



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 24 SUBPART CERTIFICATION REPORT

**Model Tested** : 705SC  
**FCC ID(Requested)** : A3L705SC  
**Report No** : FD-156-R1  
**Job No** : FD-156  
**Date issued** : August 24, 2006

### - Abstract -

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

**Prepared By**

**Date** 2006.08.24

YE PARK – Test Engineer

**Checked By**

**Date** 2006.08.25

WW JANG – Manager

**Authorized By**

**Date** 2006.08.25

SH PARK – Senior Manager



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# **MEASUREMENT REPORT**

## **1. FCC Certification Information**

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

### **1.1. §2.1033 General Information**

- Applicant Name : SAMSUNG 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 : A3L705SC
- Quantity : Quantity production is planned
- Emission Designators : 244KGXW(GSM1900), 245KG7W(GSM1900 EDGE)
- Tx Freq. Range : 1850.2MHz -1909.8MHz (GSM1900)
- Rx Freq. Range : 1930.2MHz - 1989.8MHz (GSM1900)
- Max. Power Rating : 1.824 W EIRP GSM1900 (32.61dBm)  
1.222 W EIRP GSM1900 EDGE(30.87dBm)
- FCC Classification(s) : Licensed Portable Tx Held to Ear (PCE)
- Equipment (EUT) Type : Single-Band PCS GSM/EDGE Phone with Bluetooth
- Frequency Tolerance : ±0.00025% (2.5ppm)
- FCC Rule Part(s) : §24(E), §2.
- Dates of Test : August 23-24, 2006
- Place of Test : SAMSUNG Lab,
- Test Report S/N : FD-156-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 a Non-conducted turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. The substitution antenna will replace the EUT antenna at the same position and in vertical polarization. The frequency of the signal generator shall be set to the frequencies that were measured on the EUT. The test antenna shall be raised and lowered, if necessary, to ensure that the maximum signal is still being received. The signal generator, output level, shall be adjusted until an equal or a known related level to what was measured from the EUT is obtained in the spectrum analyzer. This level was recorded.

For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic antenna are taken into consideration.



Figure2. Photograph of 3m Fully-Anechoic Chamber



### **3. MEASURING INSTRUMENT CALIBRATION**

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



#### 4. TEST EQUIPMENT LIST

Name Of Equipment	Model	Serial No.	Due Date
Spectrum Analyzer	ESI26	836119/010	2006-09-26
	E4440A(3Hz~26.5GHz)	MY41000236	2007-04-14
	E4440A(3Hz~26.5GHz)	MY41000233	2007-07-21
Signal Generator	SMIQ03B	83824/021	2006-12-07
	SMR20	835197/030	2007-01-10
Network Analyzer	8753E	JP38160590	2007-06-26
Power Meter	E4419B	GB41293846	2006-09-07
Power Sensor	8481B	3318A10325	2006-09-08
	8485A	3318A19924	2006-09-08
Amplifier	5S1G4	304866	2006-10-18
Pre-Amplifier	8449B	3008A00691	2007-01-02
Communication test set	8960	GB42230535	2007-01-02
	8960	GB42360886	2007-07-03
Antenna Master	MA240	240/618	Not Required
Controller	HD100	100/756	Not Required
Environmental Chamber	SH-241	92000548	2006-11-22
	SH-241	92000549	2006-11-22
Horn Antenna	HF906	360306/011	2007-03-31
Communication test set	CMU200	109162	2006-10-18
Dipole Antenna	3121C-DB4	9007-587	2006-12-02
	3121C-DB4	9007-588	2007-05-29
Receive Antenna	HL040	353255/019	2006-08-24
	HL040	353255/020	2007-04-25
Power Supply	E3640A	MY40003594	2007-06-28
	E3640A	MY40003595	2007-05-19
Divider	11636B	51946	Not Required
	11636B	51942	Not Required
High Pass Filter	WHK1.0/15G-10SS	1	Not Required
	WHK/3.5/18G-10SS	4	Not Required
Shielded Fully Anechoic Chamber	CHAMBER	ANT0001	Not Required

## 5. DESCRIPTION OF TESTS

### 5.1. Effective Radiated Power / Equivalent Isotropic Radiated Power

#### Test Set-up for the ERP/EIRP TEST

Effective Radiated Power Output and Equivalent Isotropic Radiated Power Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004:

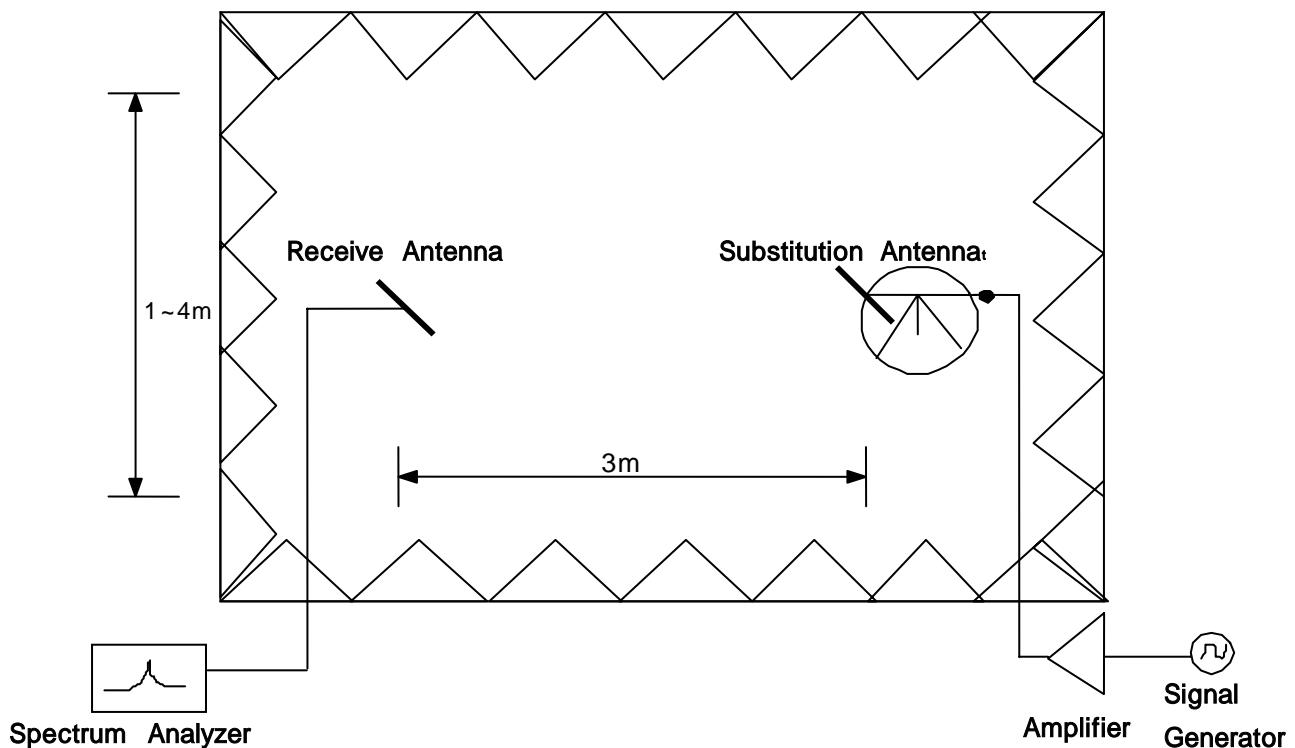


Figure 3. Diagram of ERP/EIRP test Set-up

The EUT was placed on a Non-conducted turntable 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For GSM 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.

## 5.2. 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

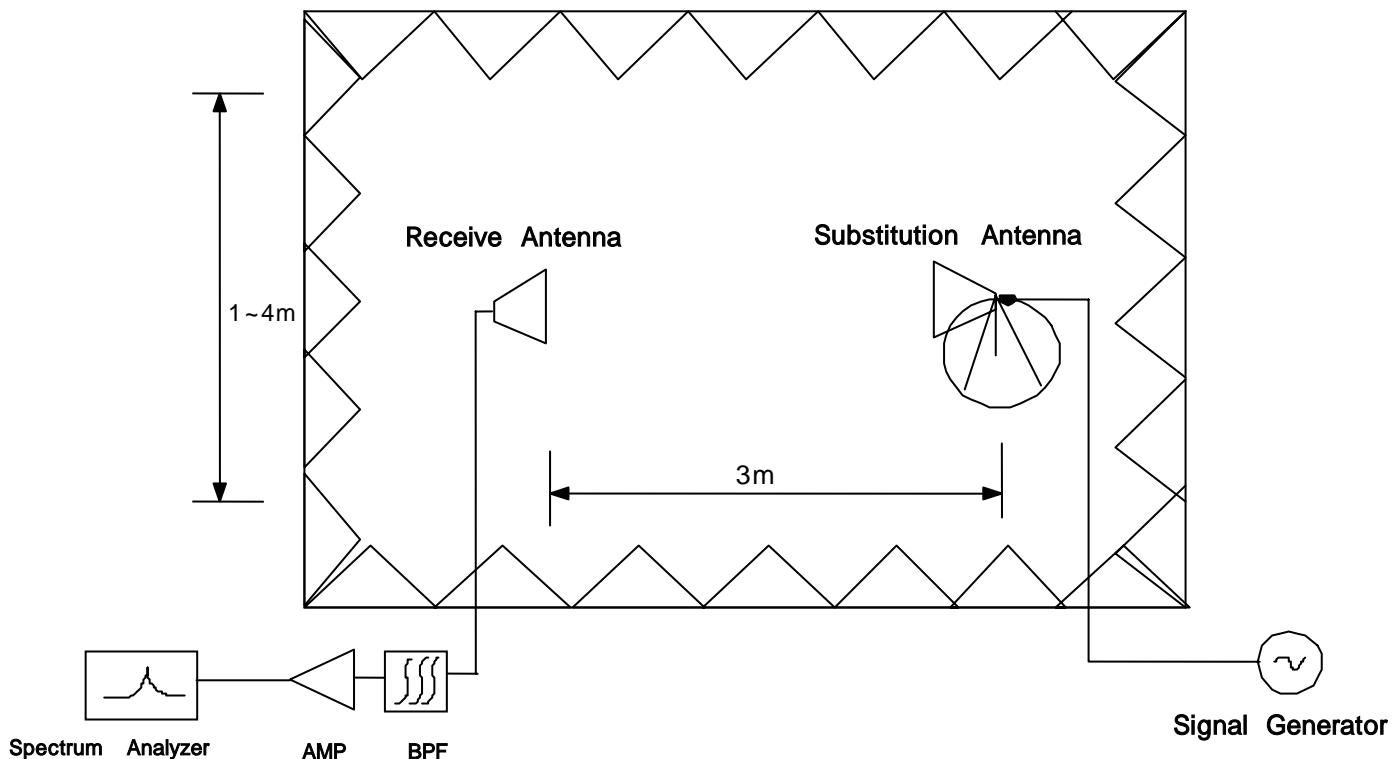


Figure 4. Diagram of Radiated Spurious & Harmonic test Set-up

The EUT was placed on a Non-conducted turntable 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. The Spectrum was investigated from 30MHz to the 10<sup>th</sup> 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 661 , Second Harmonic(3760.00MHz)**

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 3760.00MHz. 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** .



### **5.3. 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.

### **5.4. Spurious and Harmonic Emission at Antenna Terminal**

#### **5.4.1. 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.



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**



### 5.4.2. 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  $43+10\log(P)$  dB. Limit equivalent to -13dBm, calculation shown below.

$$43 + 10\log(1.824 \text{ W}) = 45.61 \text{ dB}$$

$$32.61 \text{ dBm} - 45.61 \text{ dB} = -13 \text{ dBm}$$

Compliance with the out-of-band emissions requirement is based on test being performed with an analyzer resolution bandwidth of 1MHz. However in the 1MHz band immediately outside and adjacent to the frequency block a resolution bandwidth of at least 1% of the fundamental emissions bandwidth may be employed.

In case of GSM :  $0.01 * 273\text{KHz} = 2.73\text{KHz}$

A Resolution BW of 3KHz was used for measurement at the band edges.

#### **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. (GSM1900 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.



## 5.5. 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  $\pm 0.00025$  ( $\pm 2.5\text{ppm}$ ) of the center frequency.

