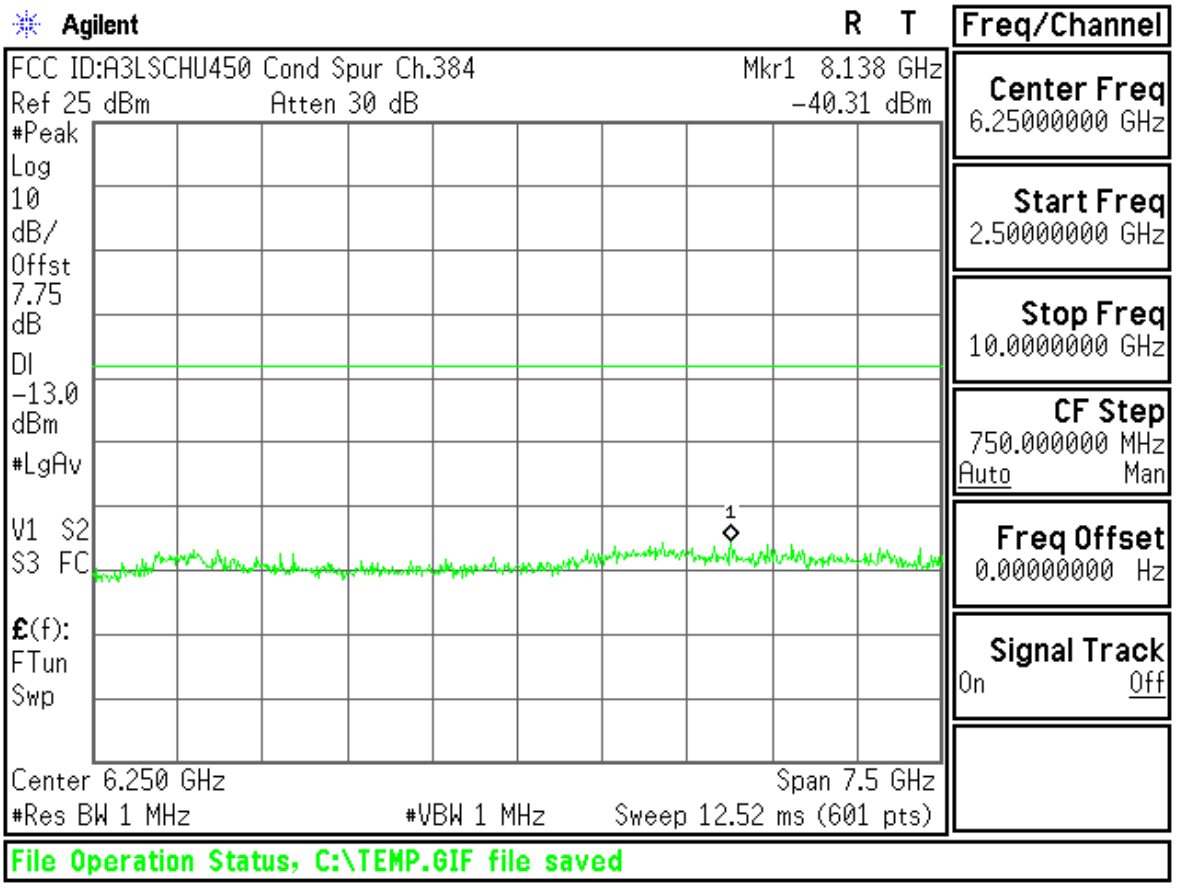

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.1013
Mkr1 1.649 GHz
Ref 25 dBm
Atten 30 dB
-34.11 dBm
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
Center Freq
1.71235000 GHz
Start Freq
924.700000 MHz
Stop Freq
2.50000000 GHz
CF Step
157.530000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Center 1.712 GHz
Span 1.575 GHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Suffix not allowed

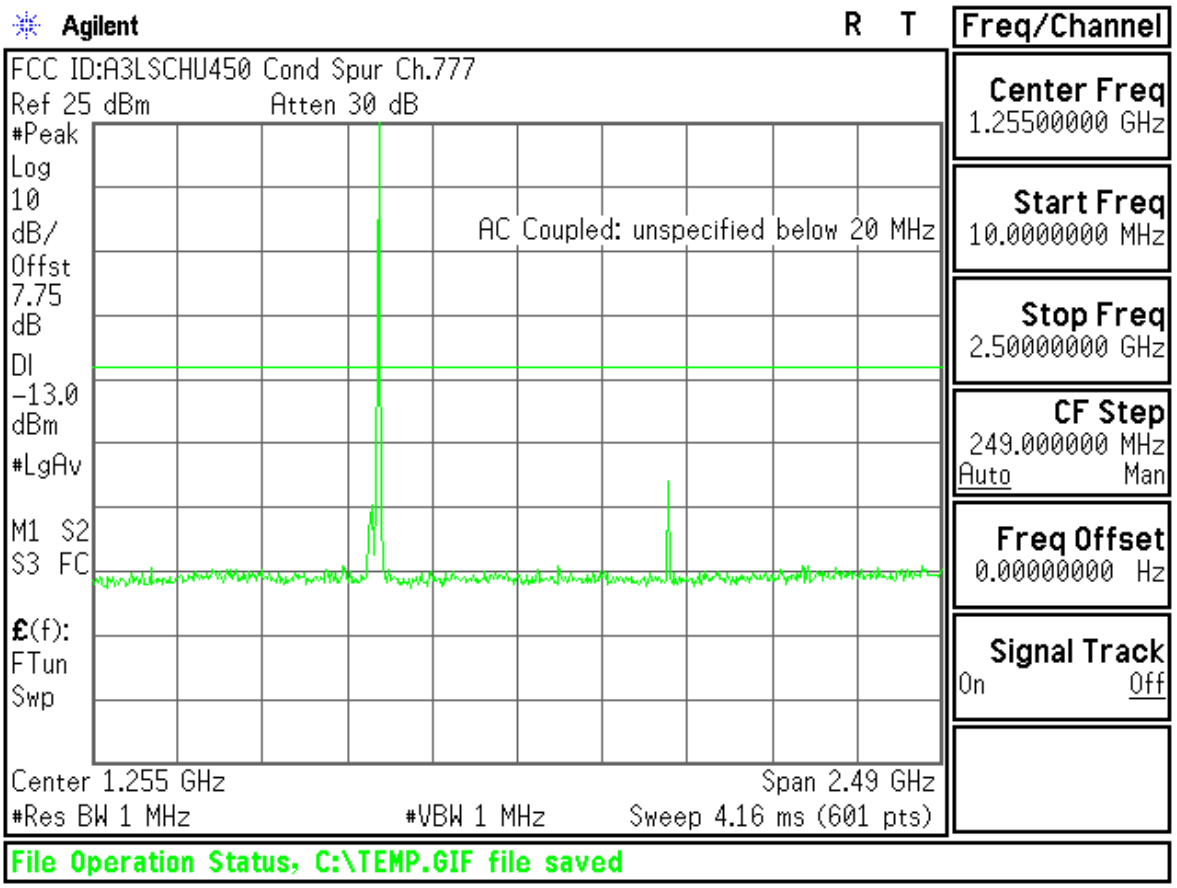

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.1013
Mkr1 7.238 GHz
Ref 25 dBm
Atten 30 dB
-40.90 dBm
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
Center Freq
6.25000000 GHz
Start Freq
2.50000000 GHz
Stop Freq
10.0000000 GHz
CF Step
750.000000 MHz
Auto Man
Freq 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

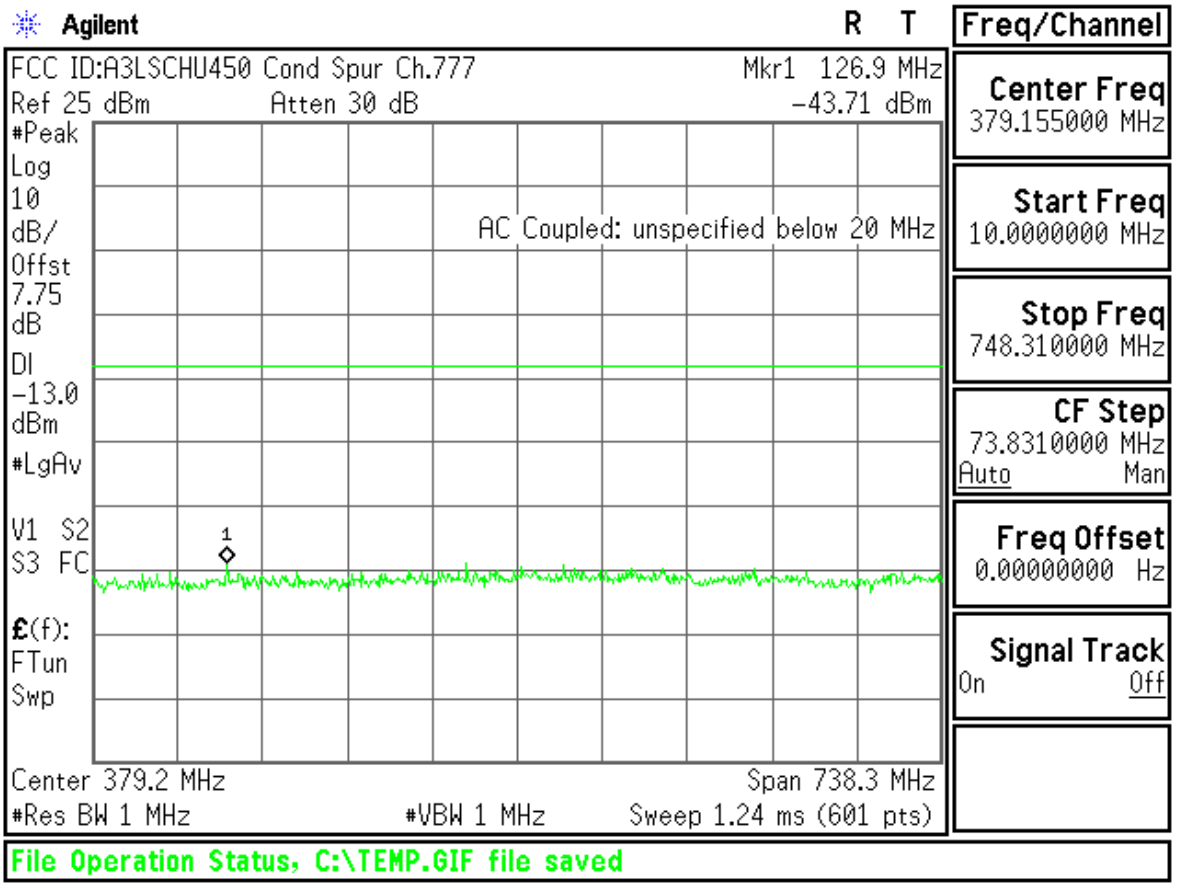

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.384
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Center Freq
1.25500000 GHz
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

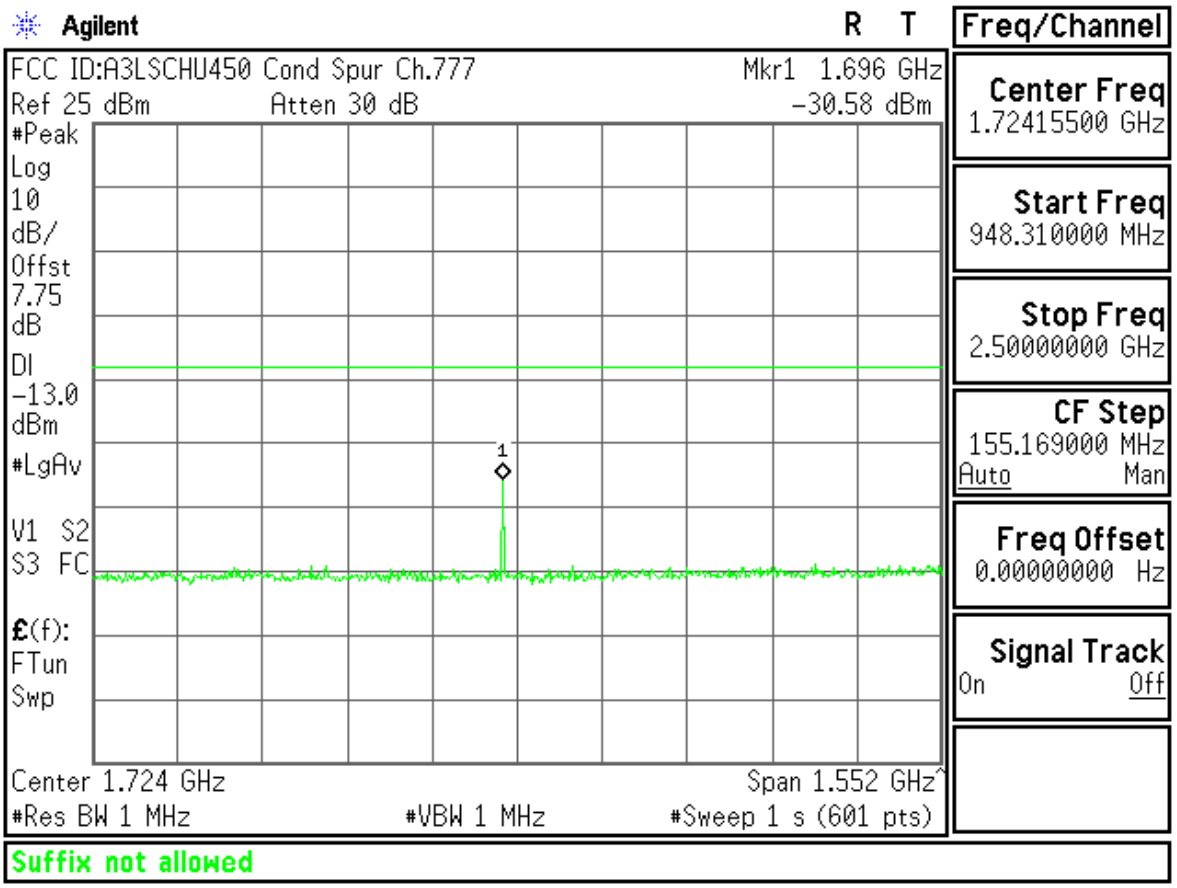

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.384
Mkr1 734.1 MHz
Ref 25 dBm
Atten 30 dB
-44.21 dBm
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 373.3 MHz
Span 726.5 MHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 1.24 ms (601 pts)
Center Freq
373.260000 MHz
Start Freq
10.0000000 MHz
Stop Freq
736.520000 MHz
CF Step
72.6520000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

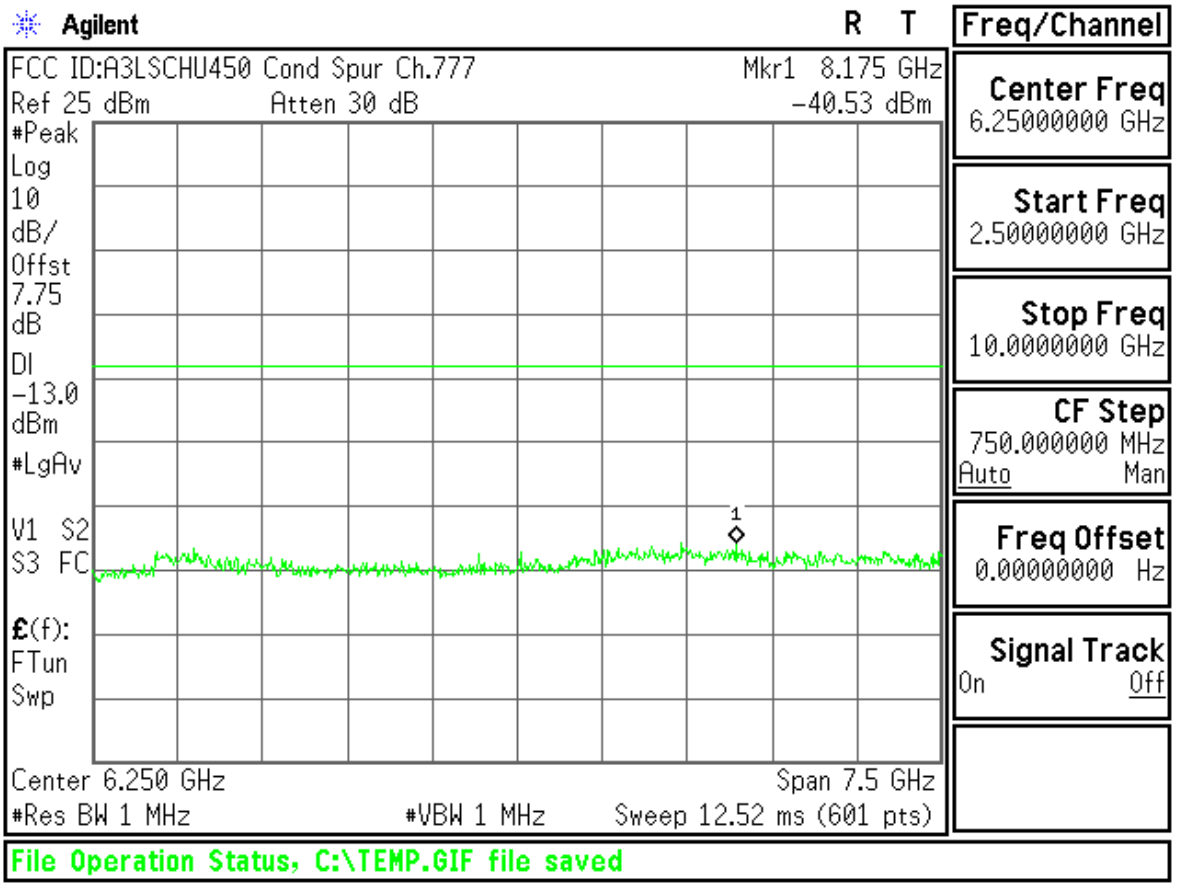

Agilent
R T
FCC ID:A3LSCHU450 Cond Spur Ch.384
Mkr1 1.674 GHz
Ref 25 dBm
Atten 30 dB
-41.14 dBm
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
Center 1.718 GHz
Span 1.563 GHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Freq/Channel
Center Freq
1.71826000 GHz
Start Freq
936.520000 MHz
Stop Freq
2.50000000 GHz
CF Step
156.348000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Suffix not allowed

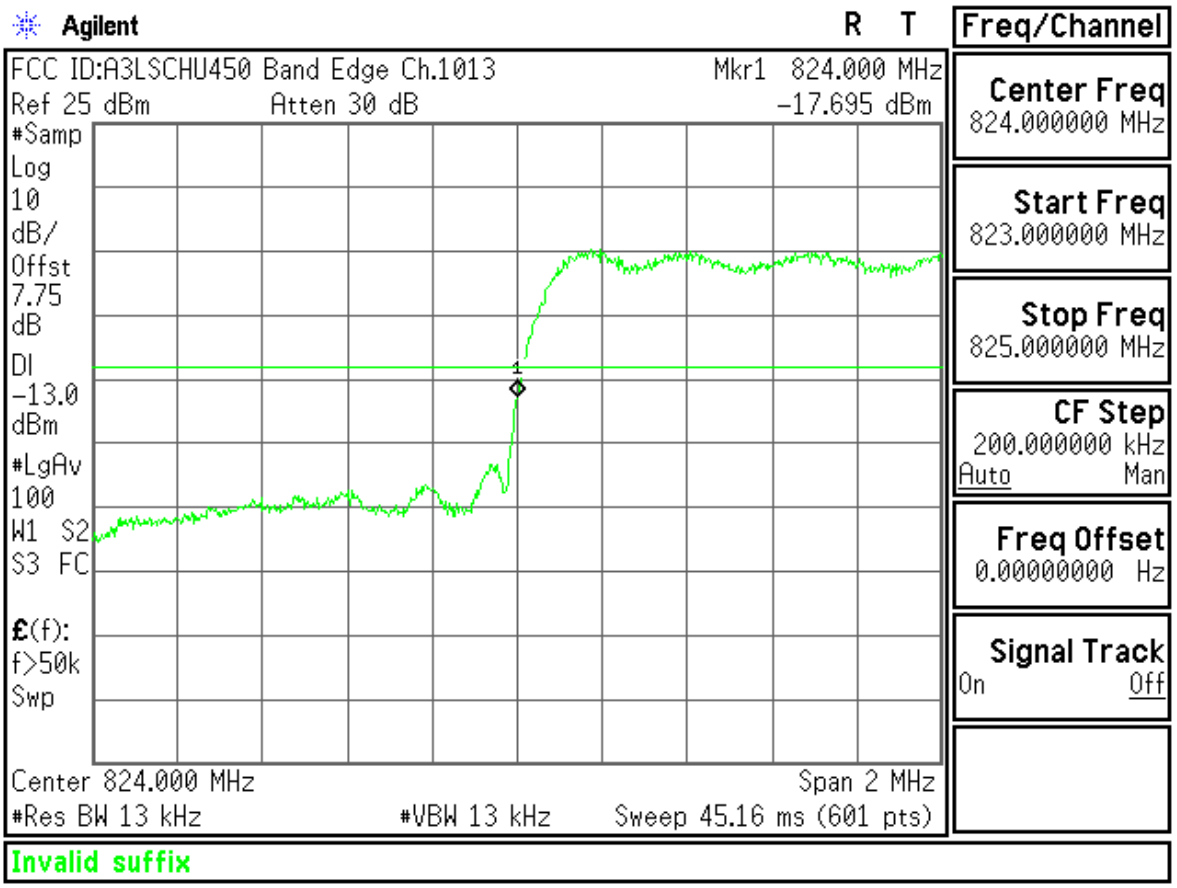

Agilent
R T
FCC ID:A3LSCHU450 Cond Spur Ch.384
Mkr1 8.138 GHz
Ref 25 dBm
Atten 30 dB
-40.31 dBm
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
Center 6.250 GHz
Span 7.5 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 12.52 ms (601 pts)
Freq/Channel
Center Freq
6.25000000 GHz
Start Freq
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

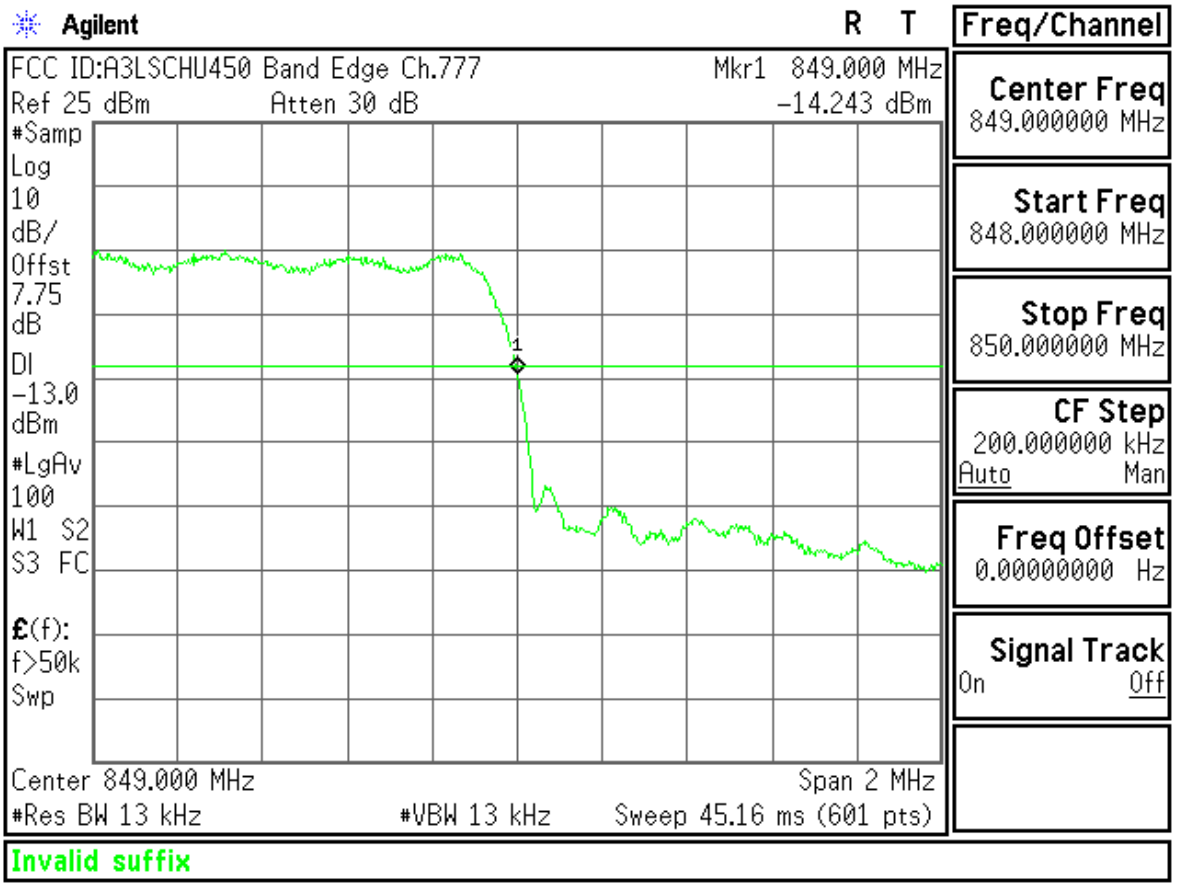

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.777
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Center Freq
1.25500000 GHz
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

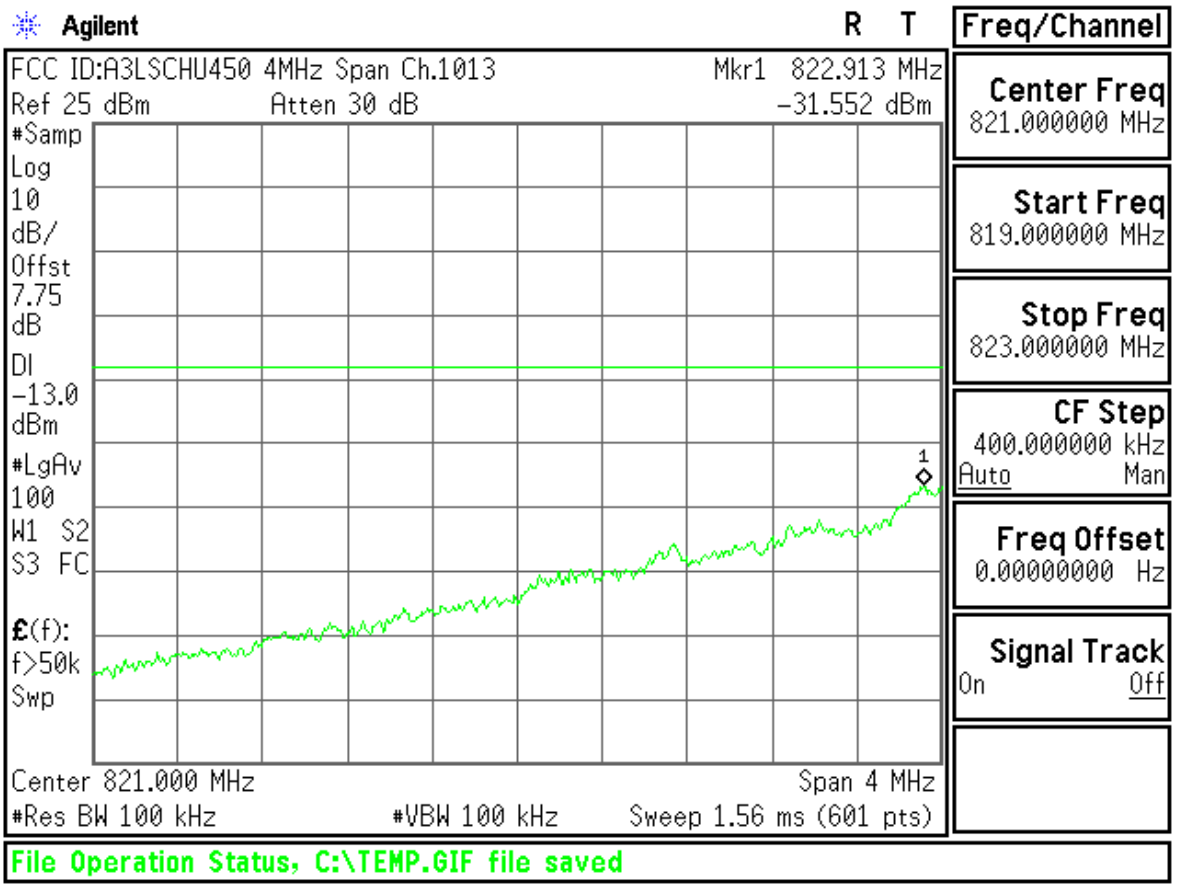

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.777
Mkr1 126.9 MHz
Ref 25 dBm
Atten 30 dB
-43.71 dBm
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 379.2 MHz
Span 738.3 MHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 1.24 ms (601 pts)
Center Freq
379.155000 MHz
Start Freq
10.0000000 MHz
Stop Freq
748.310000 MHz
CF Step
73.8310000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

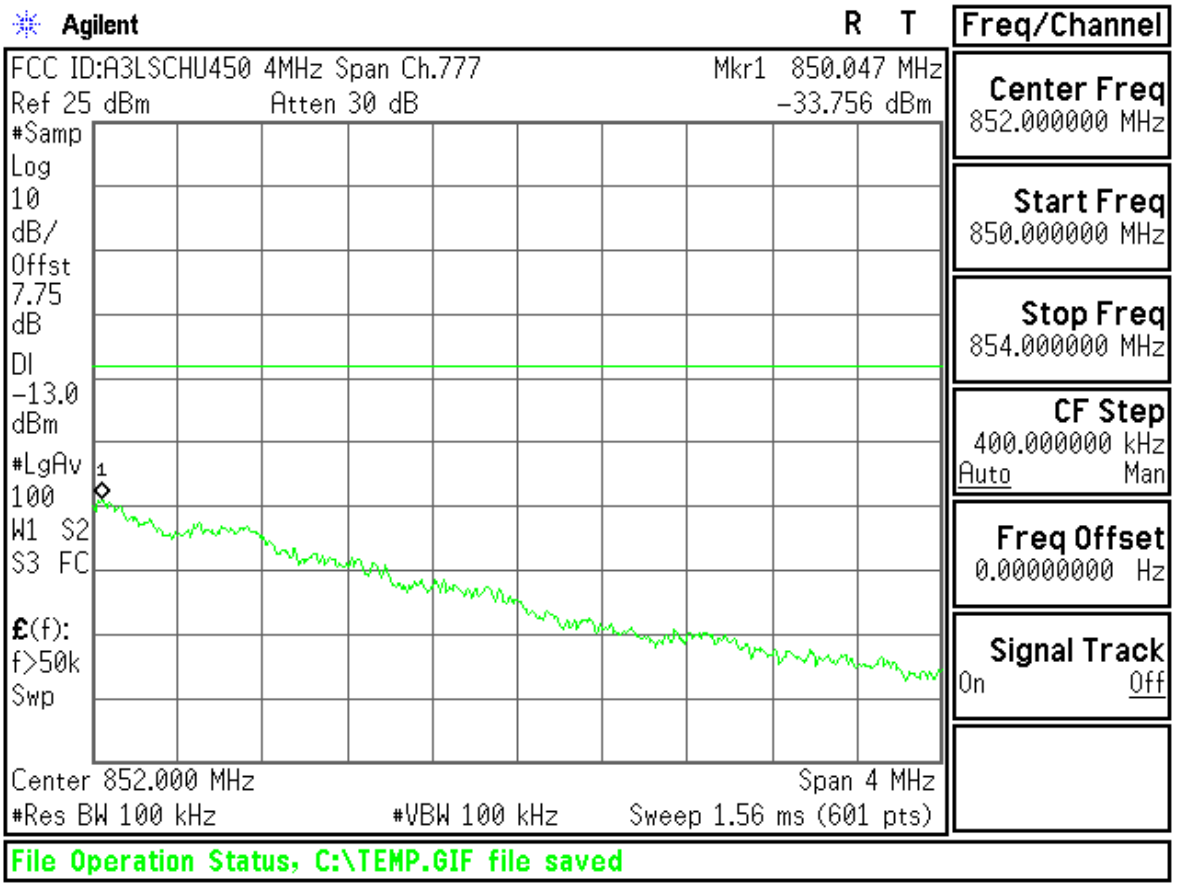

Agilent
R T
FCC ID:A3LSCHU450 Cond Spur Ch.777
Mkr1 1.696 GHz
Ref 25 dBm
Atten 30 dB
-30.58 dBm
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
Center 1.724 GHz
Span 1.552 GHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Freq/Channel
Center Freq
1.72415500 GHz
Start Freq
948.310000 MHz
Stop Freq
2.50000000 GHz
CF Step
155.169000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Suffix not allowed