Time Period and Procedure:

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

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



## 6. TEST DATA

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

Supply Voltage : 3.7VDC

Modulation : PCS 1900

Reference level

Frequency (MHz)	Output (dBm)	Polarization (H/V)	S/A (dBm)	Ant gain (dBi)	Ref level (dBm)
1850.20	27.00	H	-14.09	8.13	-22.22
		V	-14.16	8.13	-22.29
1880.00	27.00	H	-14.56	8.11	-22.67
		V	-14.57	8.11	-22.68
1909.80	27.00	H	-14.16	8.33	-22.49
		V	-14.28	8.33	-22.61

Result

Frequency (MHz)	Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	EIRP (dBm)	EIRP (W)	Battery
1850.20	-16.61	H1	297	32.61	1.824	Standard
1880.00	-17.46	H1	291	32.21	1.663	Standard
1909.80	-20.22	H1	290	29.27	0.845	Standard

EDGE Result

Frequency (MHz)	Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	EIRP (dBm)	EIRP (W)	Battery
1850.20	-18.35	H1	298	30.87	1.222	Standard

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

Radiated measurements at 3 meters by Substitution Method



## 6.2. GSM1900 Radiated Spurious & Harmonic measurement

Operating Frequency : 1850.2 MHz(Low), 1880.00 MHz(Middle), 1909.80 MHz(High)

Measured Output Power : 32.61 dBm = 1.824 W

Modulation Signal : GSM1900

Limit :  $43 + 10\log_{10}(P) = 45.61 \text{ dBc}$

### Result

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	POL (H/V)	Result (dBc)
512	2	3700.40	-44.4	H2	49.56
	3	5550.60	-60.63	H2	60.57
	4	7400.80	-63.11	H1	59.69
	5	9251.00	-66.71	H2	60.33
	6	11101.20	-	-	-
	7	12951.40	-	-	-
661	2	3760.00	-44.19	V	49.64
	3	5640.00	-61.83	H2	61.98
	4	7520.00	-63.3	H1	60.39
	5	9400.00	-67.6	H1	60.90
	6	11280.00	-	-	-
	7	13160.00	-	-	-
810	2	3819.60	-45.3	V	49.91
	3	5729.40	-63.89	H1	63.69
	4	7639.20	-64.43	H2	59.83
	5	9549.00	-66.77	H1	59.70
	6	11458.80	-	-	-
	7	13368.60	-	-	-

### 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 10<sup>th</sup> harmonic and the worst-case emissions and reported.

### Radiated Spurious Emission measurements at 3 meters by Substitution Method



### 6.3. GSM1900 Radiated Spurious & Harmonic Conversion Table

Date : 2006. 08. 23  
Test Engineer : YE PARK

Tx Cable loss  
Tx Horn Ant Gain  
Rx Cable loss + HPF Insertion loss + Attenuator  
Pre-Amp gain  
Air loss  
Tested Level from EUT  
= + + -  
= EIRP -

CH	Har	Frequency (MHz)	Tx CL (dB)	Horn Gain (dB)	Tx Level @ (S/G 10dBm)	Tested Level EUT : H (dBm)	Tested Level EUT : V (dBm)	Amplitude of Emission EUT : H (dBm)	Amplitude of Emission EUT : V (dBm)	Result EUT : H (dBc)	Result EUT : V (dBc)
512	2	3700.40	12.22	9.73	7.51	-44.40	-45.38	-16.95	-17.87	49.56	50.48
	3	5550.60	16.91	11.55	4.64	-60.63	-62.13	-27.96	-30.57	60.57	63.18
	4	7400.80	20.66	11.44	0.78	-63.11	-64.86	-27.08	-30.76	59.69	63.37
	5	9251.00	24.06	12.17	-1.89	-66.71	-68.51	-27.72	-29.93	60.33	62.54
	6	11101.20	27.70	13.66	-4.04	-	-	-	-	-	-
	7	12951.40	31.86	13.27	-8.59	-	-	-	-	-	-
661	2	3760.00	12.40	9.73	7.33	-44.58	-44.19	-17.79	-17.03	50.40	49.64
	3	5640.00	16.83	11.55	4.72	-61.83	-65.57	-29.37	-33.47	61.98	66.08
	4	7520.00	21.17	11.44	0.27	-63.30	-65.53	-27.78	-31.61	60.39	64.22
	5	9400.00	24.51	12.17	-2.34	-67.60	-68.45	-28.29	-29.80	60.90	62.41
	6	11280.00	28.38	13.66	-4.72	-	-	-	-	-	-
	7	13160.00	33.20	13.27	-9.93	-	-	-	-	-	-
810	2	3819.60	13.76	9.73	5.97	-45.03	-45.30	-17.63	-17.30	50.24	49.91
	3	5729.40	17.34	11.55	4.21	-63.89	-63.55	-31.08	-31.08	63.69	63.69
	4	7639.20	21.14	11.44	0.30	-64.43	-65.71	-27.22	-29.69	59.83	62.30
	5	9549.00	26.03	12.17	-3.86	-66.77	-68.41	-27.09	-29.99	59.70	62.60
	6	11458.80	28.52	13.66	-4.86	-	-	-	-	-	-
	7	13368.60	32.87	13.27	-9.60	-	-	-	-	-	-



## 6.4. Frequency Stability

### 6.4.1. GSM1900 Frequency Stability Table

Operating Frequency : 1,880,000,000 Hz

Channel : 661

Reference Voltage : 3.7VDC

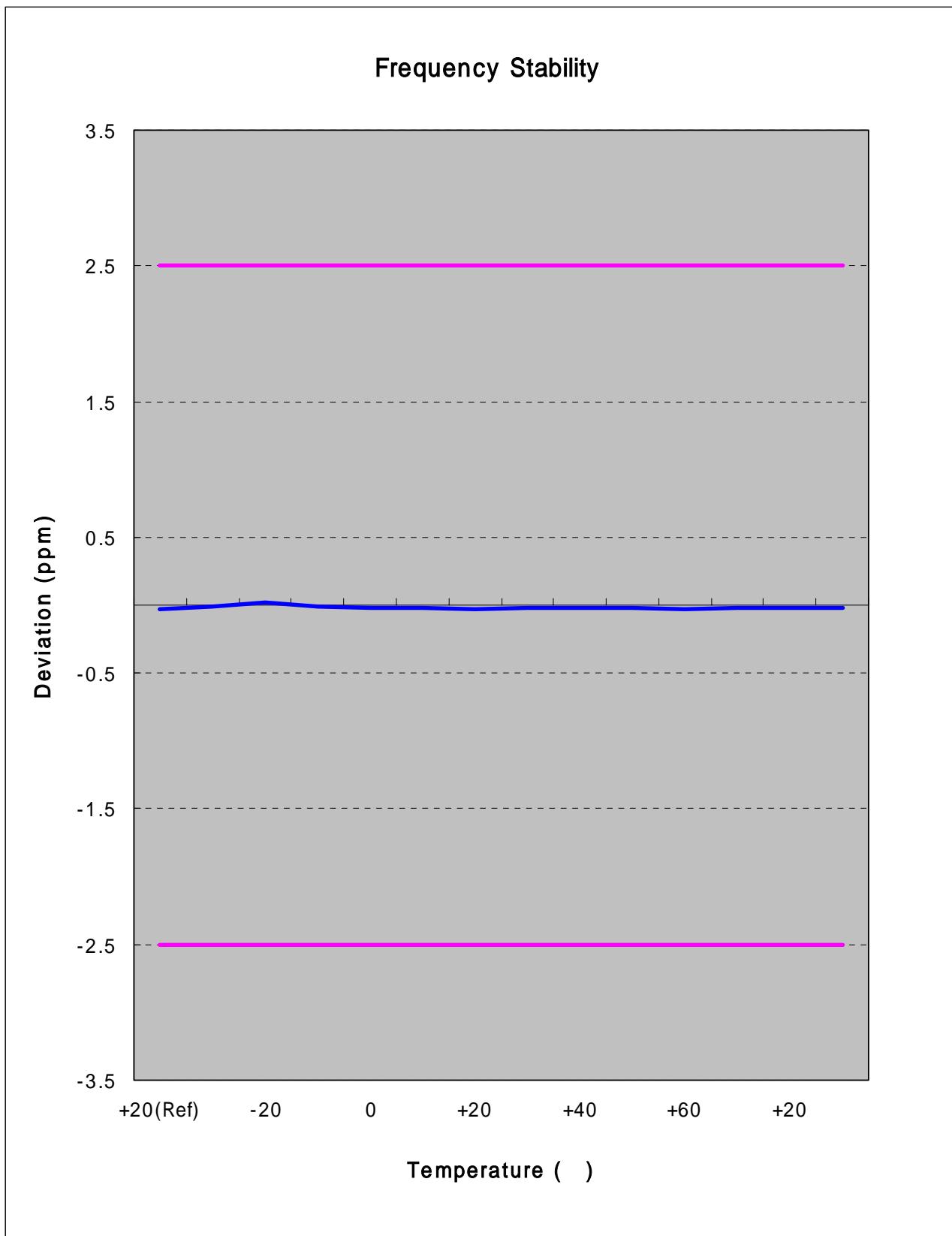
**Deviation Limit : ±0.00025 % or 2.5ppm**

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency Error (Hz)	Frequency (Hz)	Deviation (%)	ppm
100%	3.70	+20(Ref)	-50.59	1,879,999,949	-0.000003	-0.027
100%		-30	-24.38	1,879,999,976	-0.000001	-0.013
100%		-20	46.42	1,880,000,046	0.000002	0.025
100%		-10	-27.07	1,879,999,973	-0.000001	-0.014
100%		0	-36.27	1,879,999,964	-0.000002	-0.019
100%		+10	-44.21	1,879,999,956	-0.000002	-0.024
100%		+20	-50.59	1,879,999,949	-0.000003	-0.027
100%		+30	-38.19	1,879,999,962	-0.000002	-0.020
100%		+40	-44.89	1,879,999,955	-0.000002	-0.024
100%		+50	-38.24	1,879,999,962	-0.000002	-0.020
100%		+60	-51.08	1,879,999,949	-0.000003	-0.027
85%	3.35	+20	-39.90	1,879,999,960	-0.000002	-0.021
115%	4.26	+20	-32.61	1,879,999,967	-0.000002	-0.017
Batt.Endpoint	3.35	+20	-39.90	1,879,999,960	-0.000002	-0.021

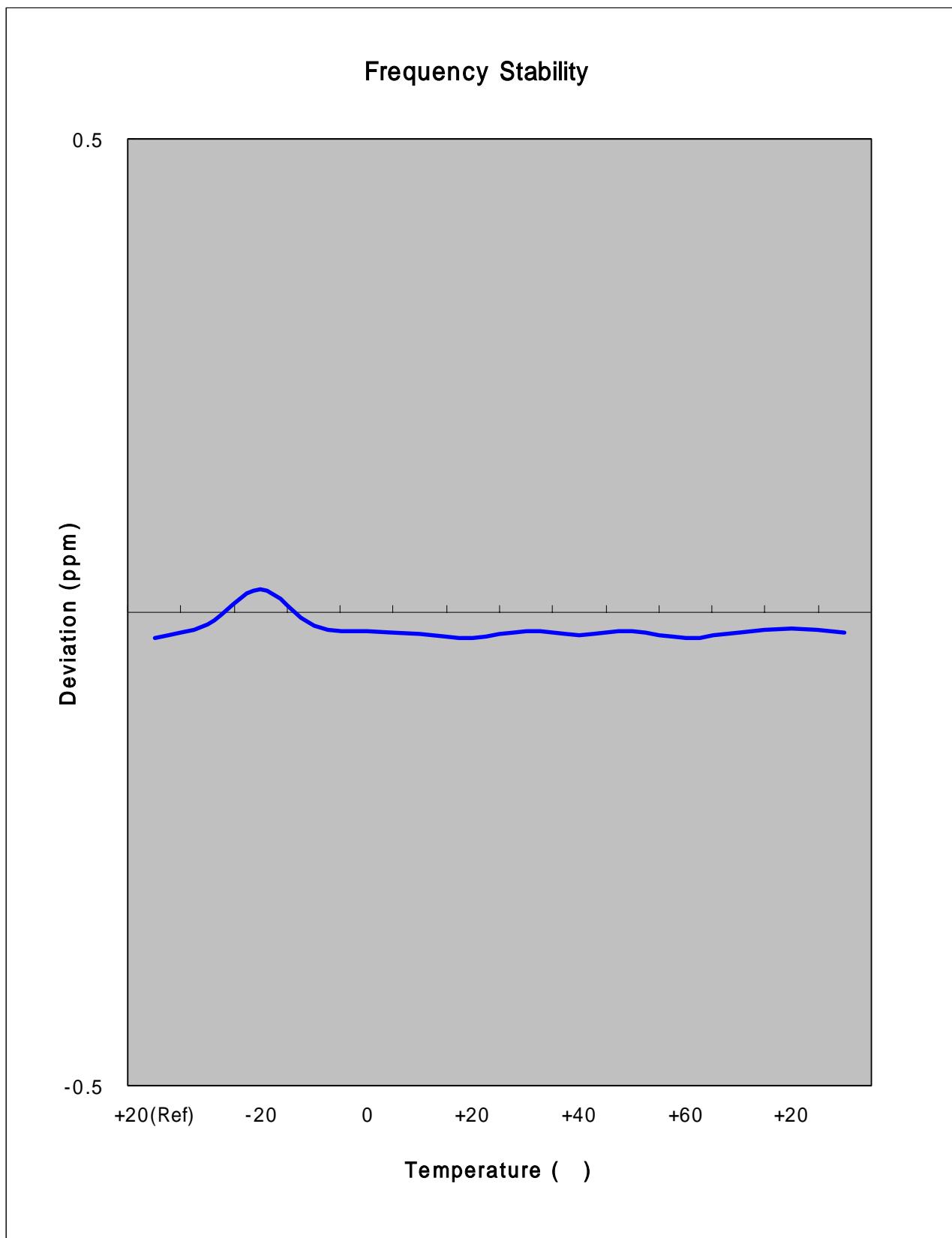
**Note : The temperature is varied from -30 °C to +60 °C using an environmental chamber.**

**The EUT is tested down to the battery end point.**

#### 6.4.2. GSM1900 Frequency Stability Graph



Zoom IN





## 7. CONCLUSION

The data collected shows that the SAMSUNG Single-Band PCS GSM/EDGE Phone with Bluetooth. FCC ID : A3L705SC complies with all the requirements of Parts 2,24 of the FCC Rules.