Agilent
R T
FCC ID:A3LSCHU450 Cond Spur Ch.777
Mkr1 8.175 GHz
Ref 25 dBm
Atten 30 dB
-40.53 dBm
#Peak
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
V1 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

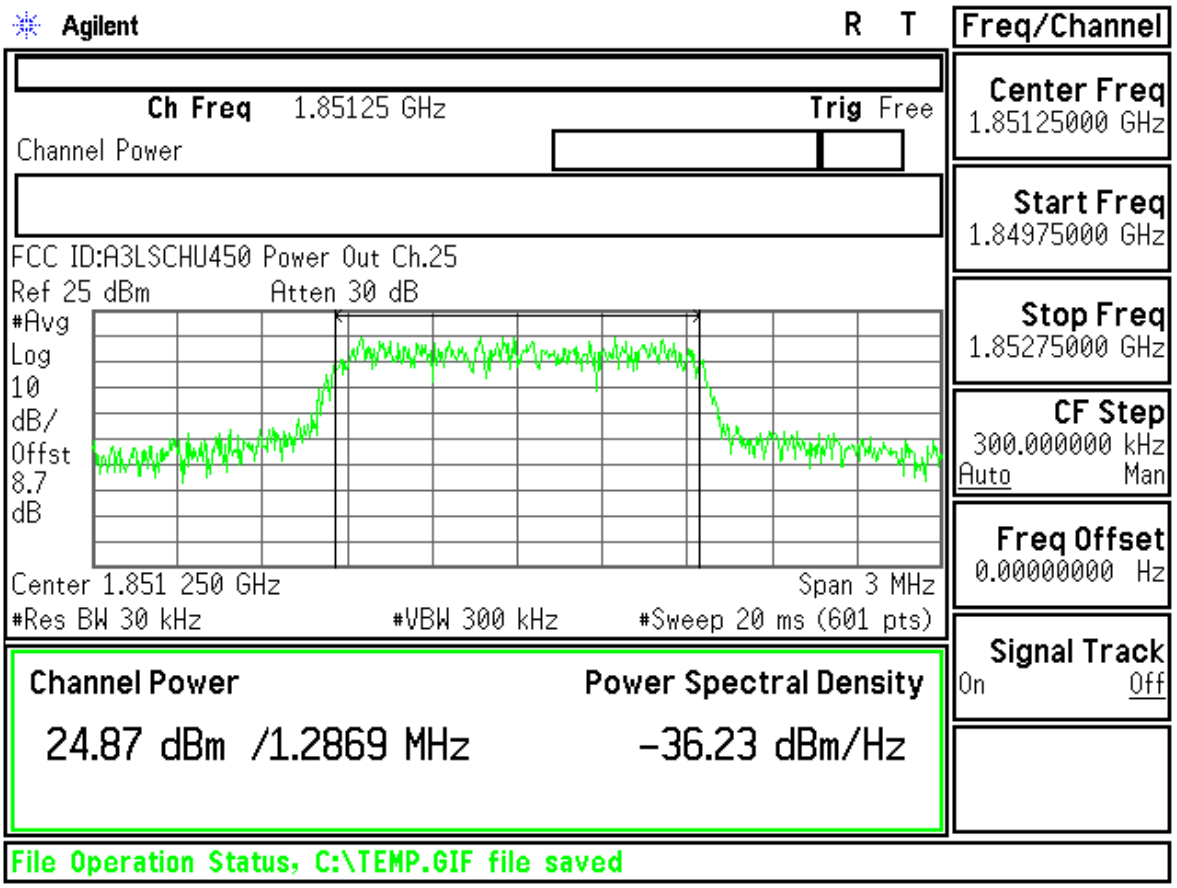

Agilent
R T
FCC ID:A3LSCHU450 Band Edge Ch.1013
Mkr1 824.000 MHz
Ref 25 dBm
Atten 30 dB
-17.695 dBm
#Samp
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
100
W1 S2
S3 FC
£(f):
f>50k
Swp
Center 824.000 MHz
Span 2 MHz
#Res BW 13 kHz
#VBW 13 kHz
Sweep 45.16 ms (601 pts)
Freq/Channel
Center Freq
824.000000 MHz
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

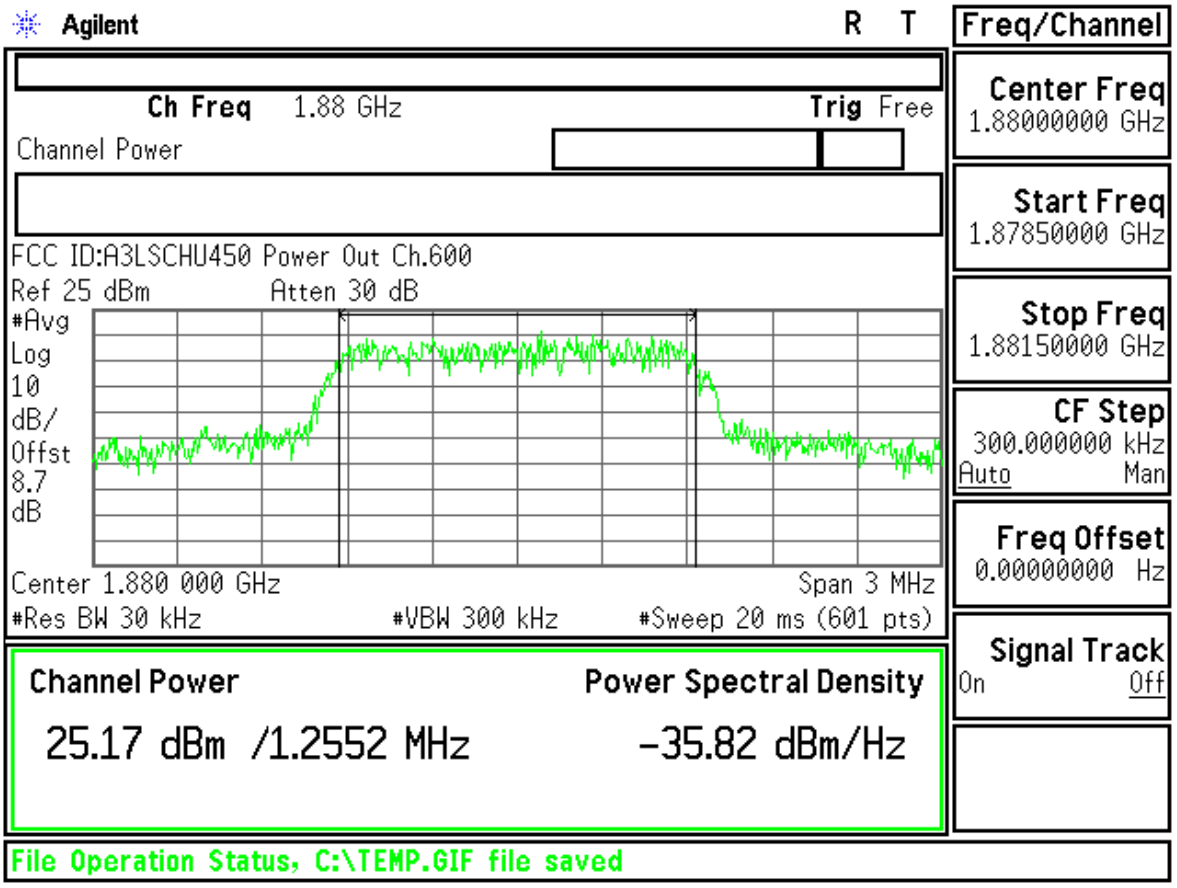

Agilent
R T
FCC ID:A3LSCHU450 Band Edge Ch.777
Mkr1 849.000 MHz
Ref 25 dBm
Atten 30 dB
-14.243 dBm
#Samp
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
100
W1 S2
S3 FC
£(f):
f>50k
Swp
Center 849.000 MHz
Span 2 MHz
#Res BW 13 kHz
#VBW 13 kHz
Sweep 45.16 ms (601 pts)
Freq/Channel
Center Freq
849.000000 MHz
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

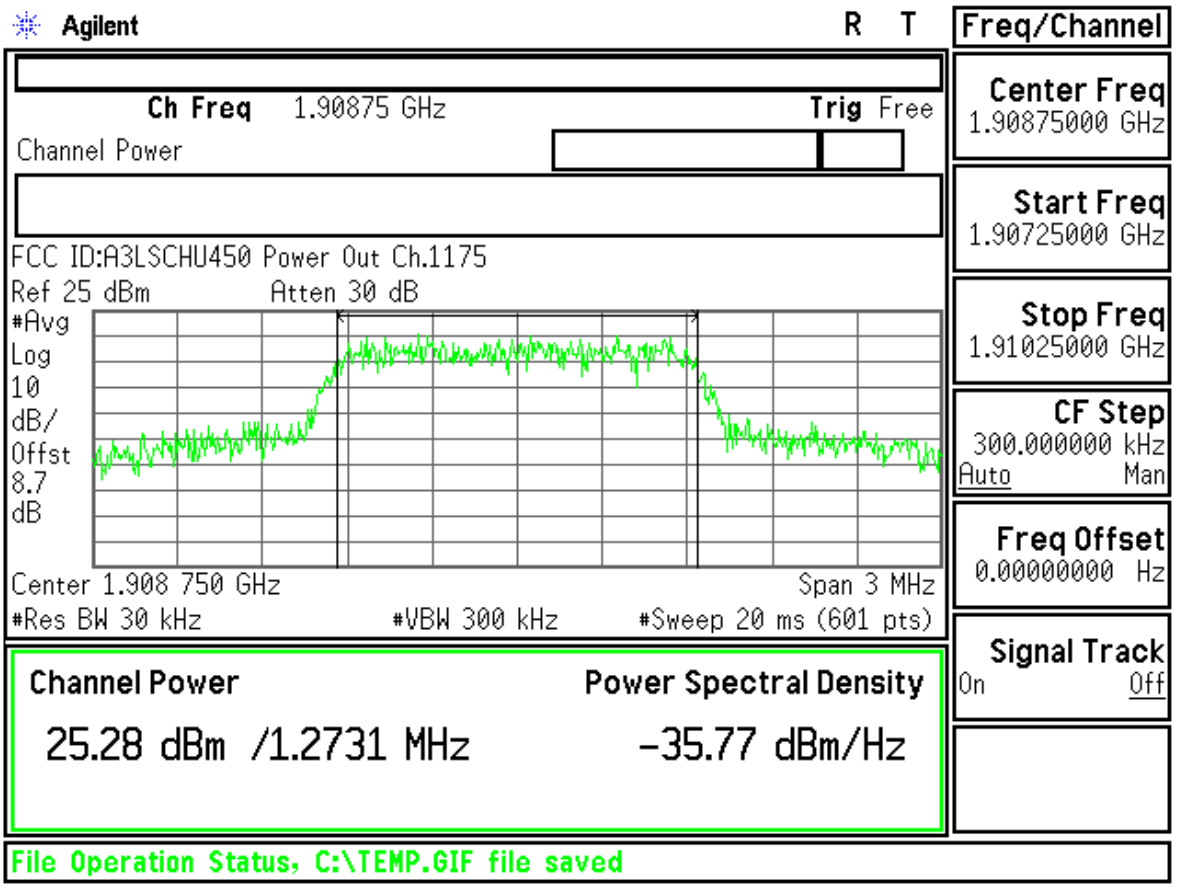

Agilent
R T
FCC ID:A3LSCHU450 4MHz Span Ch.1013
Mkr1 822.913 MHz
Ref 25 dBm
Atten 30 dB
-31.552 dBm
#Samp
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
100
W1 S2
S3 FC
£(f):
f>50k
Swp
Center 821.000 MHz
Span 4 MHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 1.56 ms (601 pts)
Freq/Channel
Center Freq
821.000000 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

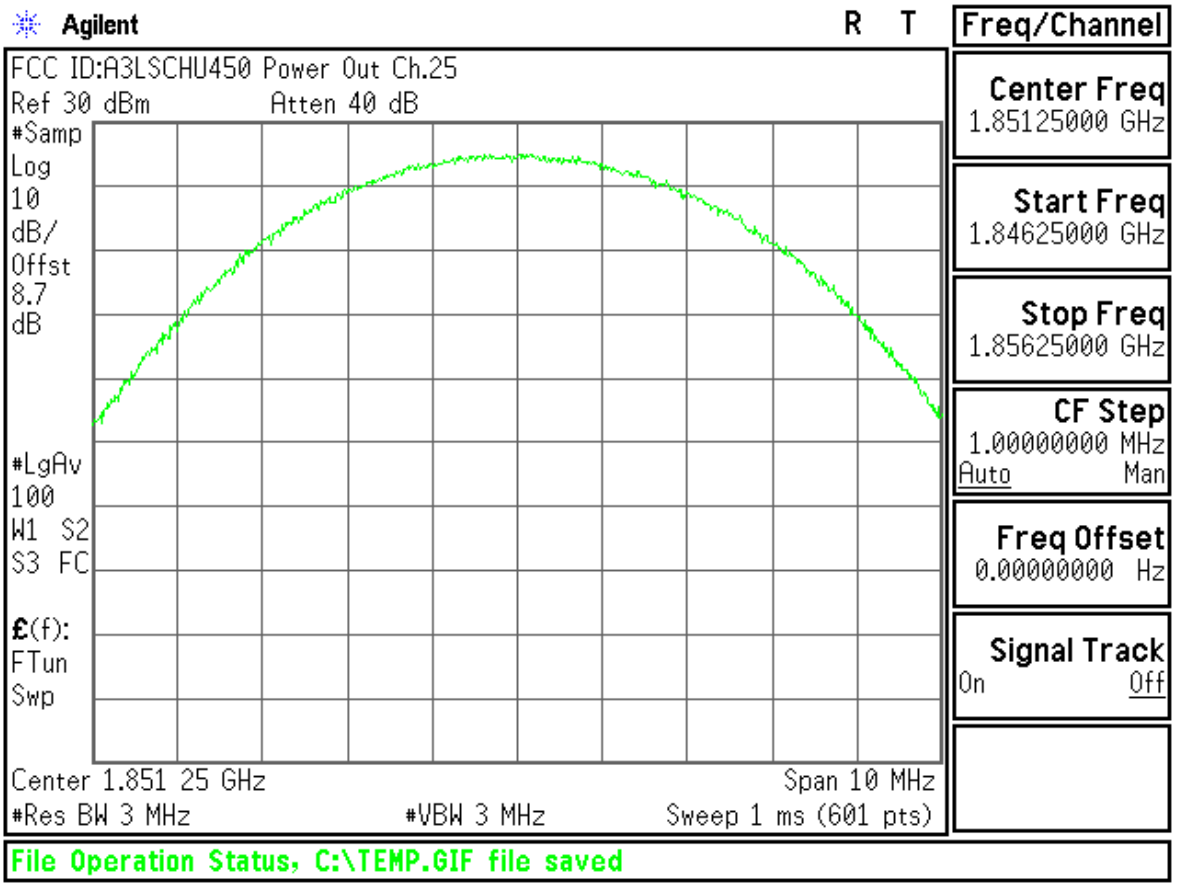

Agilent
R T
FCC ID:A3LSCHU450 4MHz Span Ch.777
Mkr1 850.047 MHz
Ref 25 dBm
Atten 30 dB
-33.756 dBm
#Samp
Log
10
dB/
Offst
7.75
dB
Dl
-13.0
dBm
#LgAv
100
W1 S2
S3 FC
£(f):
f>50k
Swp
Center 852.000 MHz
Span 4 MHz
#Res BW 100 kHz
#VBW 100 kHz
Sweep 1.56 ms (601 pts)
Freq/Channel
Center Freq
852.000000 MHz
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