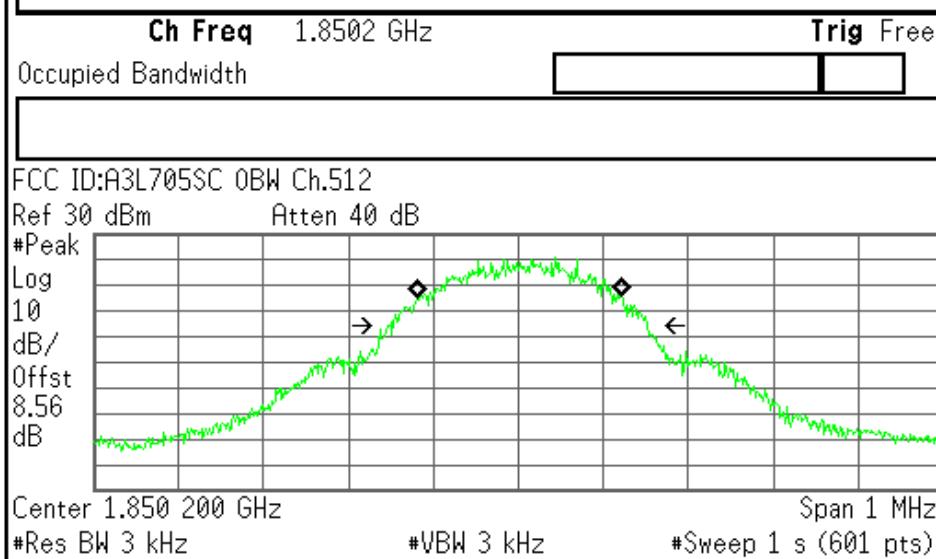
## 8. TEST PLOTS

GSM1900

Agilent

R T

Freq/Channel

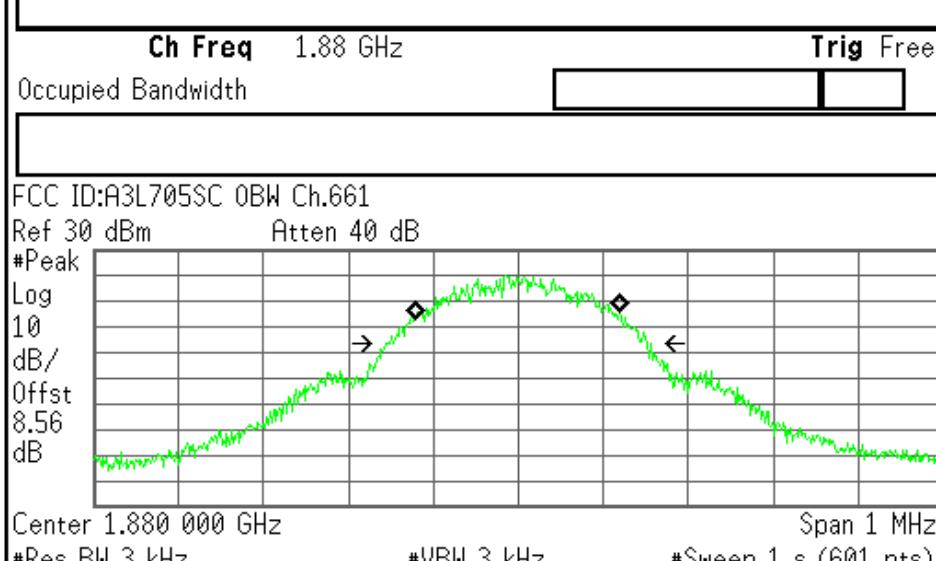
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1.84970000 GHzStop Freq  
1.85070000 GHzCF Step  
100.000000 kHz  
Auto ManFreq Offset  
0.00000000 HzSignal Track  
On Off

File Operation Status, C:\TEMP.GIF file saved

Agilent

R T

Freq/Channel

Center Freq  
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1.87950000 GHzStop Freq  
1.88050000 GHzCF Step  
100.000000 kHz  
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Agilent

R T

Freq/Channel

Center Freq  
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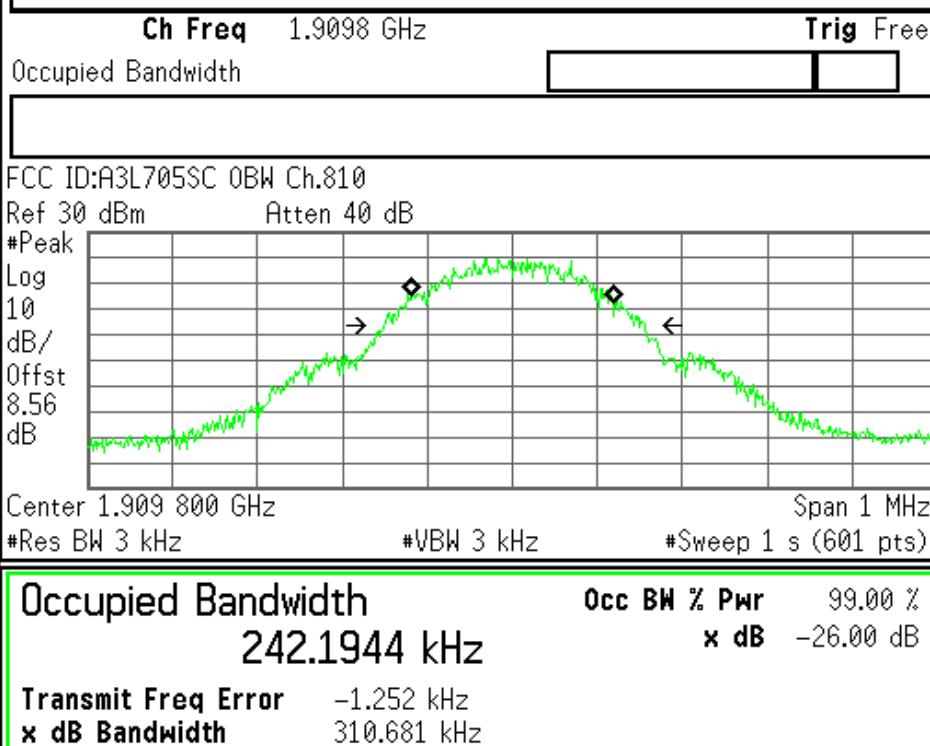
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Stop Freq  
1.91030000 GHz

CF Step  
100.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off



File Operation Status, C:\TEMP.GIF file saved

FCC ID : A3L705SC Transmit Power 512CH

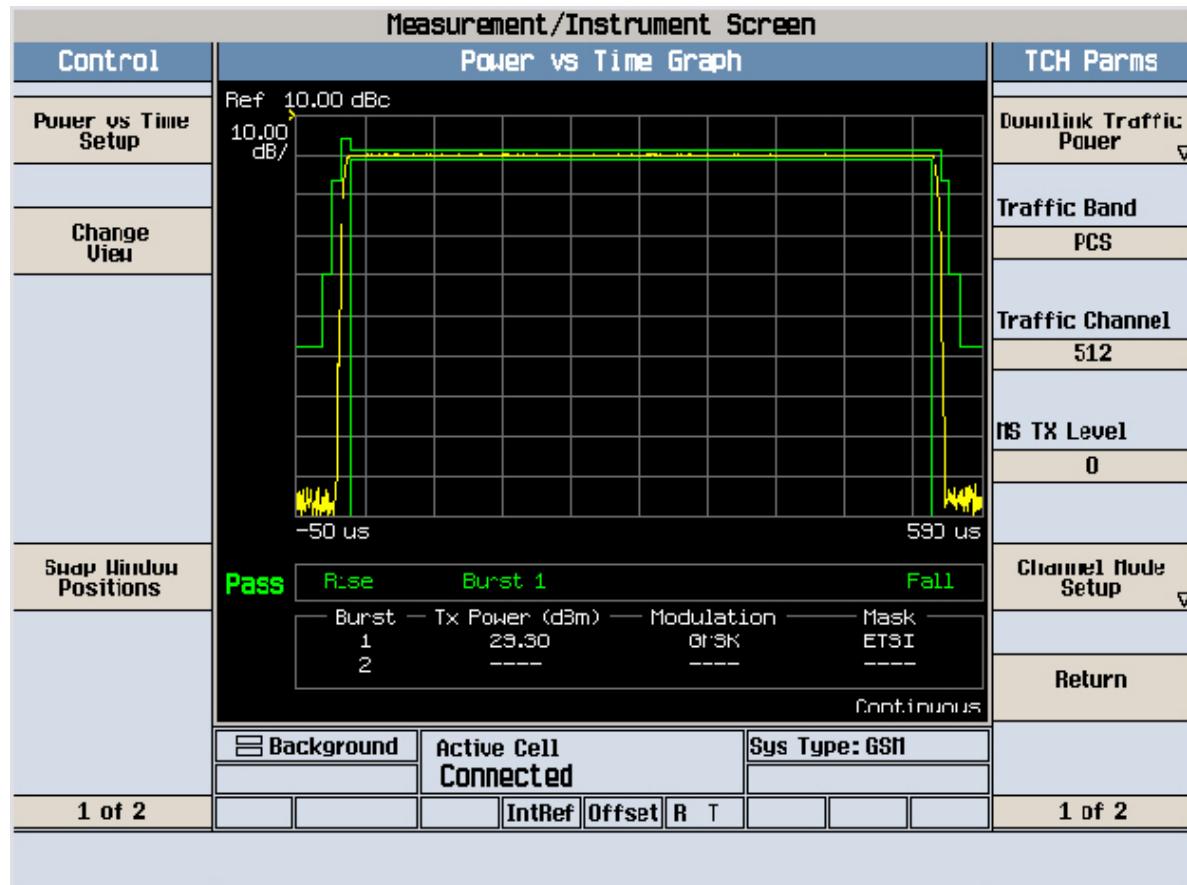
Measurement/Instrument Screen																							
Control	GSM/GPRS Transmit Power		TCHParms																				
GSM/GPRS TX Power Setup	GMSK Transmit Power <b>29.35 dBm</b>		Downlink Traffic Power																				
Swap Handoff Positions	Single		Traffic Band PCS																				
	Phase & Frequency Error		Traffic Channel 512																				
	<table border="1"><thead><tr><th></th><th>Peak Phase °</th><th>RMS Phase °</th><th>Frequency Hz</th></tr></thead><tbody><tr><td>Minimum</td><td>3.78</td><td>1.53</td><td>2.02</td></tr><tr><td>Maximum</td><td>7.03</td><td>2.14</td><td>23.75</td></tr><tr><td>Average</td><td>5.24</td><td>1.85</td><td>15.92</td></tr><tr><td>Pass/Fail</td><td>Pass</td><td>Pass</td><td>Pass</td></tr></tbody></table>			Peak Phase °	RMS Phase °	Frequency Hz	Minimum	3.78	1.53	2.02	Maximum	7.03	2.14	23.75	Average	5.24	1.85	15.92	Pass/Fail	Pass	Pass	Pass	RS TX Level 0
	Peak Phase °	RMS Phase °	Frequency Hz																				
Minimum	3.78	1.53	2.02																				
Maximum	7.03	2.14	23.75																				
Average	5.24	1.85	15.92																				
Pass/Fail	Pass	Pass	Pass																				
1 of 2	50 / 50 Active Cell Connected Sys Type: GSM		Channel Mode Setup																				
	Continuous		Return																				
	IntRef Offset R T		1 of 2																				