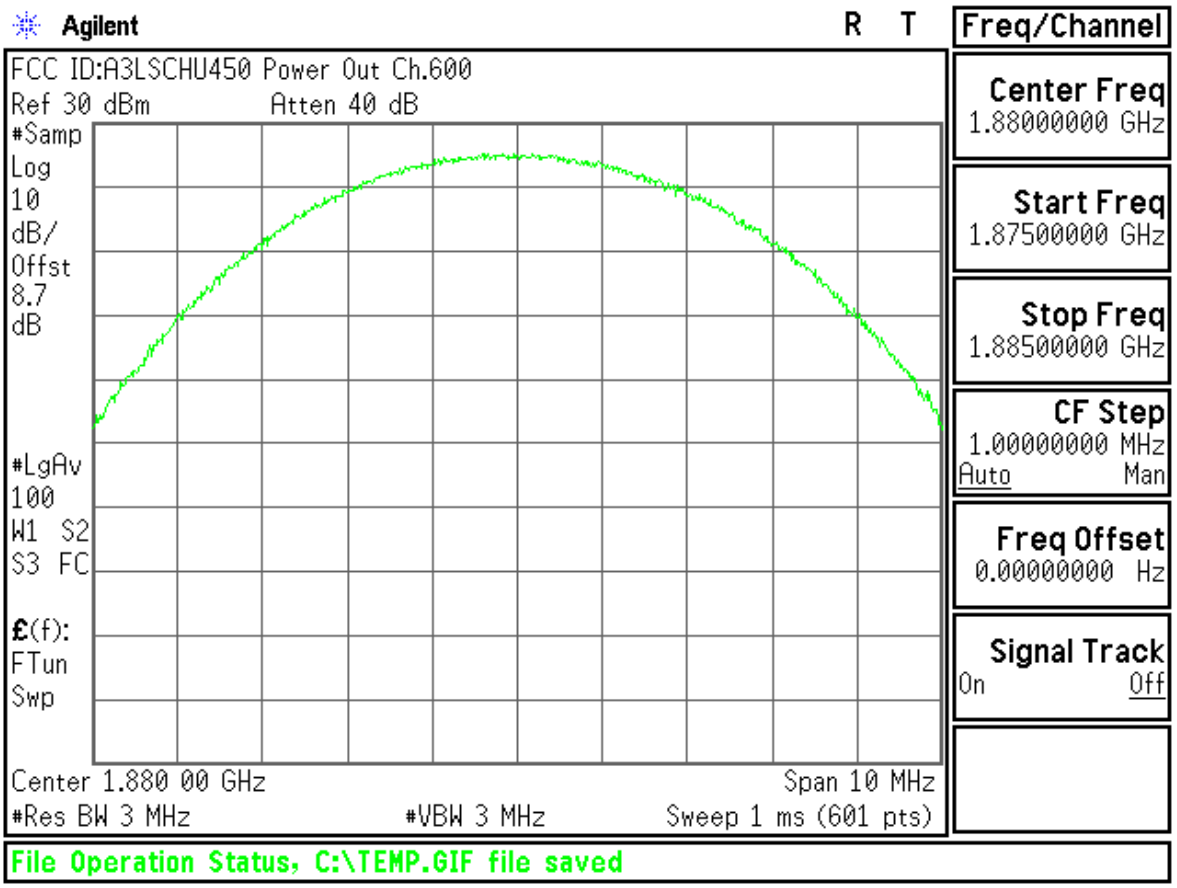
A3LSCHU450PCS

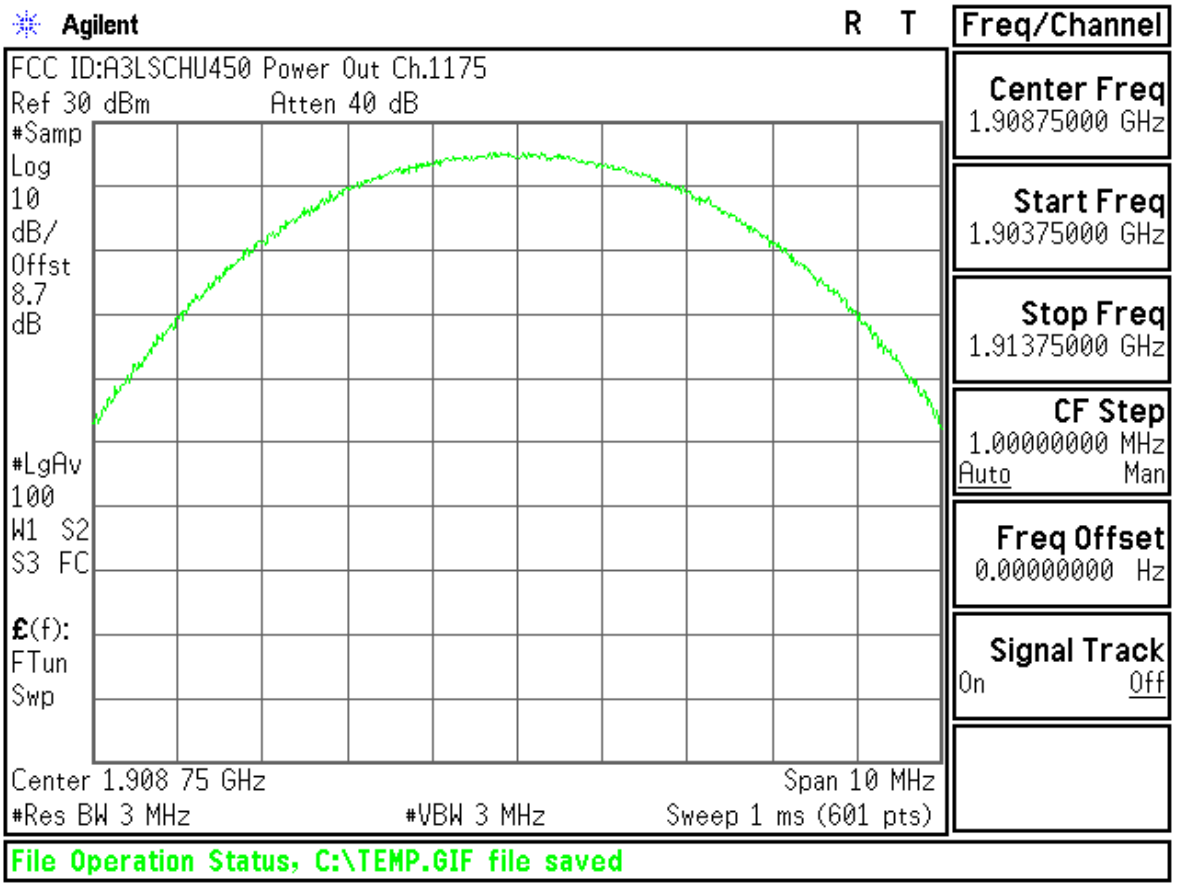


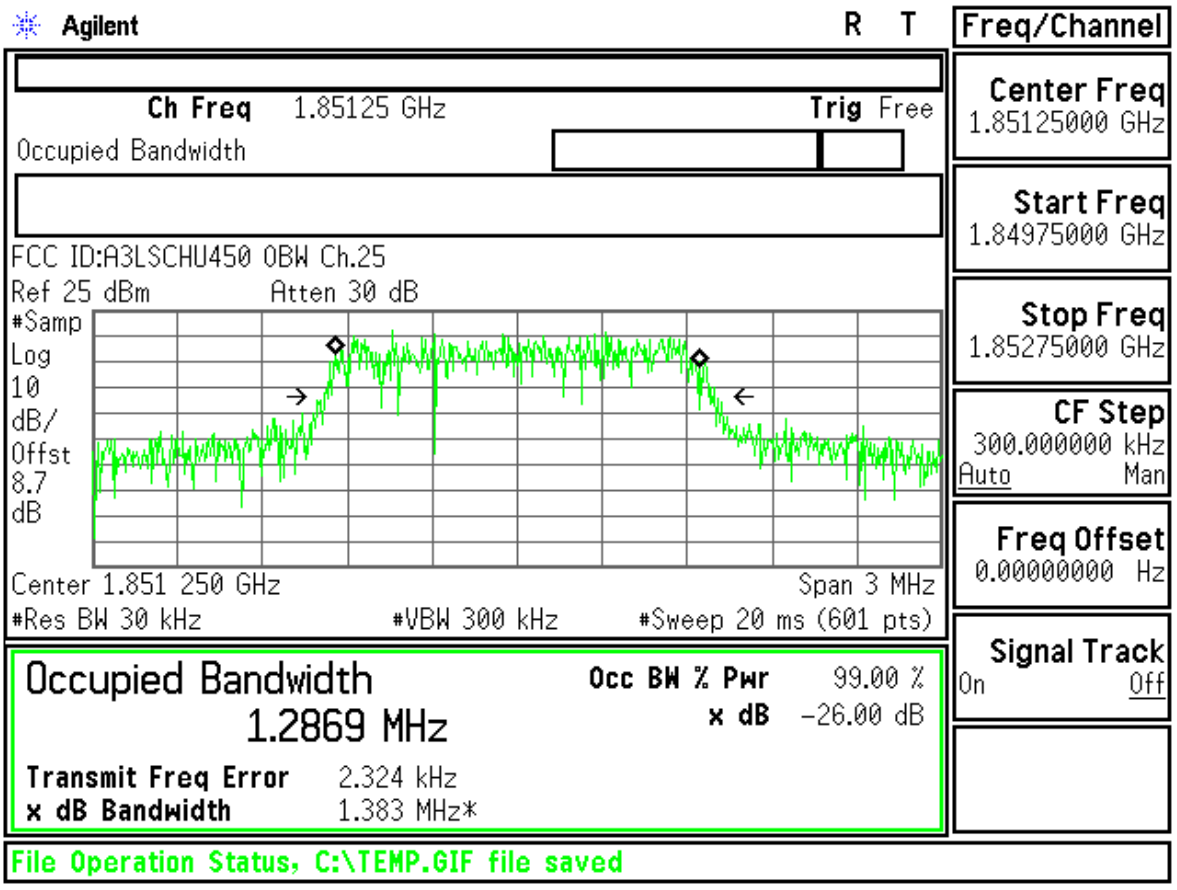


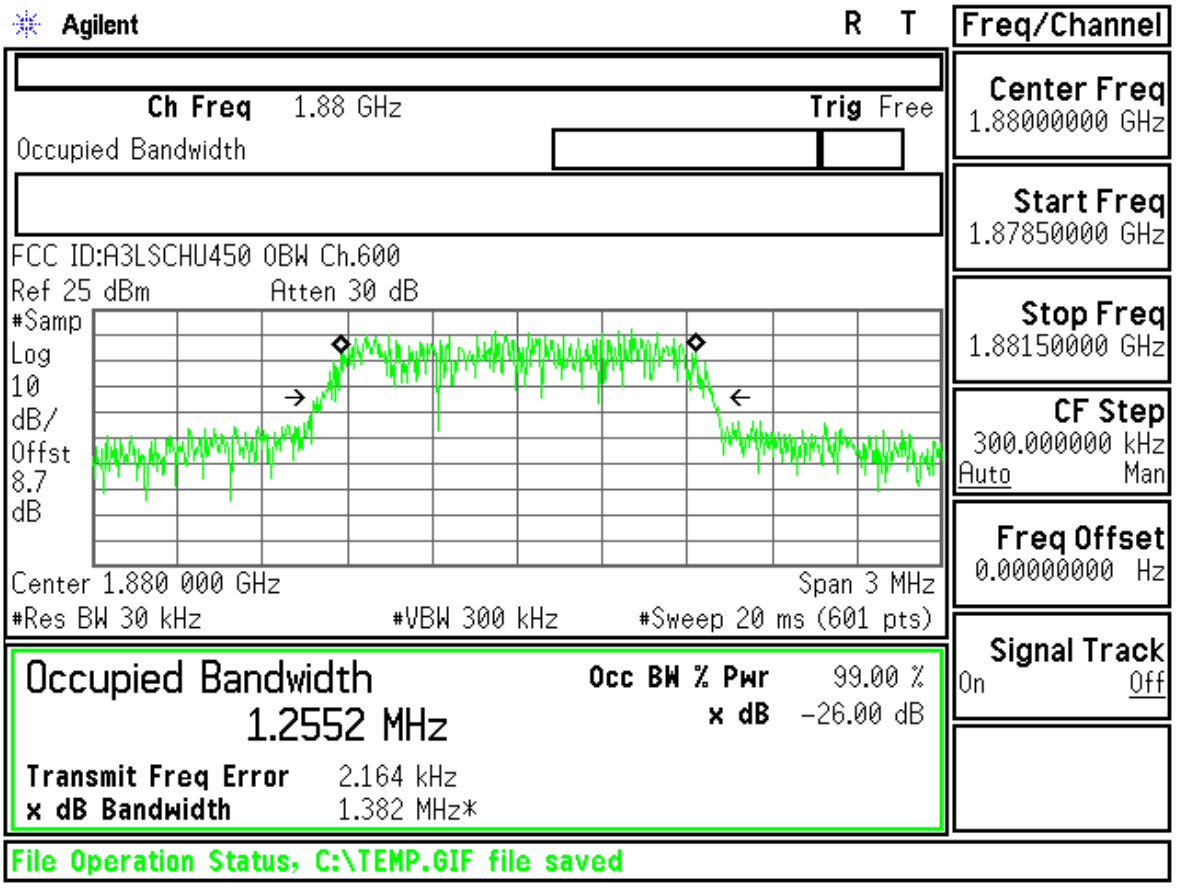

Agilent
R T
Freq/Channel
Ch Freq 1.90875 GHz
Trig Free
Channel Power
FCC ID:A3LSCHU450 Power Out Ch.1175
Ref 25 dBm
Atten 30 dB
#Avg
Log
10
dB/
Offst
8.7
dB
Center 1.908 750 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Center Freq
1.90875000 GHz
Start Freq
1.90725000 GHz
Stop Freq
1.91025000 GHz
CF Step
300.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Channel Power
25.28 dBm /1.2731 MHz
Power Spectral Density
-35.77 dBm/Hz
File Operation Status, C:\TEMP.GIF file saved

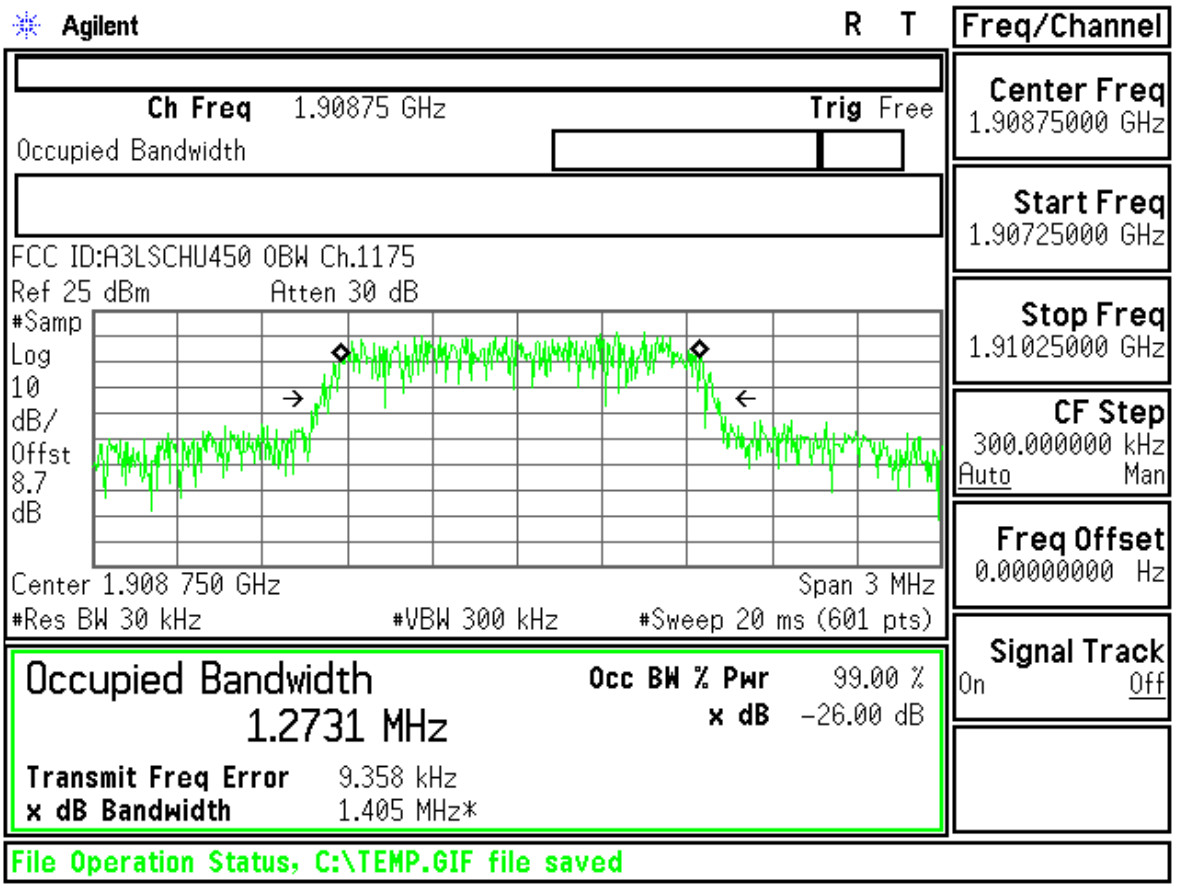

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Power Out Ch.25
Ref 30 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
8.7
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 1.851 25 GHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Center Freq
1.85125000 GHz
Start Freq
1.84625000 GHz
Stop Freq
1.85625000 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

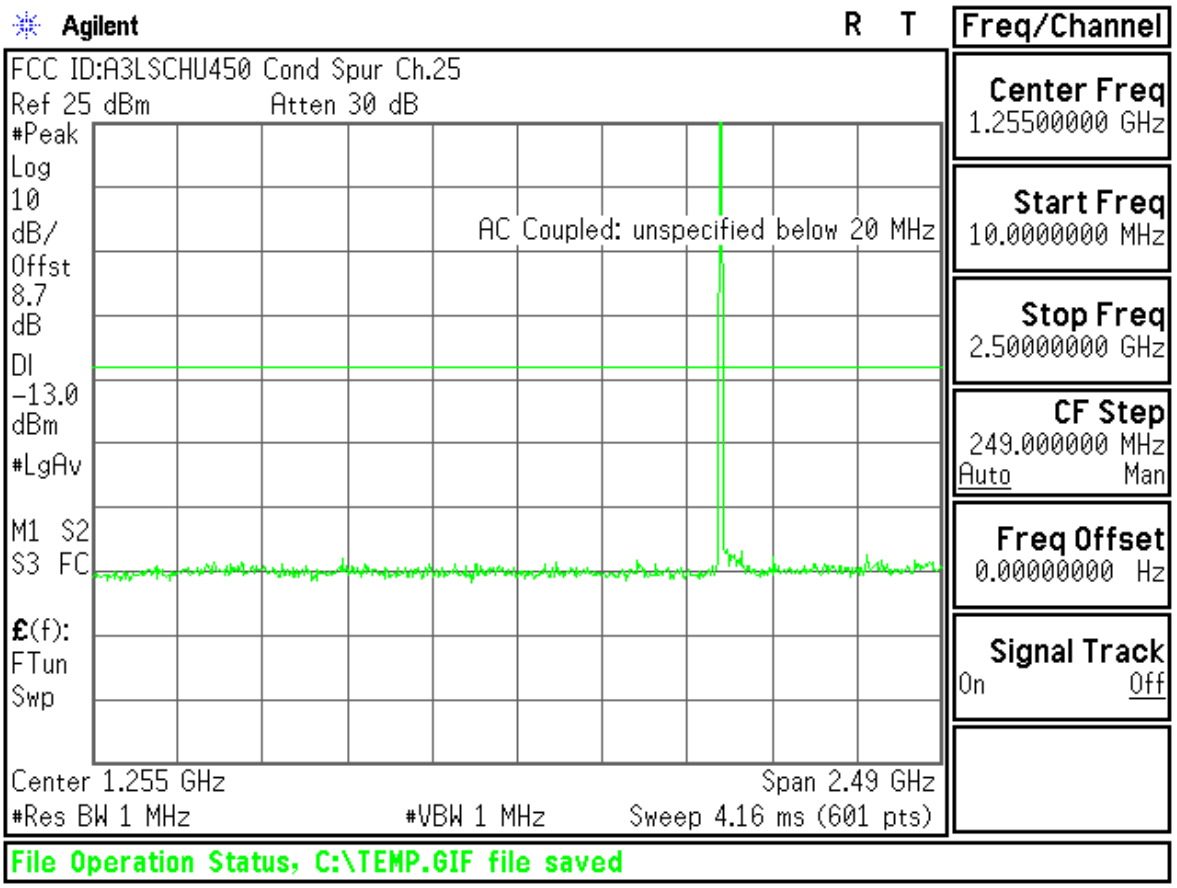

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Power Out Ch.600
Ref 30 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
8.7
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 1.880 00 GHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Center Freq
1.88000000 GHz
Start Freq
1.87500000 GHz
Stop Freq
1.88500000 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

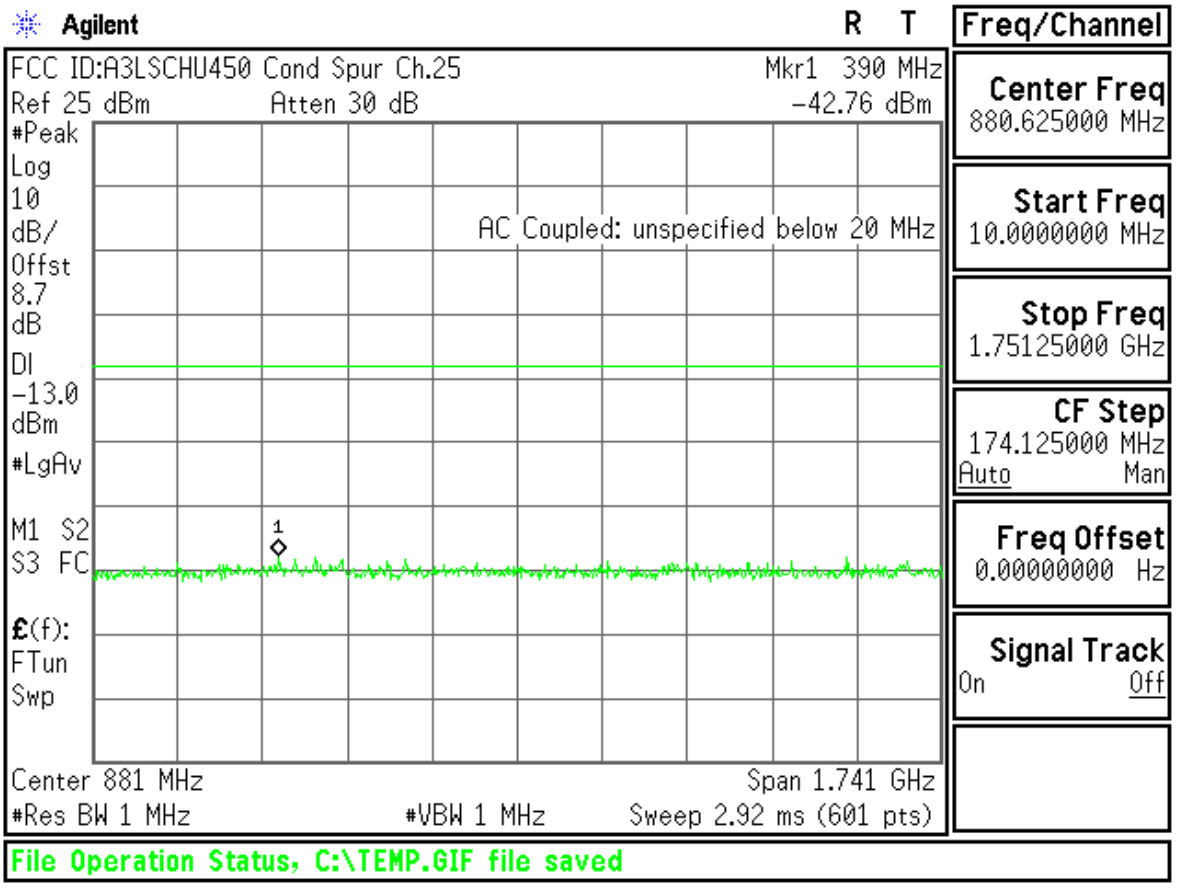

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Power Out Ch.1175
Ref 30 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
8.7
dB
#LgAv
100
W1 S2
S3 FC
£(f):
FTun
Swp
Center 1.908 75 GHz
Span 10 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Center Freq
1.90875000 GHz
Start Freq
1.90375000 GHz
Stop Freq
1.91375000 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

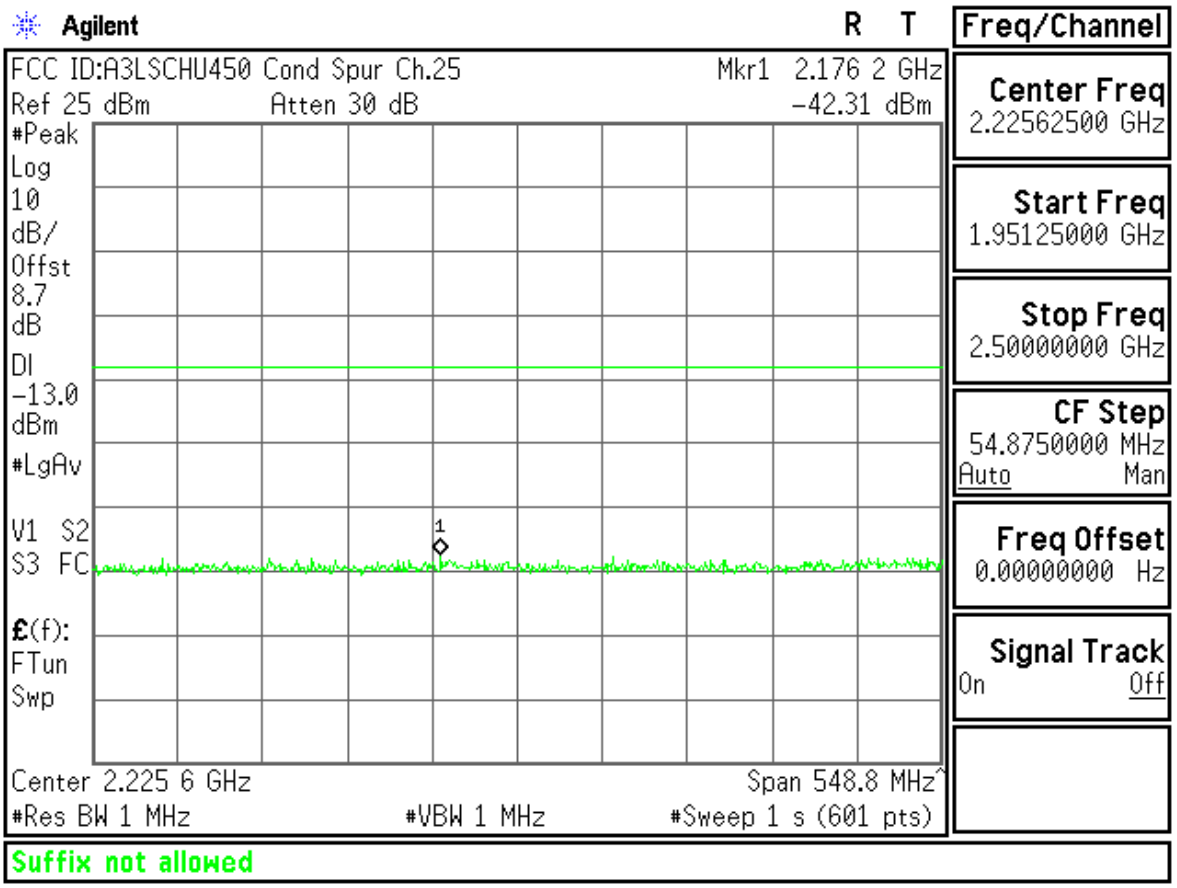

Agilent
R T
Freq/Channel
Ch Freq 1.85125 GHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHU450 OBW Ch.25
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
8.7
dB
Center 1.851 250 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2869 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 2.324 kHz
x dB Bandwidth 1.383 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

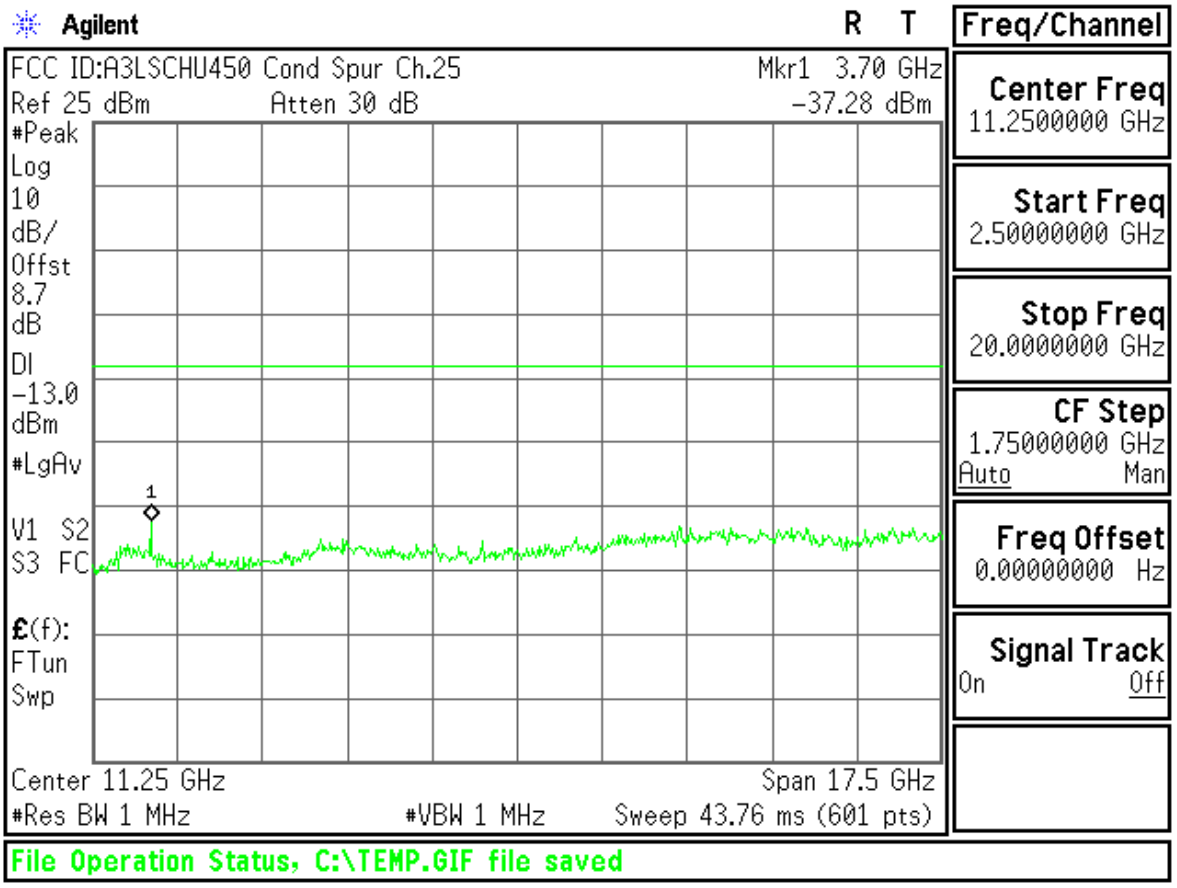

Agilent
R T
Freq/Channel
Ch Freq 1.88 GHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHU450 OBW Ch.600
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
8.7
dB
Center 1.880 000 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2552 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 2.164 kHz
x dB Bandwidth 1.382 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