FCC ID : A3L705SC Transmit Power 661CH

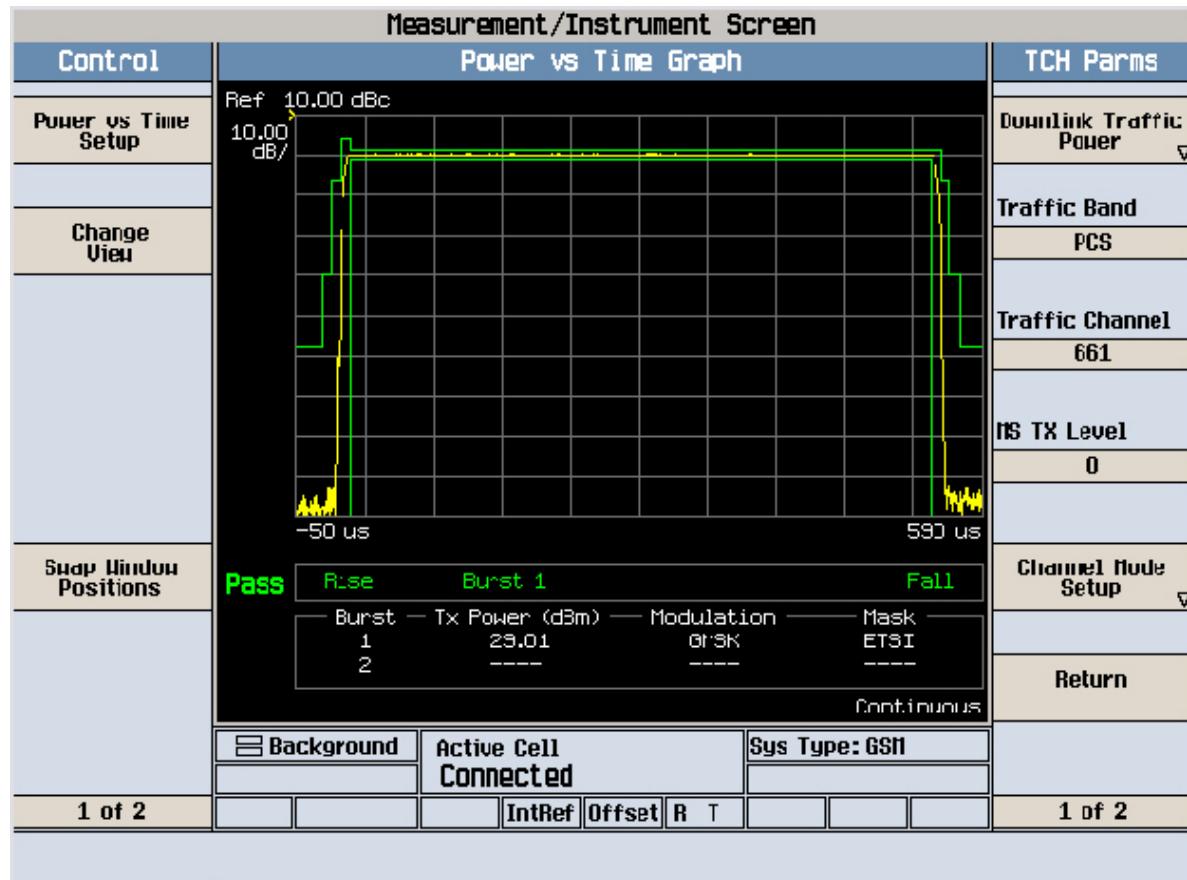
FCC ID : A3L705SC Transmit Power 810CH

Measurement/Instrument Screen																											
Control	GSM/GPRS Transmit Power						TCHParms																				
GSM/GPRS TX Power Setup ▾	<b>GMSK Transmit Power</b> <b>28.95 dBm</b>						DownLink Traffic Power																				
Change View							Traffic Band PCS																				
Swap Handset Positions							Traffic Channel 810																				
	<b>Phase &amp; Frequency Error</b>						NS TX Level 0																				
	<table border="1"> <thead> <tr> <th></th><th>Peak Phase °</th><th>RMS Phase °</th><th>Frequency Hz</th></tr> </thead> <tbody> <tr> <td>Minimum</td><td>5.77</td><td>2.22</td><td>-1.14</td></tr> <tr> <td>Maximum</td><td>9.62</td><td>3.08</td><td>29.21</td></tr> <tr> <td>Average</td><td>7.32</td><td>2.64</td><td>12.67</td></tr> <tr> <td>Pass/Fail</td><td>Pass</td><td>Pass</td><td>Pass</td></tr> </tbody> </table>							Peak Phase °	RMS Phase °	Frequency Hz	Minimum	5.77	2.22	-1.14	Maximum	9.62	3.08	29.21	Average	7.32	2.64	12.67	Pass/Fail	Pass	Pass	Pass	Channel Mode Setup ▾
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Pass/Fail	Pass	Pass	Pass																								
	50 / 50      Continuous						Return																				
1 of 2			<b>Active Cell Connected</b>			<b>Sys Type: GSM</b>																					
1 of 2	IntRef	Offset	RL																								

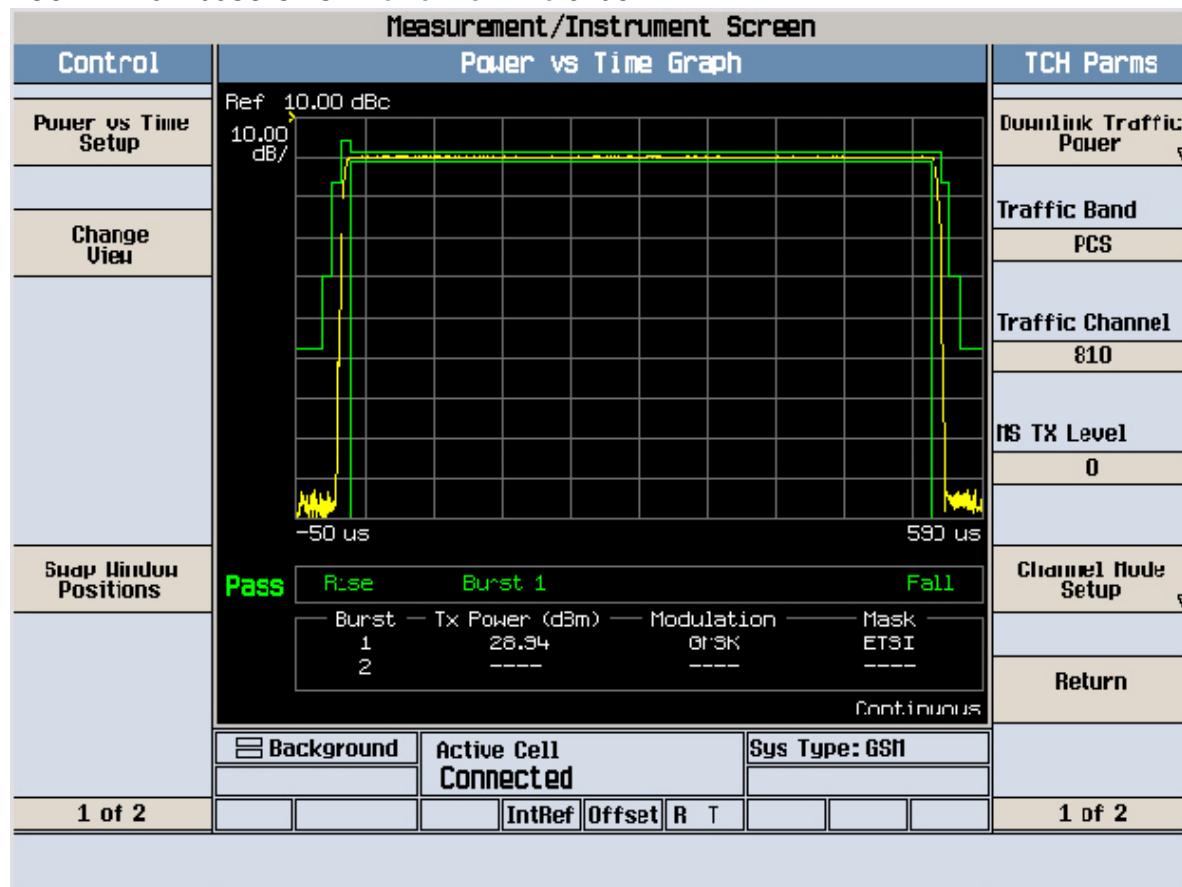
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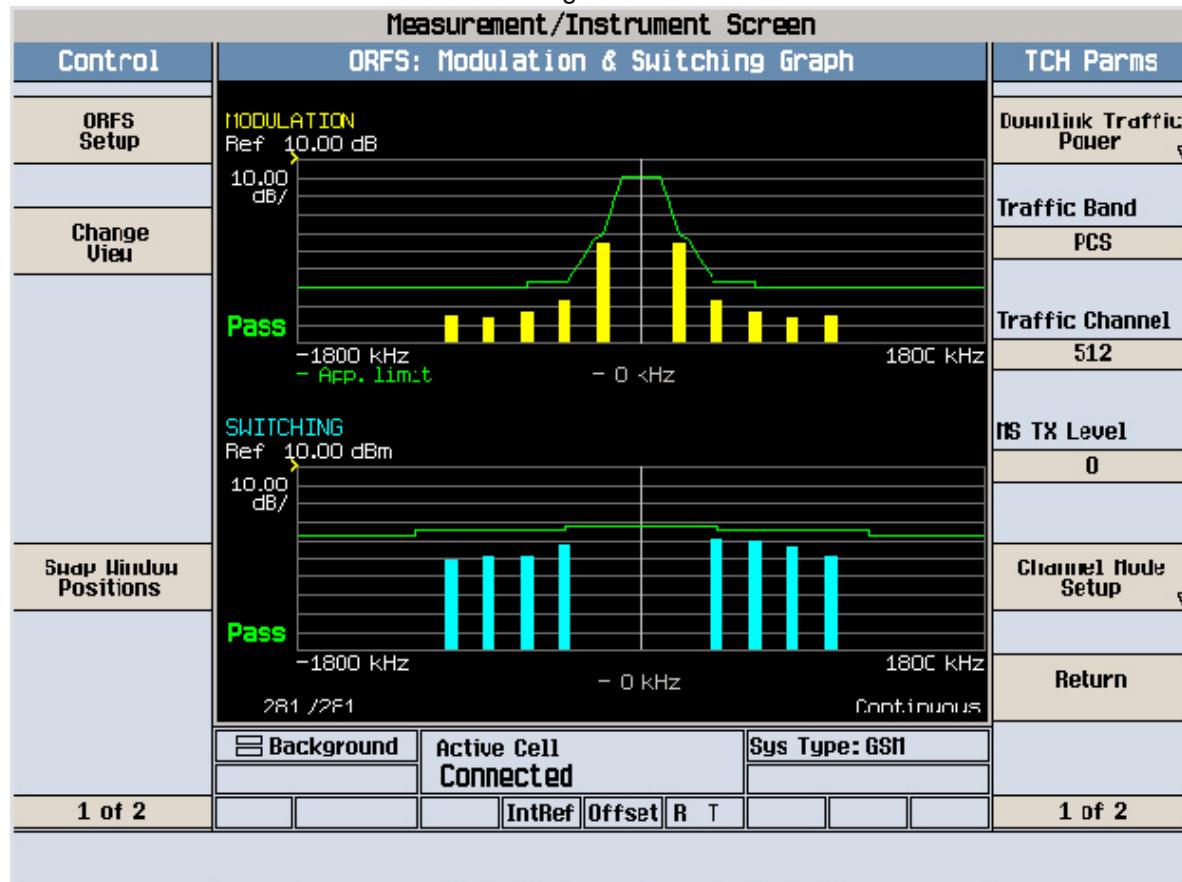
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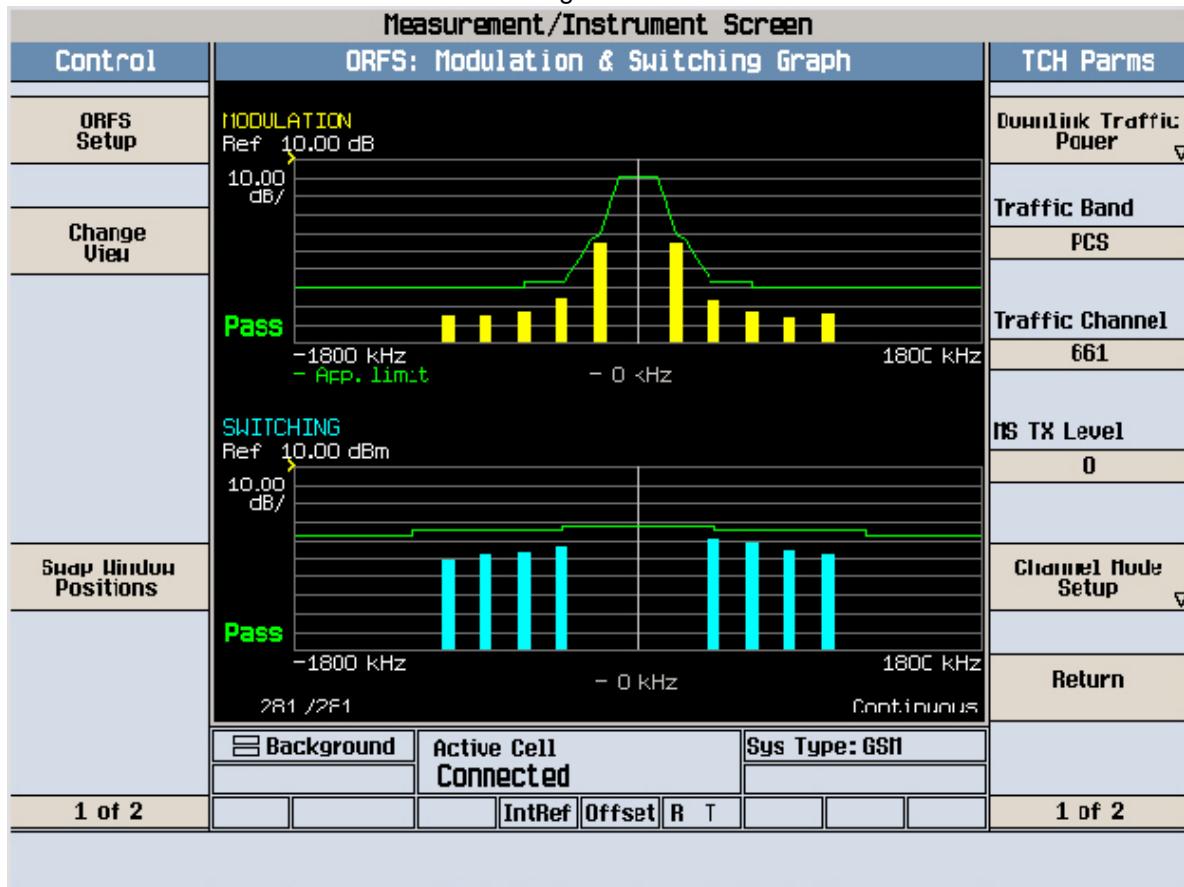
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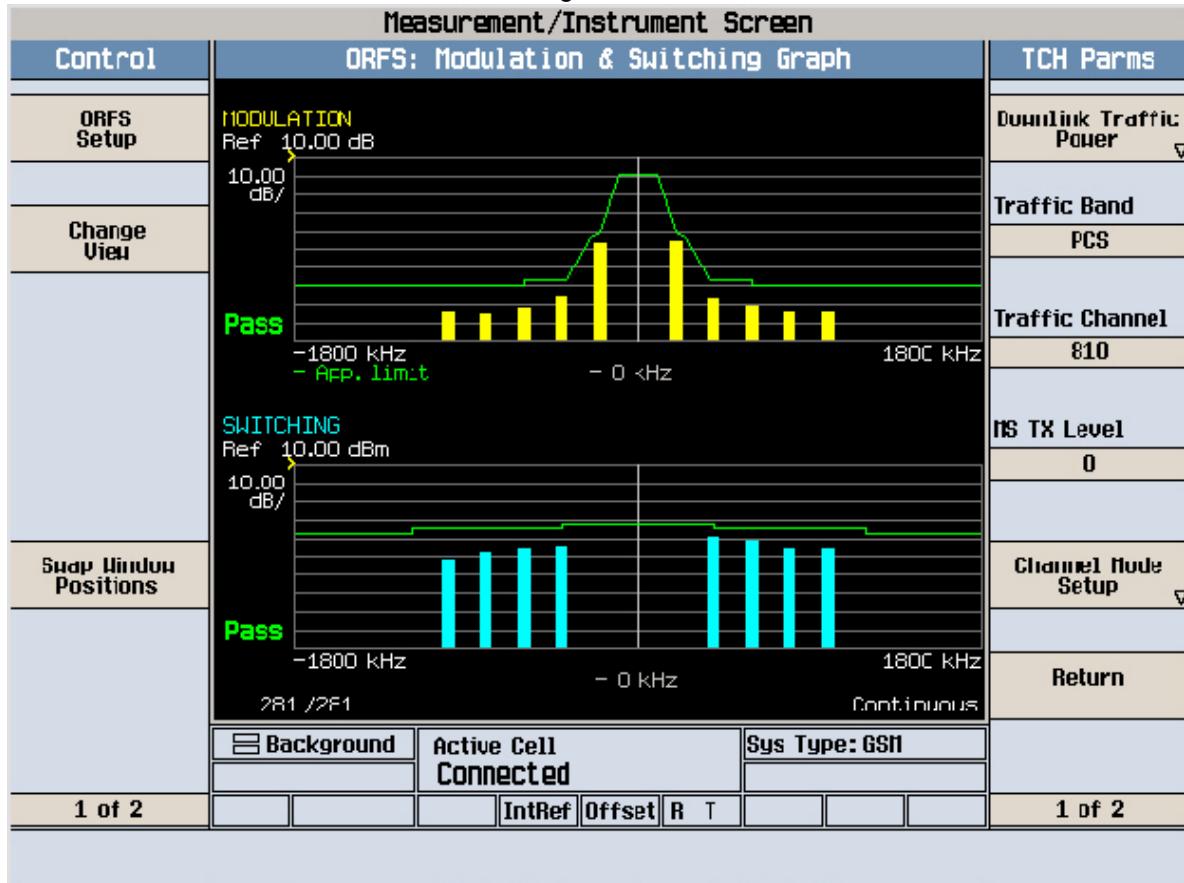
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FCC ID : A3L705SC Modulation & Switching 661CH