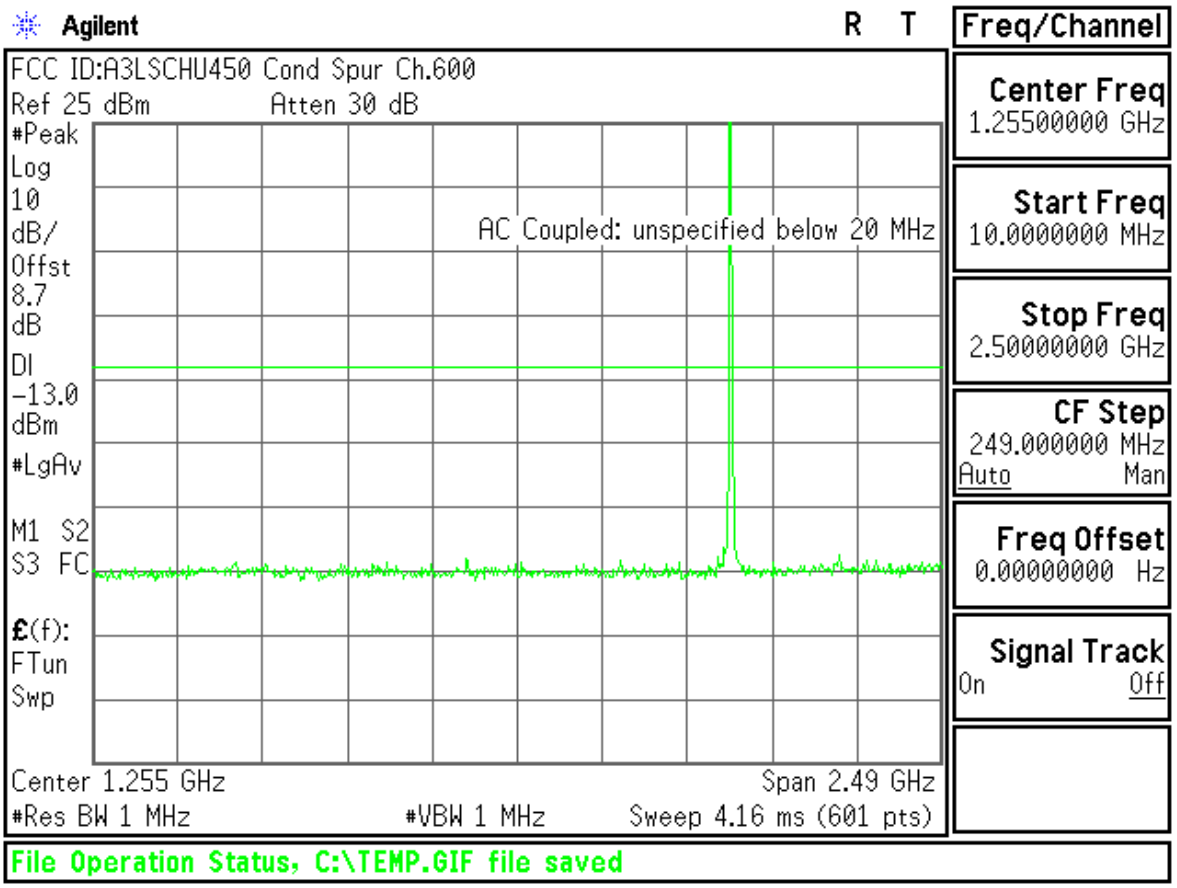

Agilent
R T
Freq/Channel
Ch Freq 1.90875 GHz
Trig Free
Occupied Bandwidth
FCC ID:A3LSCHU450 OBW Ch.1175
Ref 25 dBm
Atten 30 dB
#Samp
Log
10
dB/
Offst
8.7
dB
Center 1.908 750 GHz
Span 3 MHz
#Res BW 30 kHz
#VBW 300 kHz
#Sweep 20 ms (601 pts)
Occupied Bandwidth
1.2731 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 9.358 kHz
x dB Bandwidth 1.405 MHz*
File Operation Status, C:\TEMP.GIF file saved
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

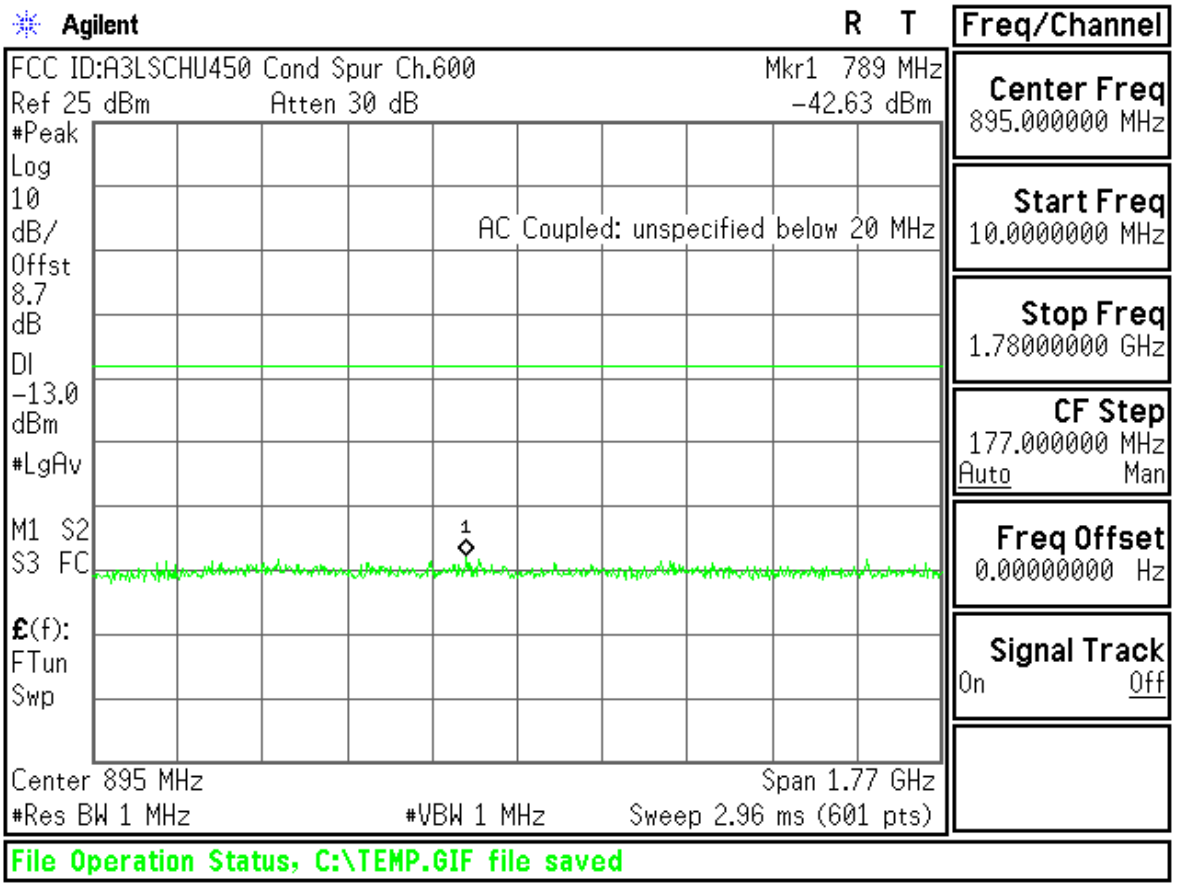

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.25
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Center Freq
1.25500000 GHz
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

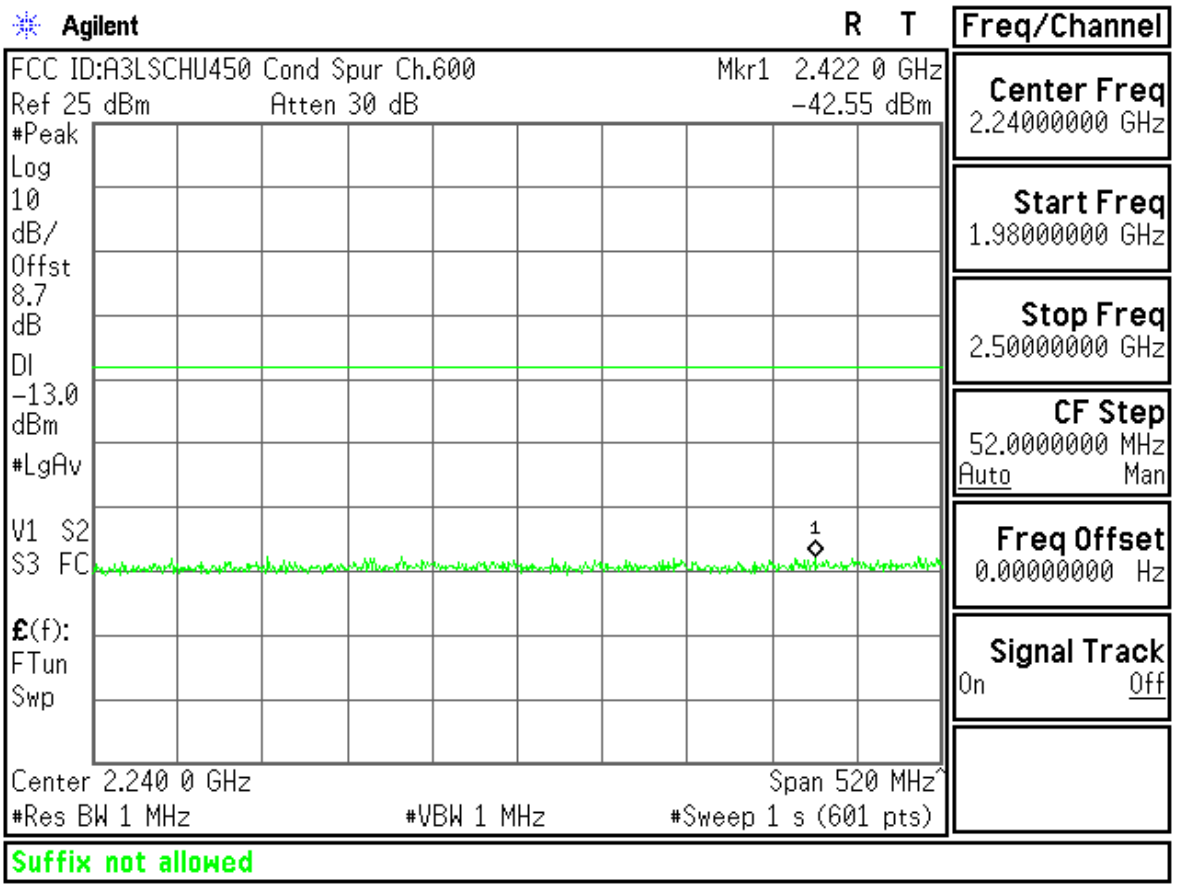

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.25
Mkr1 390 MHz
Ref 25 dBm
Atten 30 dB
-42.76 dBm
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
1
AC Coupled: unspecified below 20 MHz
Center 881 MHz
Span 1.741 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 2.92 ms (601 pts)
Center Freq
880.625000 MHz
Start Freq
10.0000000 MHz
Stop Freq
1.75125000 GHz
CF Step
174.125000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

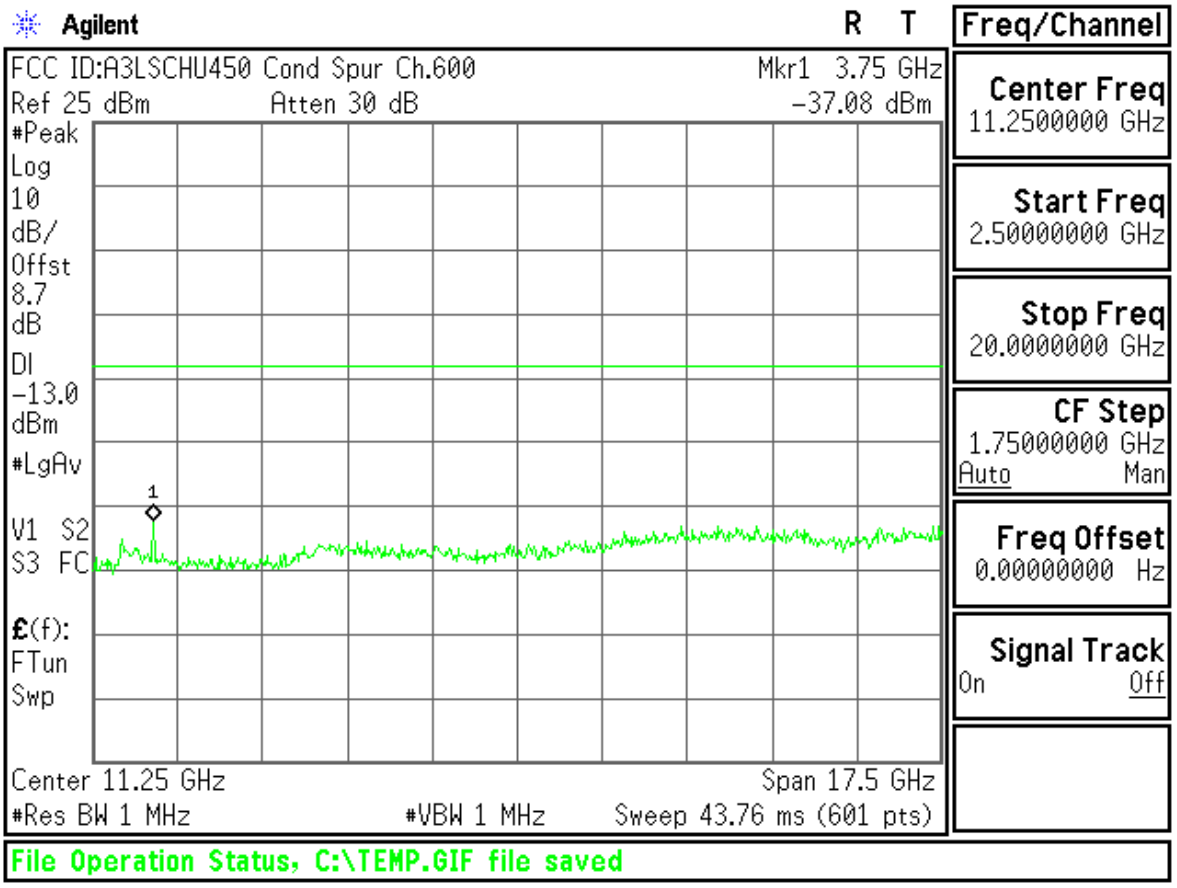

Agilent
R T
FCC ID:A3LSCHU450 Cond Spur Ch.25
Mkr1 2.176 2 GHz
Ref 25 dBm
Atten 30 dB
-42.31 dBm
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
Center 2.225 6 GHz
Span 548.8 MHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Freq/Channel
Center Freq
2.22562500 GHz
Start Freq
1.95125000 GHz
Stop Freq
2.50000000 GHz
CF Step
54.8750000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Suffix not allowed

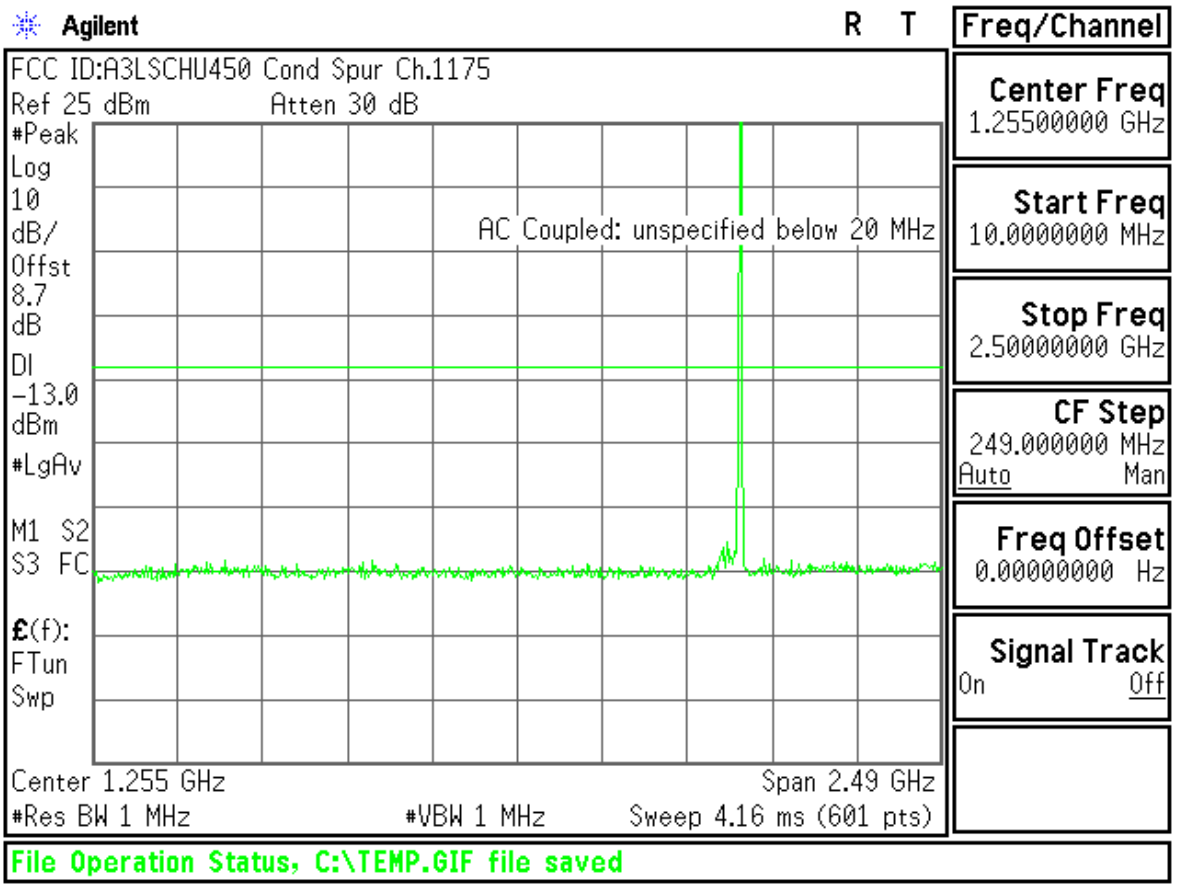

Agilent
R T
FCC ID:A3LSCHU450 Cond Spur Ch.25
Mkr1 3.70 GHz
Ref 25 dBm
Atten 30 dB
-37.28 dBm
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
Center 11.25 GHz
Span 17.5 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 43.76 ms (601 pts)
Freq/Channel
Center Freq
11.2500000 GHz
Start Freq
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