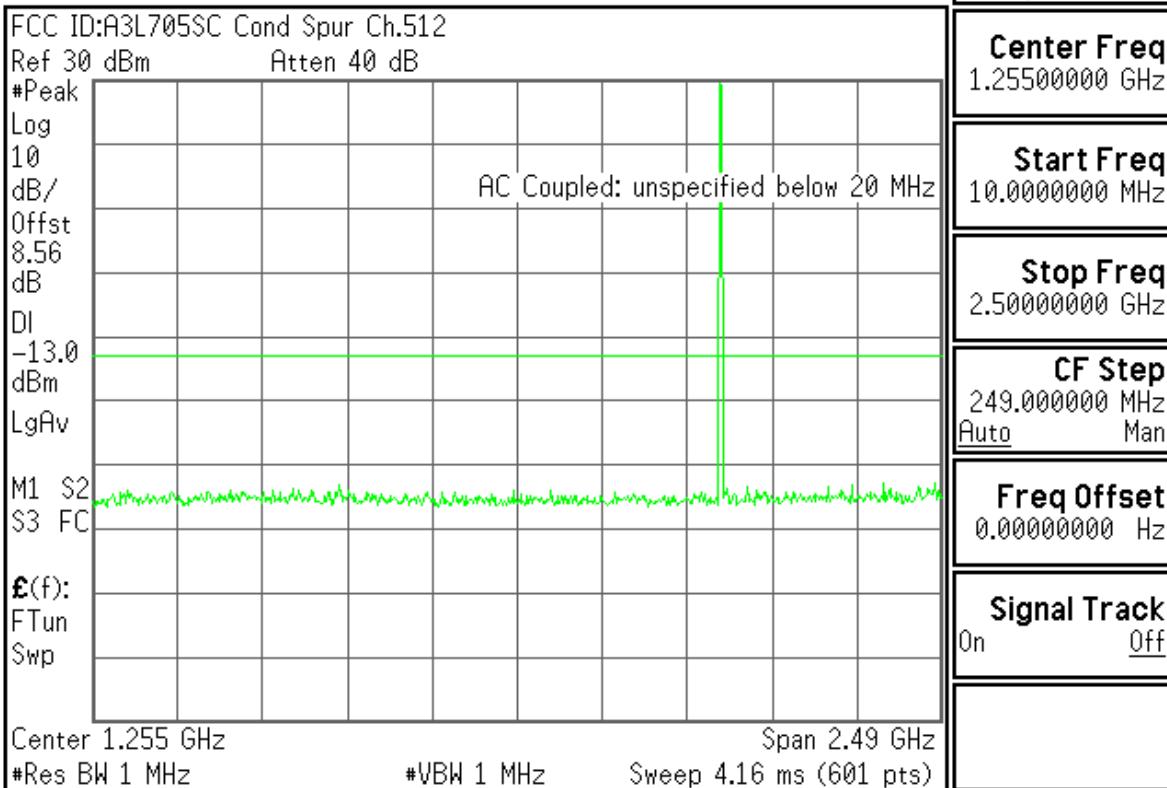
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 Agilent

R L

Freq/Channel

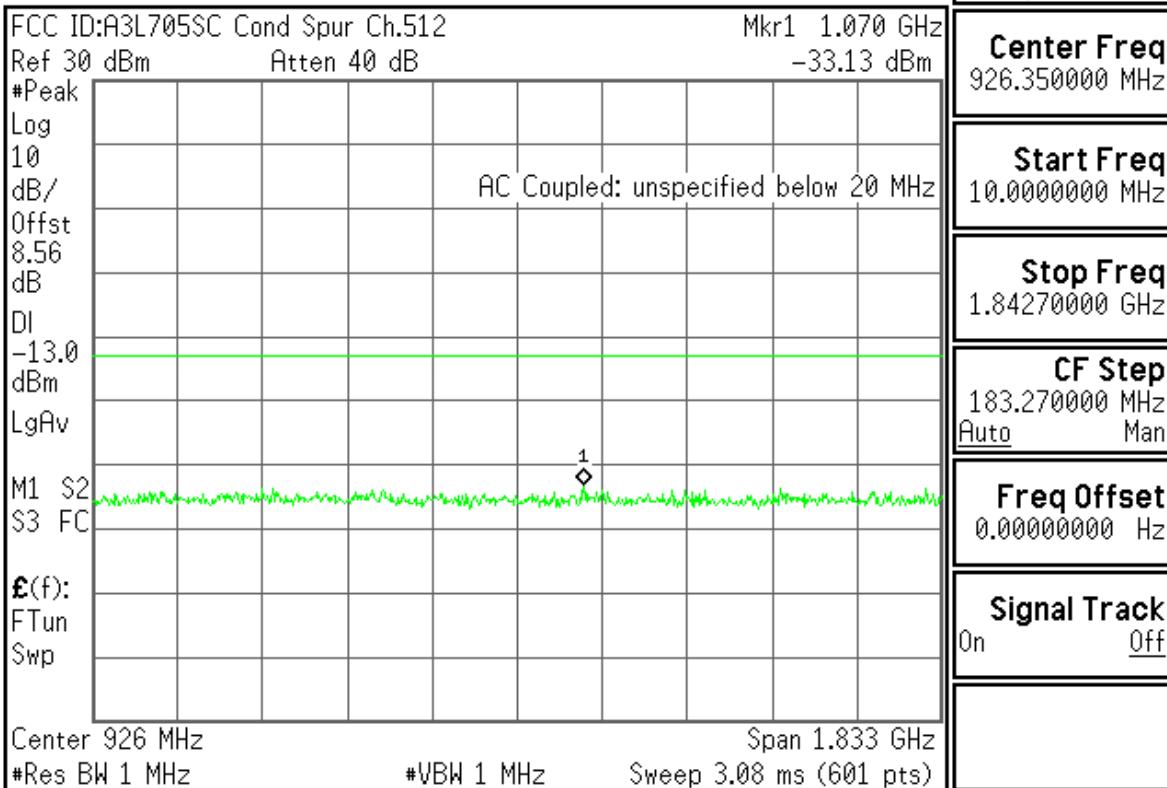


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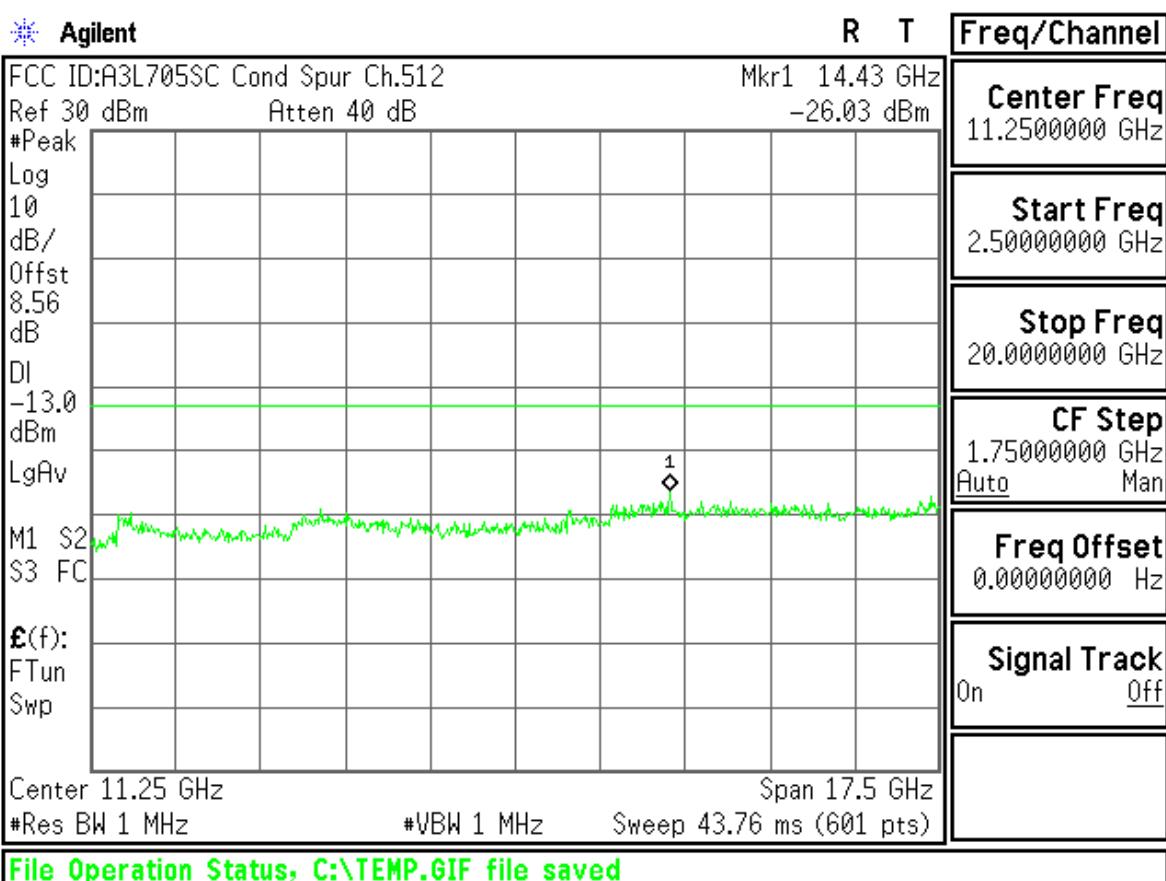
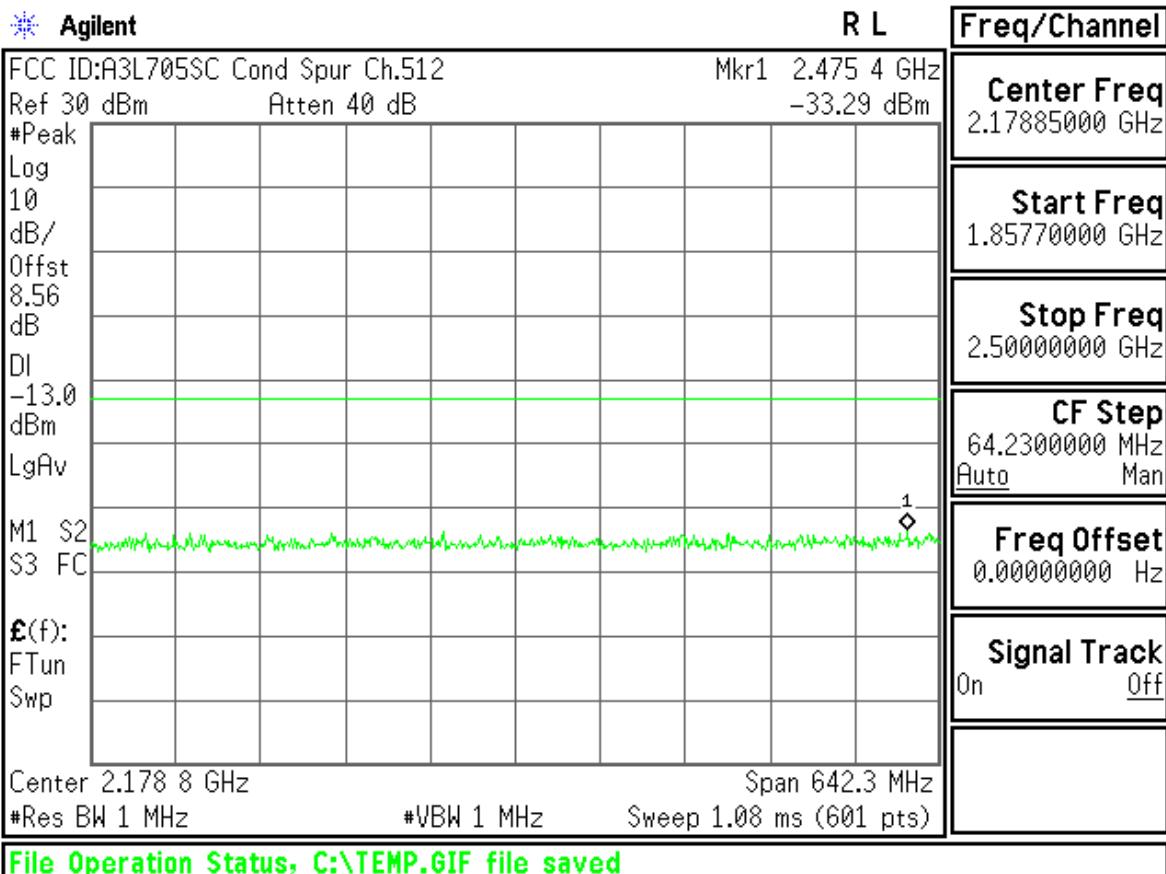
 Agilent

R L

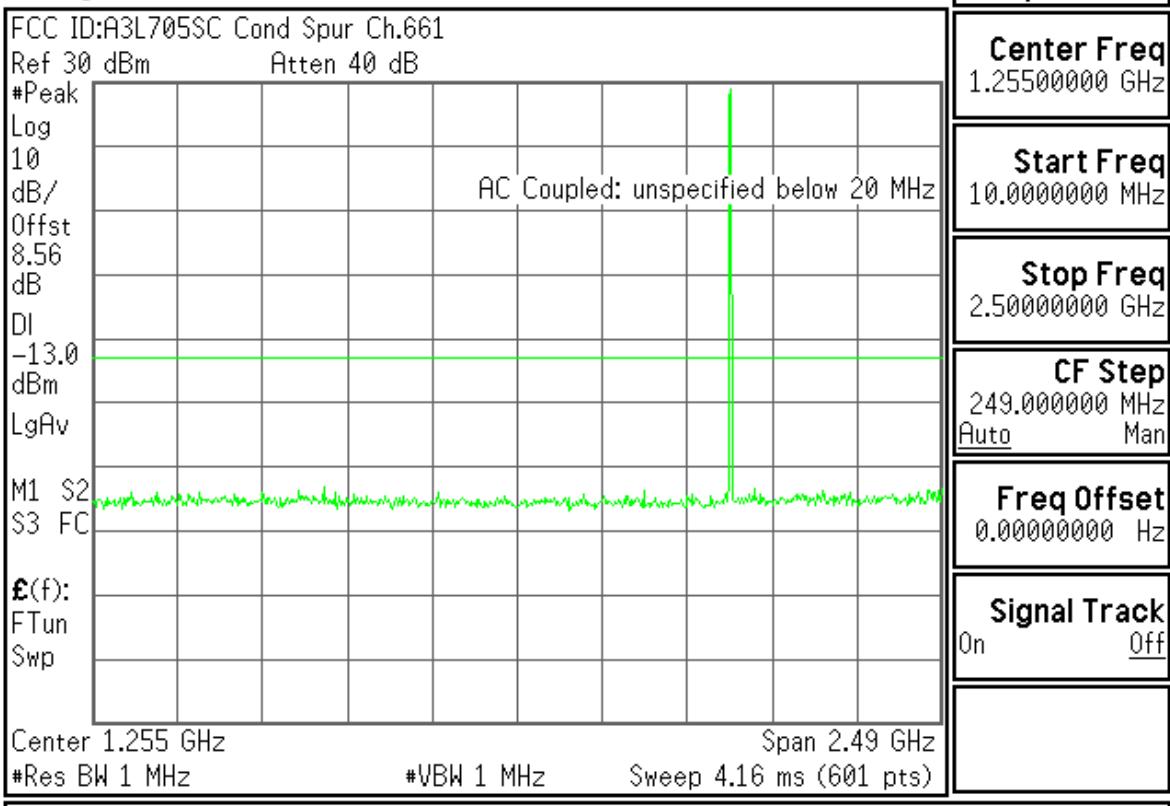
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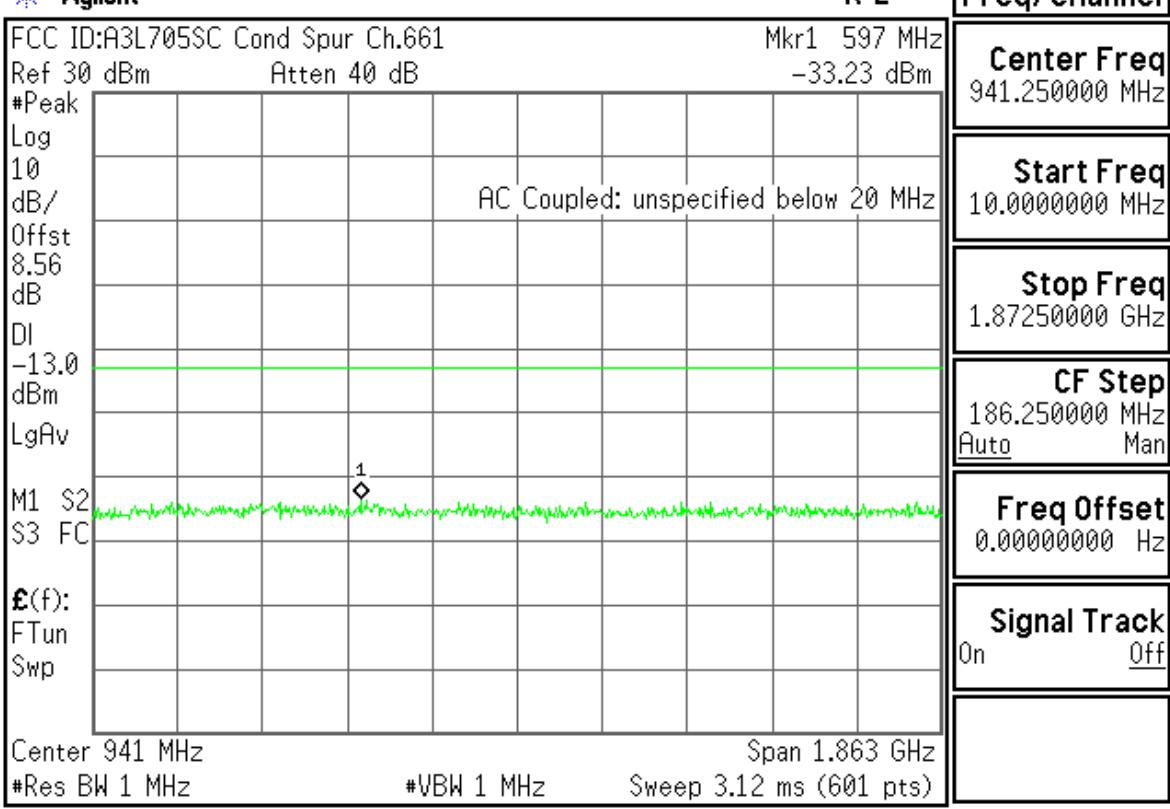
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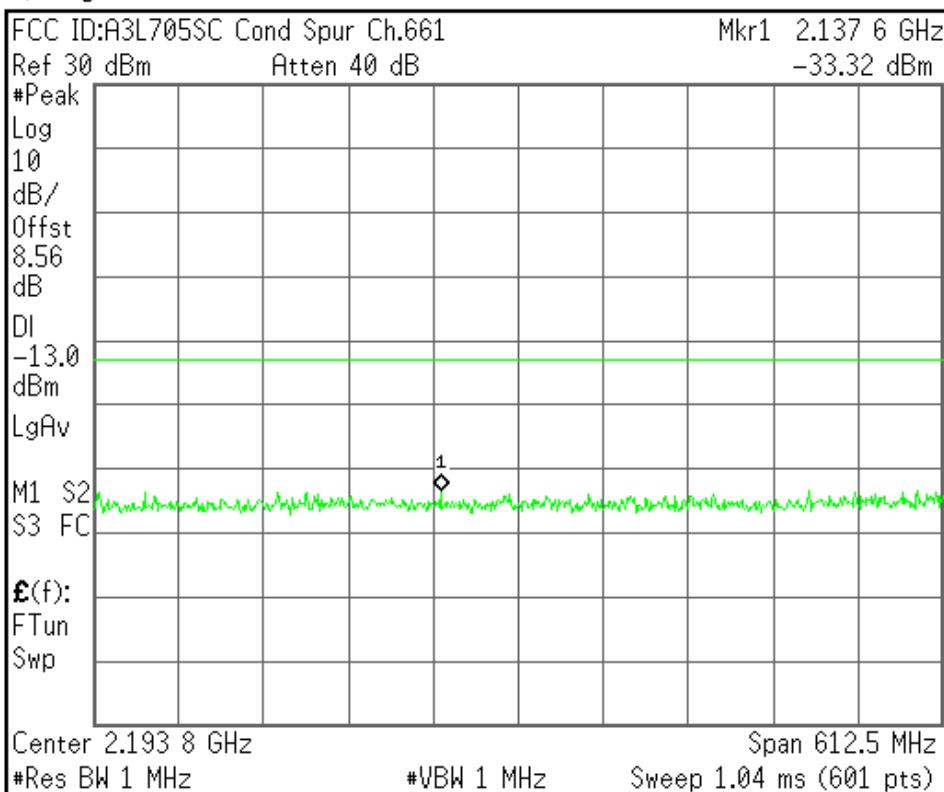
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\* Agilent