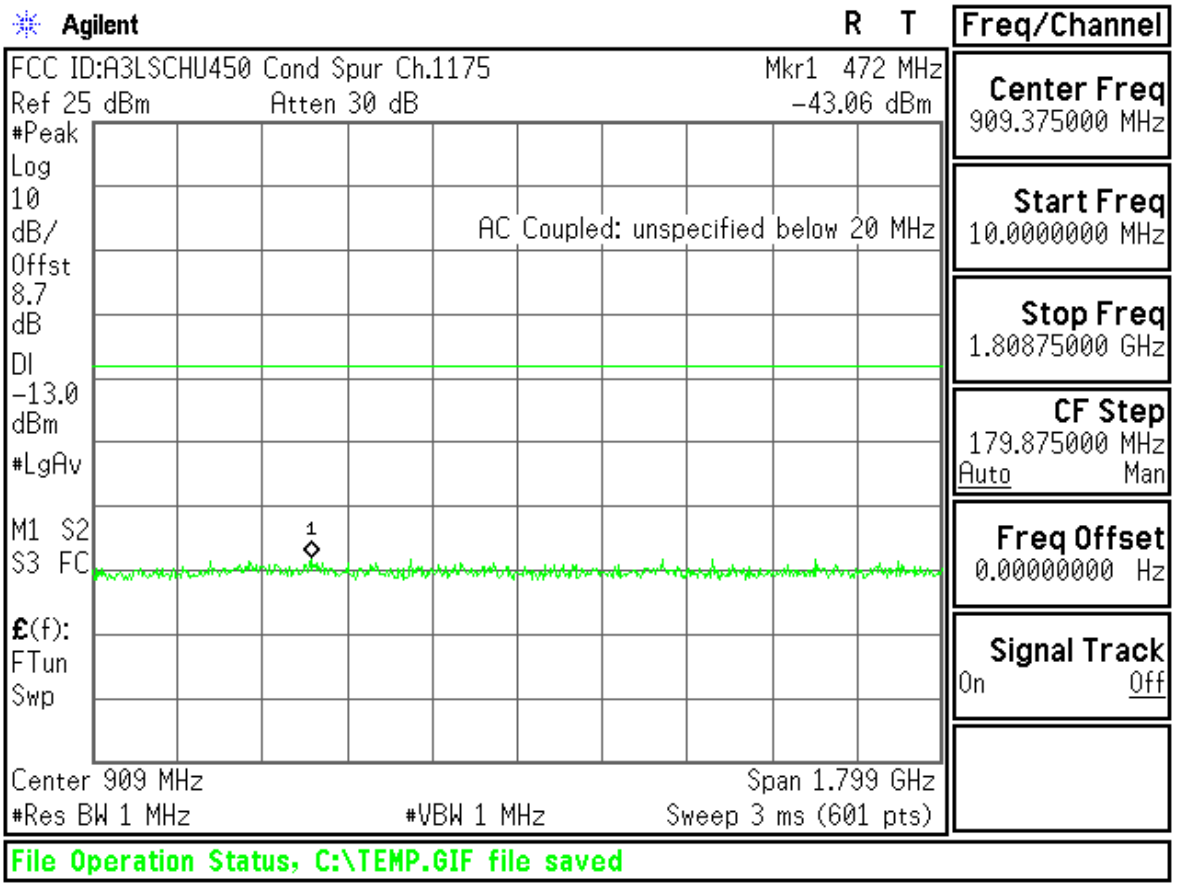

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.600
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Center Freq
1.25500000 GHz
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

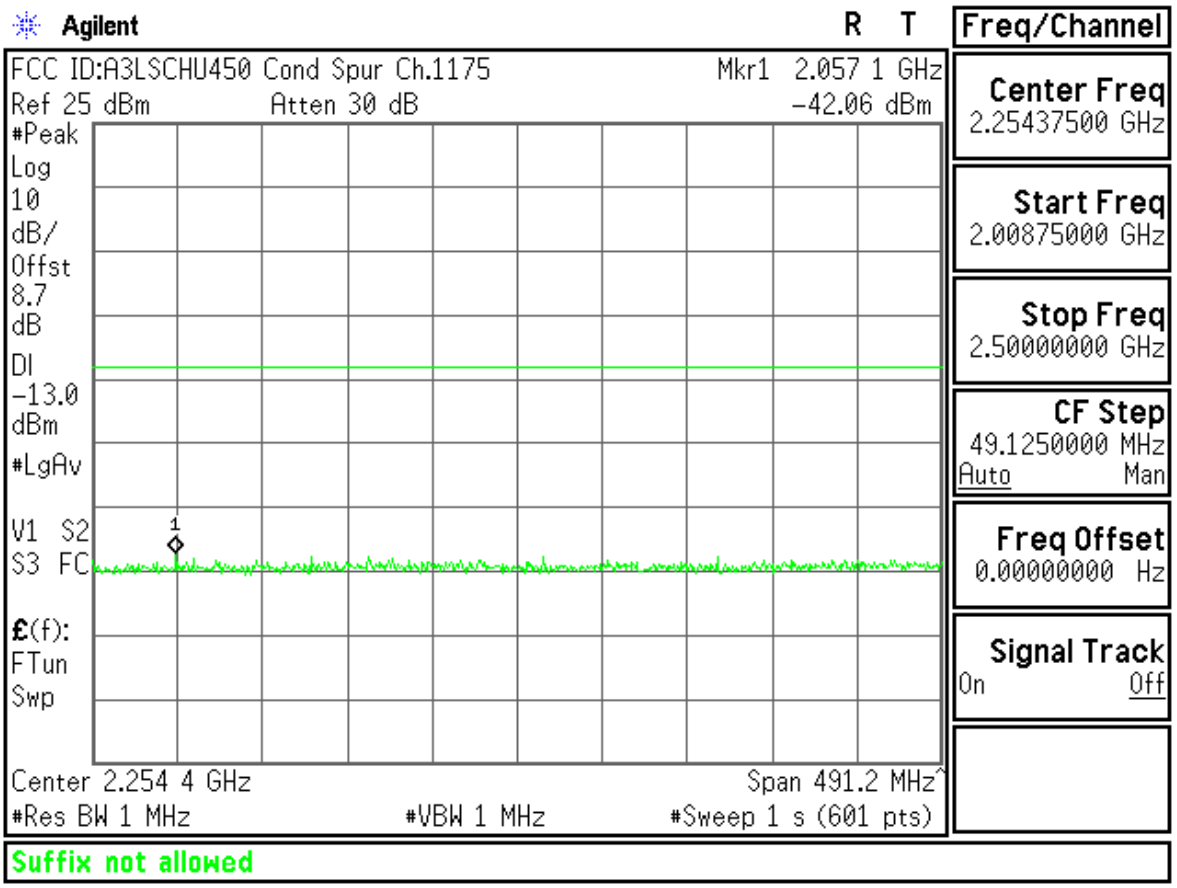

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.600
Mkr1 789 MHz
Ref 25 dBm
Atten 30 dB
-42.63 dBm
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
1
AC Coupled: unspecified below 20 MHz
Center 895 MHz
Span 1.77 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 2.96 ms (601 pts)
Center Freq
895.000000 MHz
Start Freq
10.0000000 MHz
Stop Freq
1.78000000 GHz
CF Step
177.000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

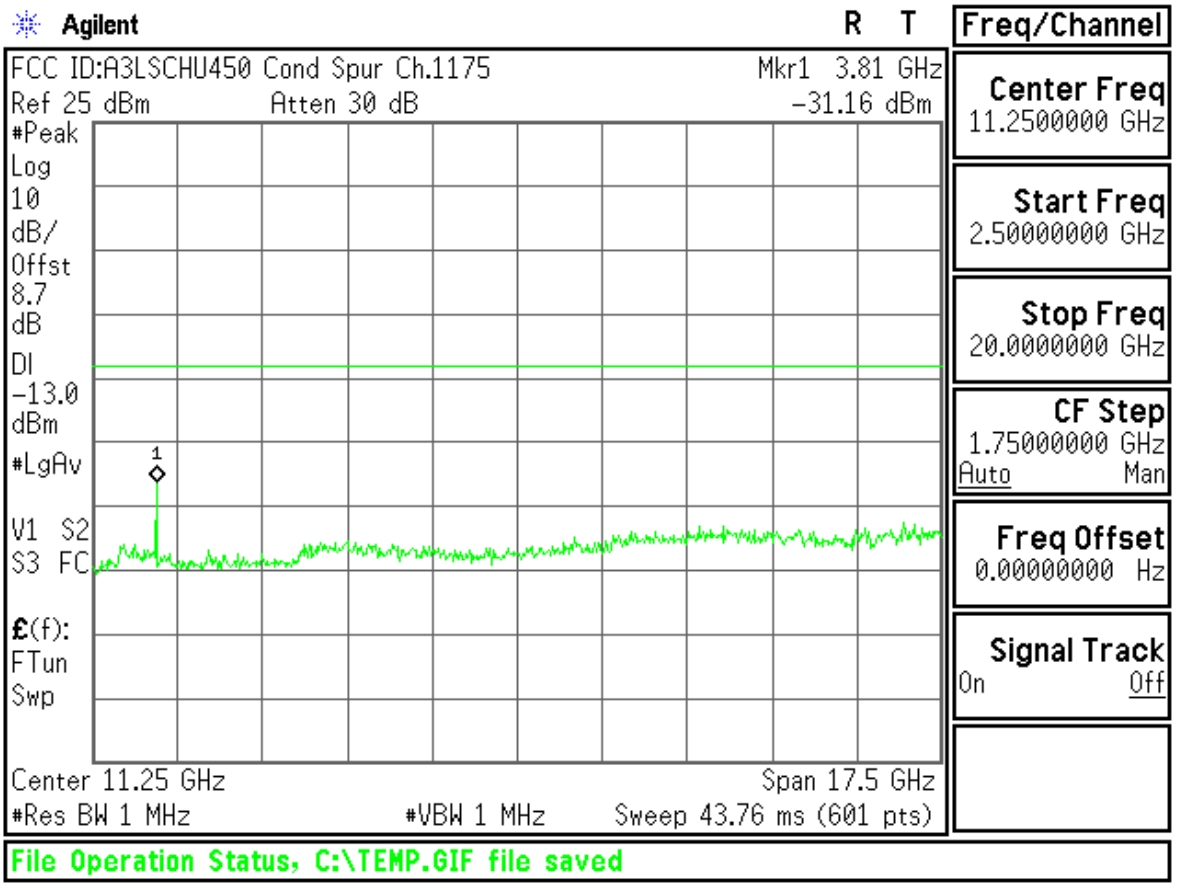

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.600
Mkr1 2.422 0 GHz
Ref 25 dBm
Atten 30 dB
-42.55 dBm
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
Center 2.240 0 GHz
Span 520 MHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Center Freq
2.24000000 GHz
Start Freq
1.98000000 GHz
Stop Freq
2.50000000 GHz
CF Step
52.0000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Suffix not allowed

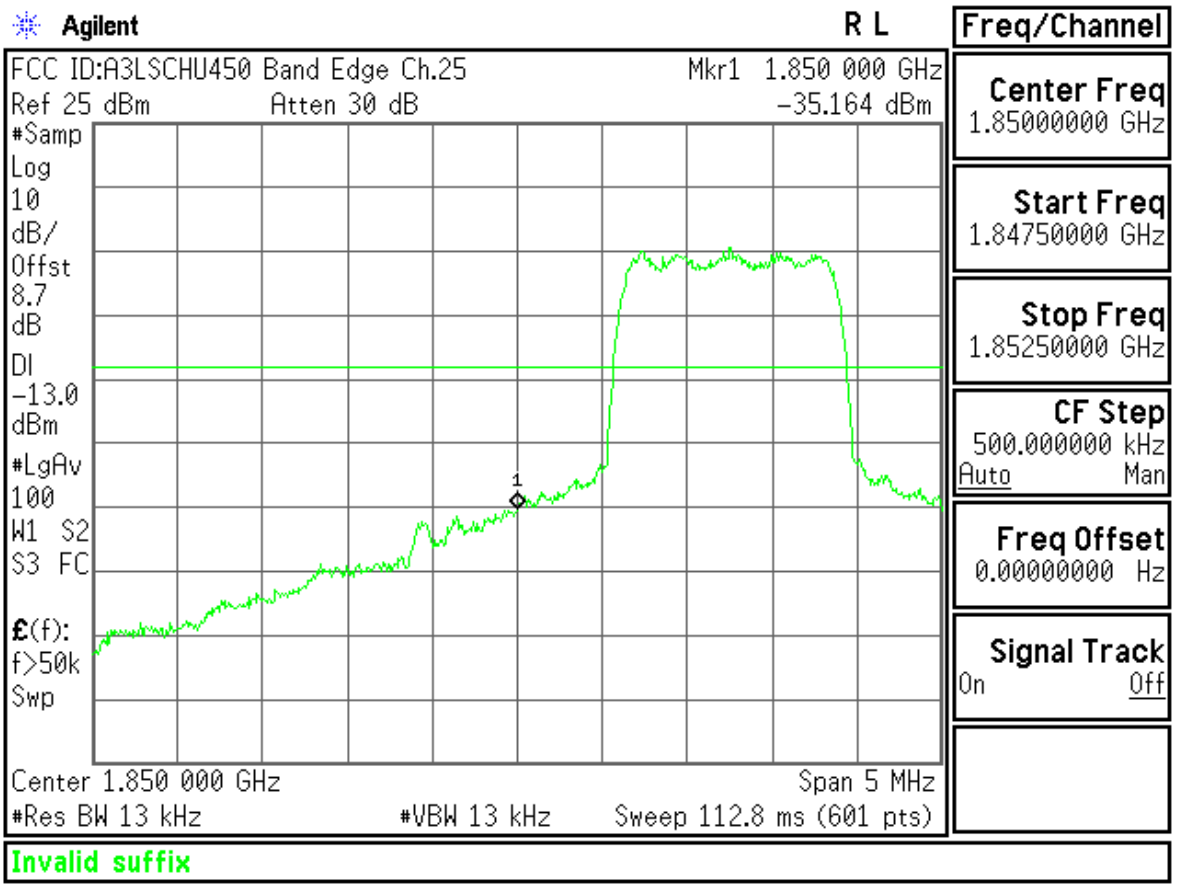

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.600
Mkr1 3.75 GHz
Ref 25 dBm
Atten 30 dB
-37.08 dBm
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
Center 11.25 GHz
Span 17.5 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 43.76 ms (601 pts)
Center Freq
11.2500000 GHz
Start Freq
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

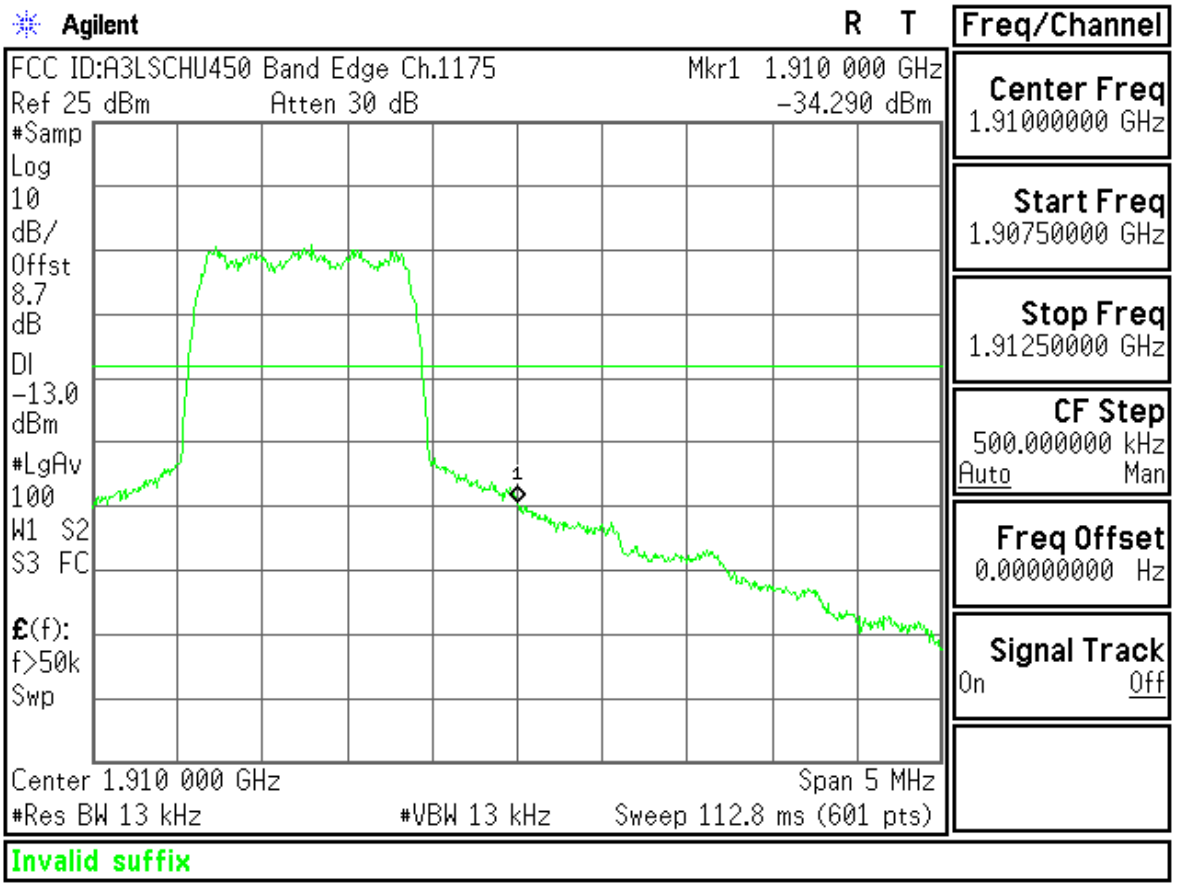

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.1175
Ref 25 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 1.255 GHz
Span 2.49 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.16 ms (601 pts)
Center Freq
1.25500000 GHz
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

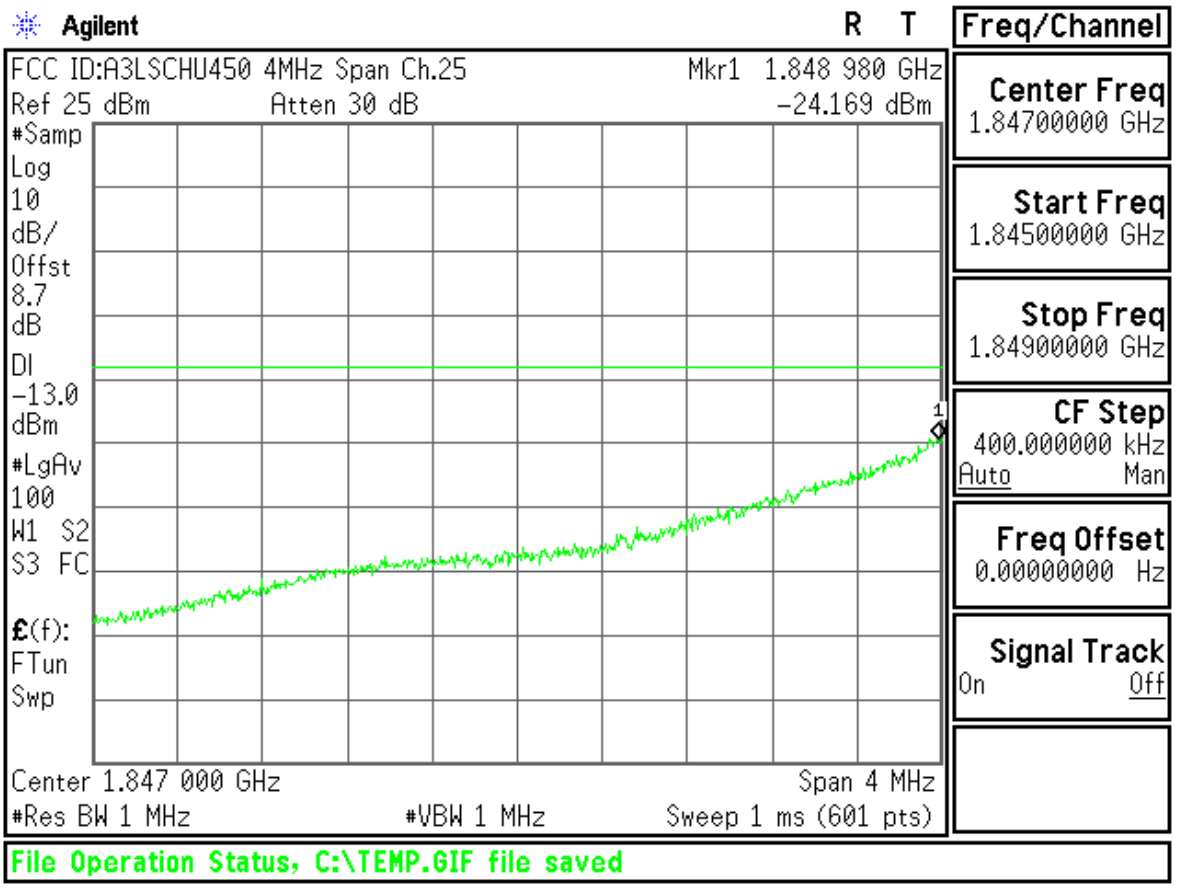

Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 Cond Spur Ch.1175
Mkr1 472 MHz
Ref 25 dBm
Atten 30 dB
-43.06 dBm
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
M1 S2
S3 FC
£(f):
FTun
Swp
AC Coupled: unspecified below 20 MHz
Center 909 MHz
Span 1.799 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 3 ms (601 pts)
Center Freq
909.375000 MHz
Start Freq
10.0000000 MHz
Stop Freq
1.80875000 GHz
CF Step
179.875000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Signal Track
On
Off
File Operation Status, C:\TEMP.GIF file saved

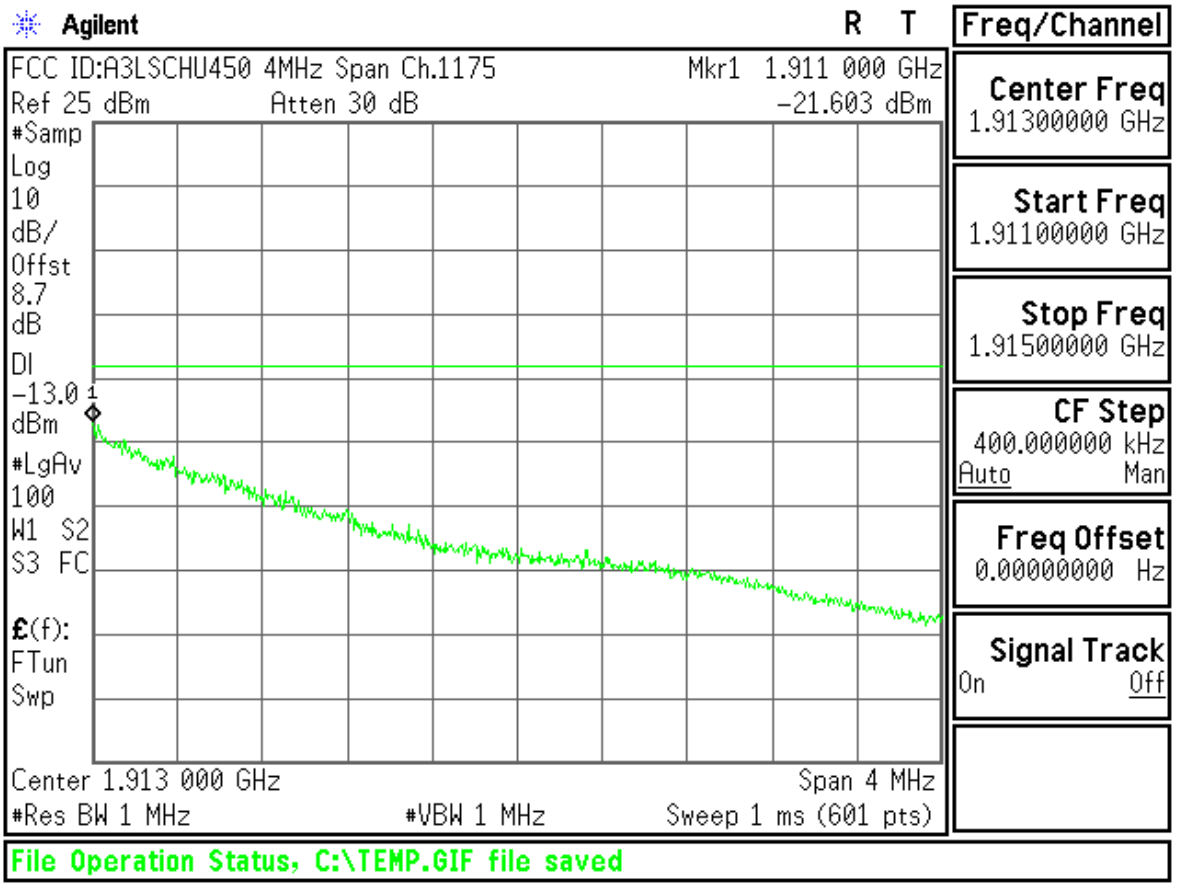

Agilent
R T
FCC ID:A3LSCHU450 Cond Spur Ch.1175
Mkr1 2.057 1 GHz
Ref 25 dBm
Atten 30 dB
-42.06 dBm
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
Center 2.254 4 GHz
Span 491.2 MHz
#Res BW 1 MHz
#VBW 1 MHz
#Sweep 1 s (601 pts)
Freq/Channel
Center Freq
2.25437500 GHz
Start Freq
2.00875000 GHz
Stop Freq
2.50000000 GHz
CF Step
49.1250000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Suffix not allowed

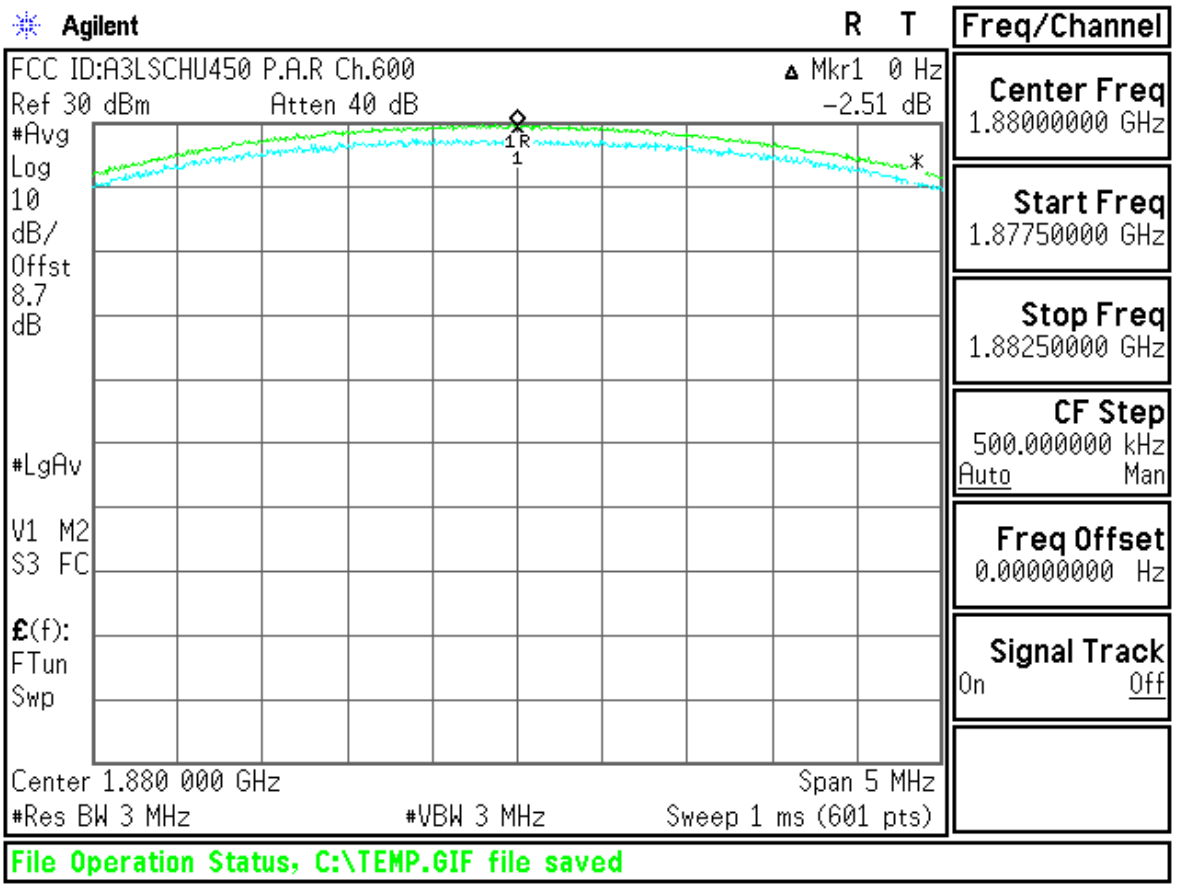

Agilent
R T
FCC ID:A3LSCHU450 Cond Spur Ch.1175
Mkr1 3.81 GHz
Ref 25 dBm
Atten 30 dB
-31.16 dBm
#Peak
Log
10
dB/
Offst
8.7
dB
Dl
-13.0
dBm
#LgAv
V1 S2
S3 FC
£(f):
FTun
Swp
Center 11.25 GHz
Span 17.5 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 43.76 ms (601 pts)
Freq/Channel
Center Freq
11.2500000 GHz
Start Freq
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 L
Freq/Channel
FCC ID:A3LSCHU450 Band Edge Ch.25
Mkr1 1.850 000 GHz
Ref 25 dBm
Atten 30 dB
-35.164 dBm
#Samp
Log
10
dB/
Offst
8.7
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:A3LSCHU450 Band Edge Ch.1175
Mkr1 1.910 000 GHz
Ref 25 dBm
Atten 30 dB
-34.290 dBm
#Samp
Log
10
dB/
Offst
8.7
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
FCC ID:A3LSCHU450 4MHz Span Ch.25
Mkr1 1.848 980 GHz
Ref 25 dBm
Atten 30 dB
-24.169 dBm
#Samp
Log
10
dB/
Offst
8.7
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)
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
File Operation Status, C:\TEMP.GIF file saved


Agilent
R T
FCC ID:A3LSCHU450 4MHz Span Ch.1175
Mkr1 1.911 000 GHz
Ref 25 dBm
Atten 30 dB
-21.603 dBm
#Samp
Log
10
dB/
Offst
8.7
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)
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
File Operation Status, C:\TEMP.GIF file saved


Agilent
R T
Freq/Channel
FCC ID:A3LSCHU450 P.A.R Ch.600
Mkr1 0 Hz
Ref 30 dBm
Atten 40 dB
-2.51 dB
#Avg
Log
10
dB/
Offst
8.7
dB
#LgAv
V1 M2
S3 FC
£(f):
FTun
Swp
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
Center 1.880 000 GHz
Span 5 MHz
#Res BW 3 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
File Operation Status, C:\TEMP.GIF file saved