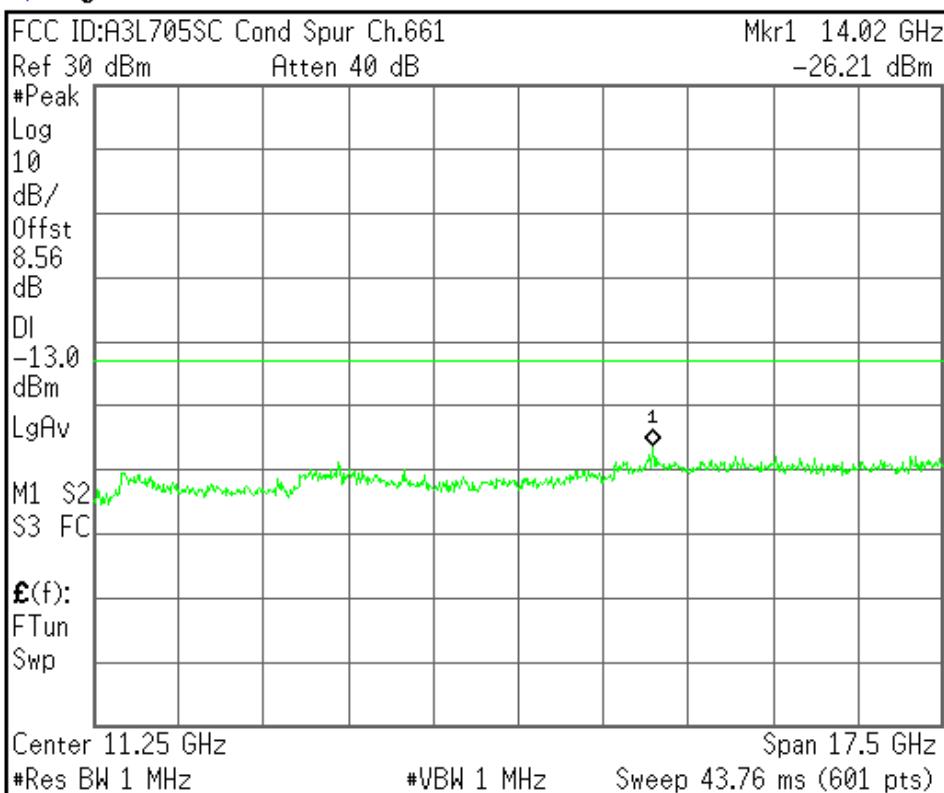


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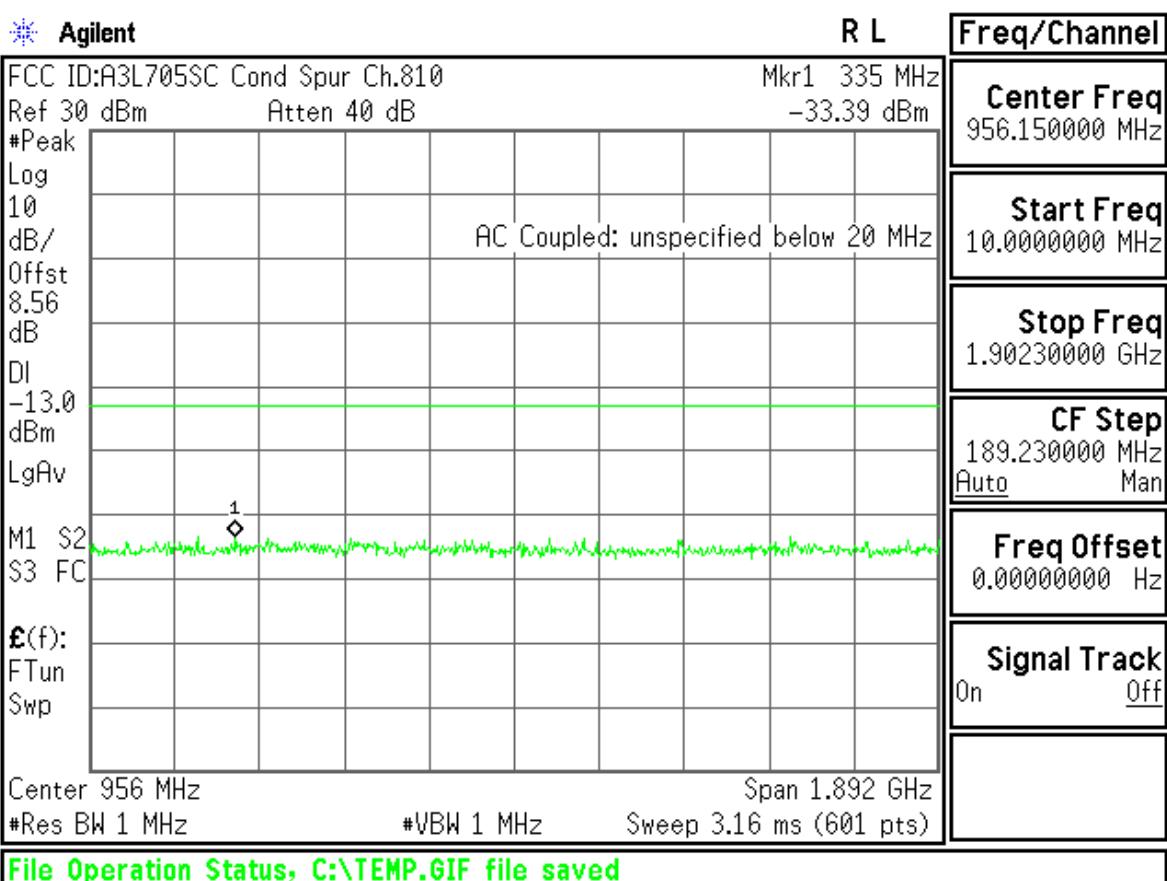
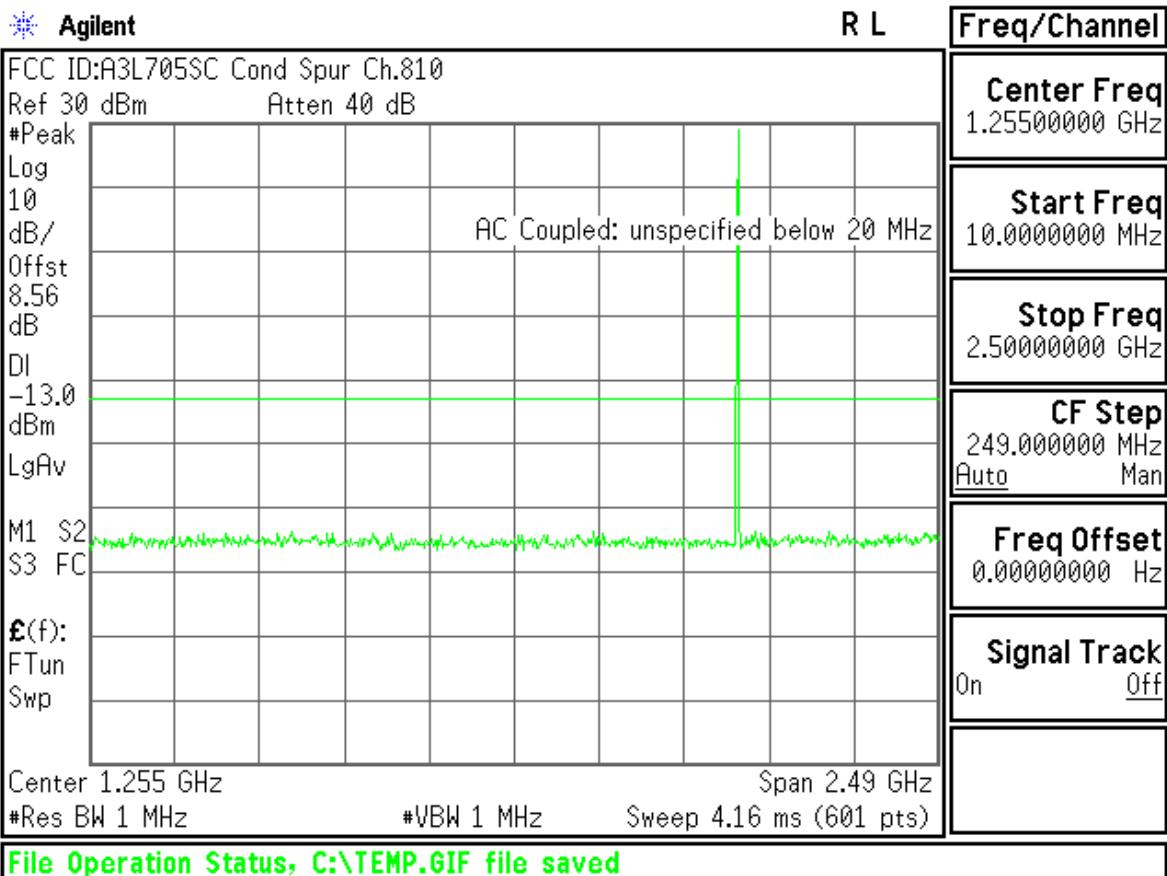


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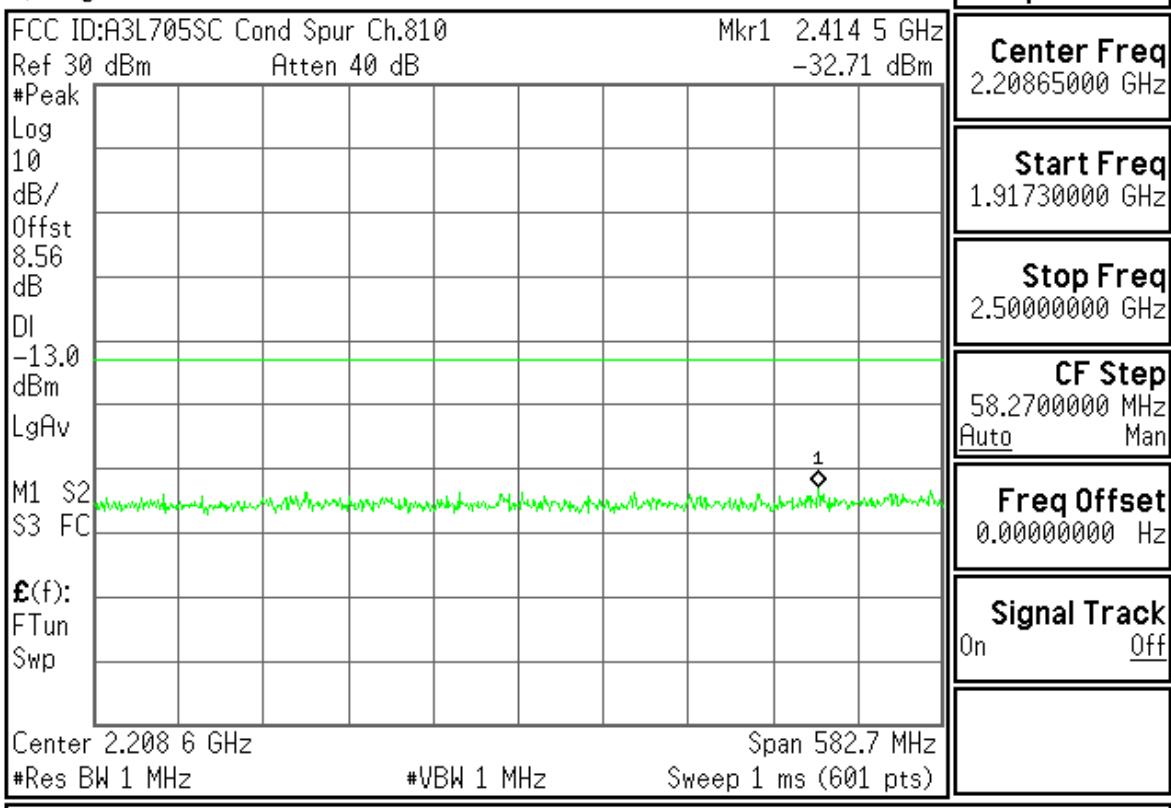
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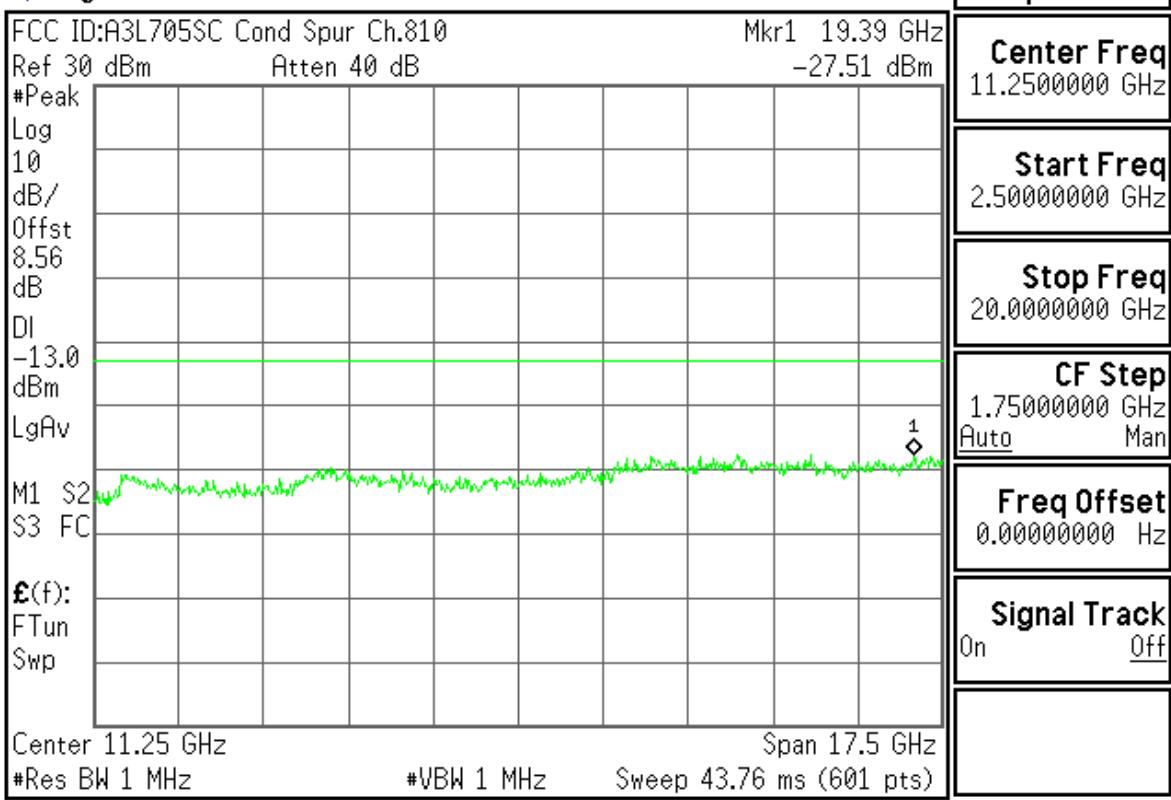


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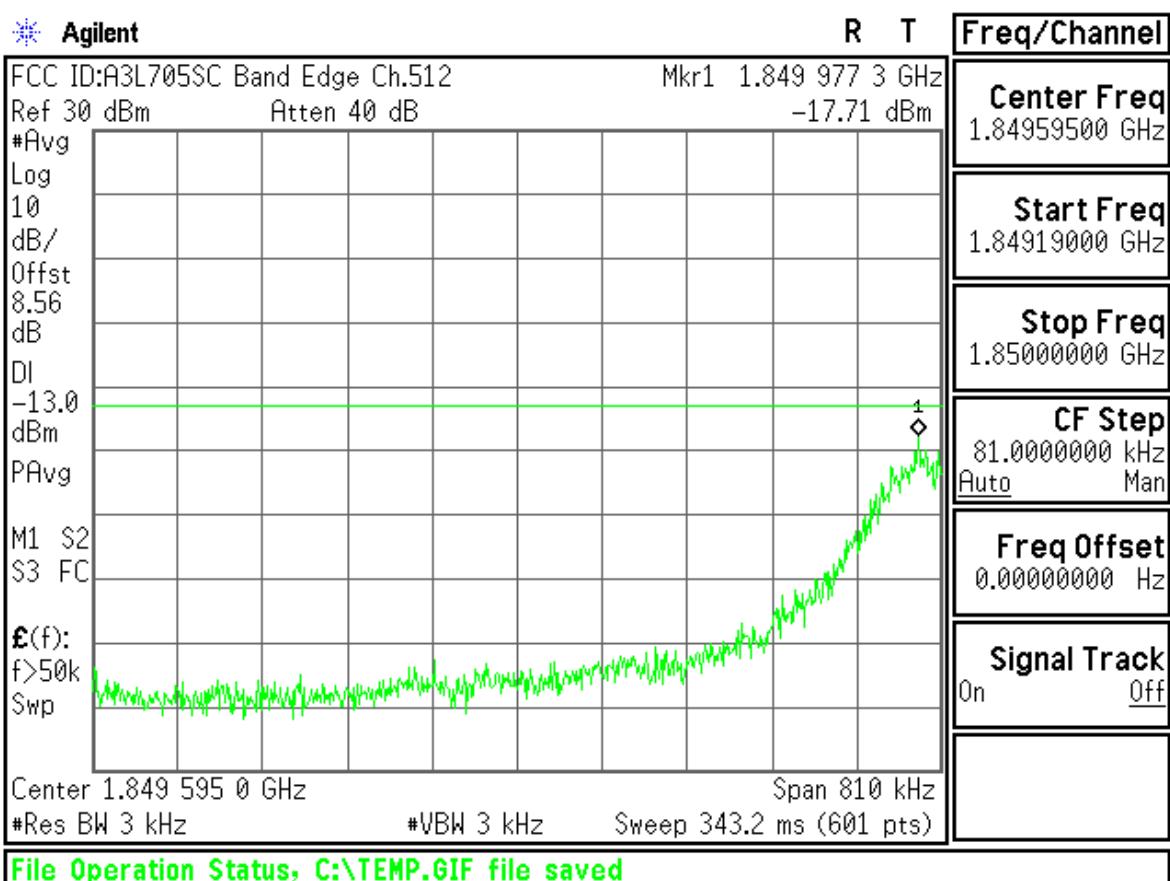
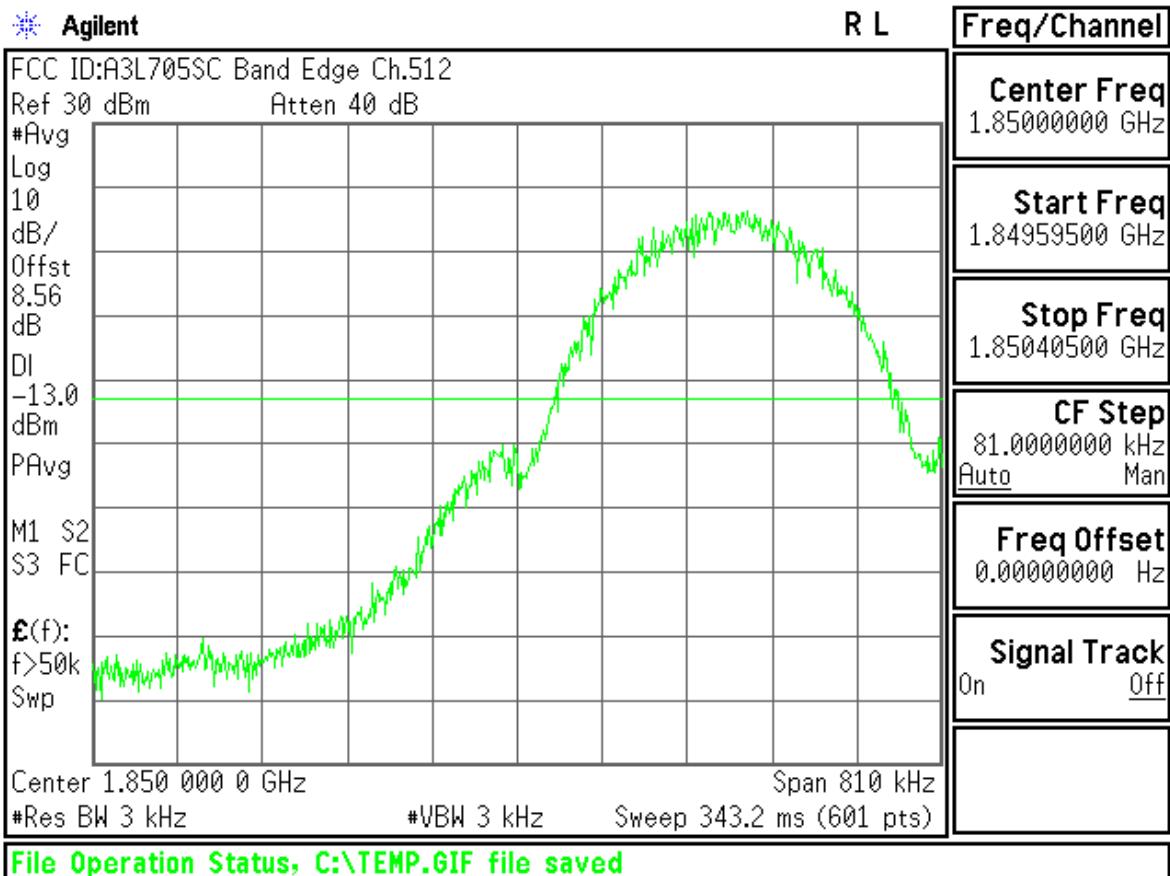


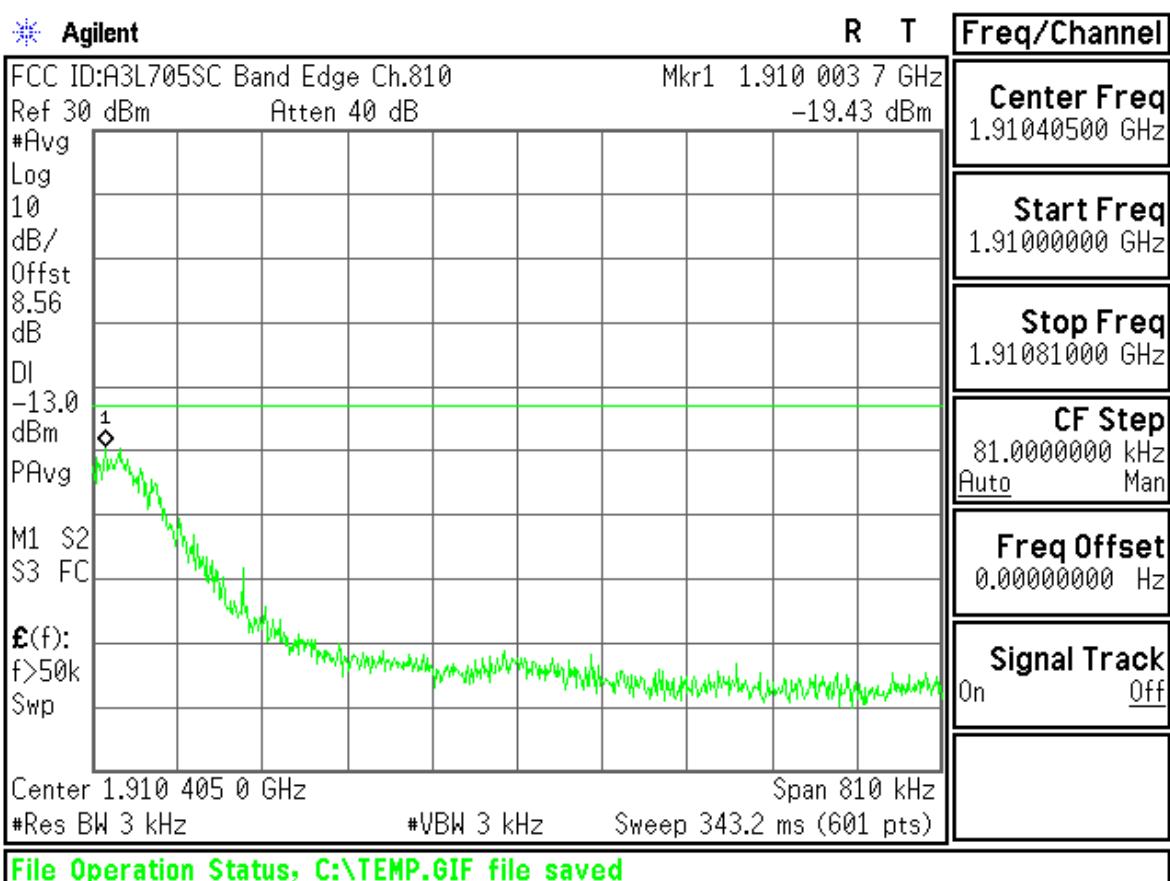
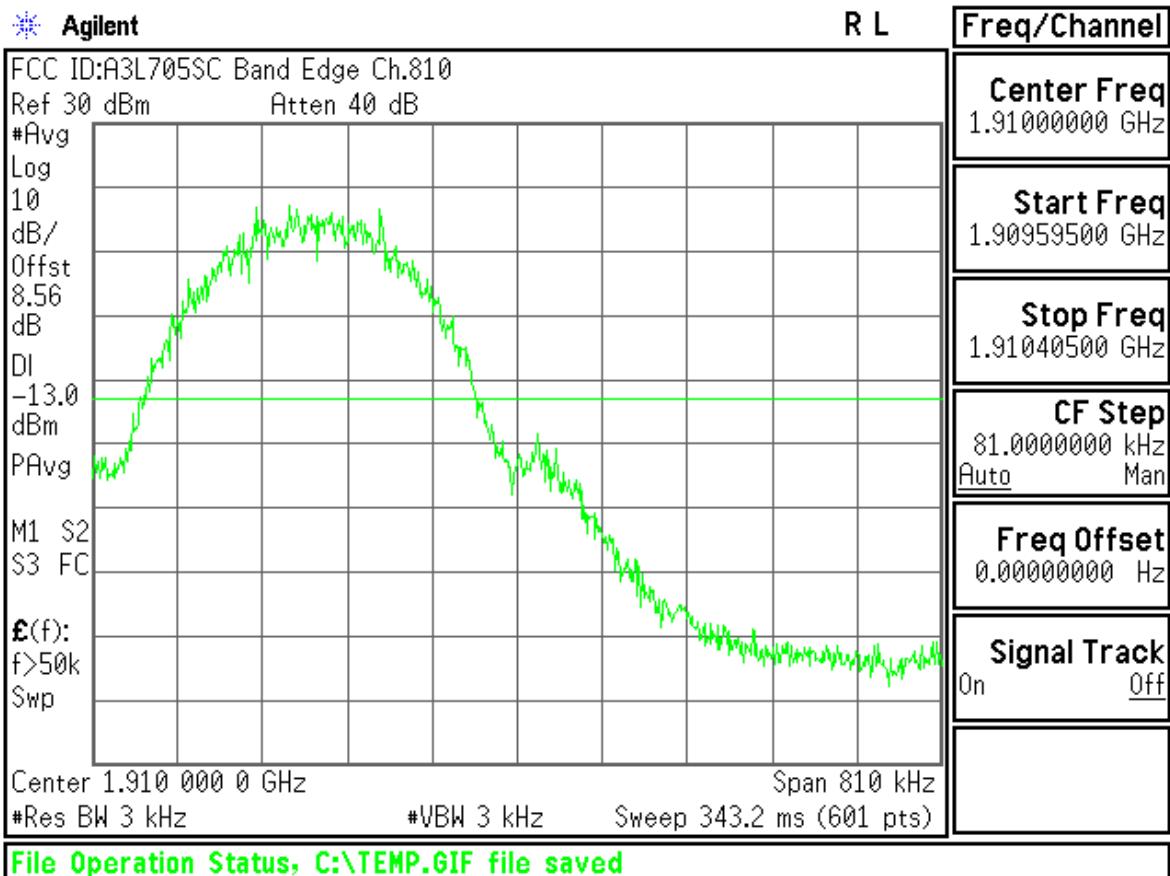
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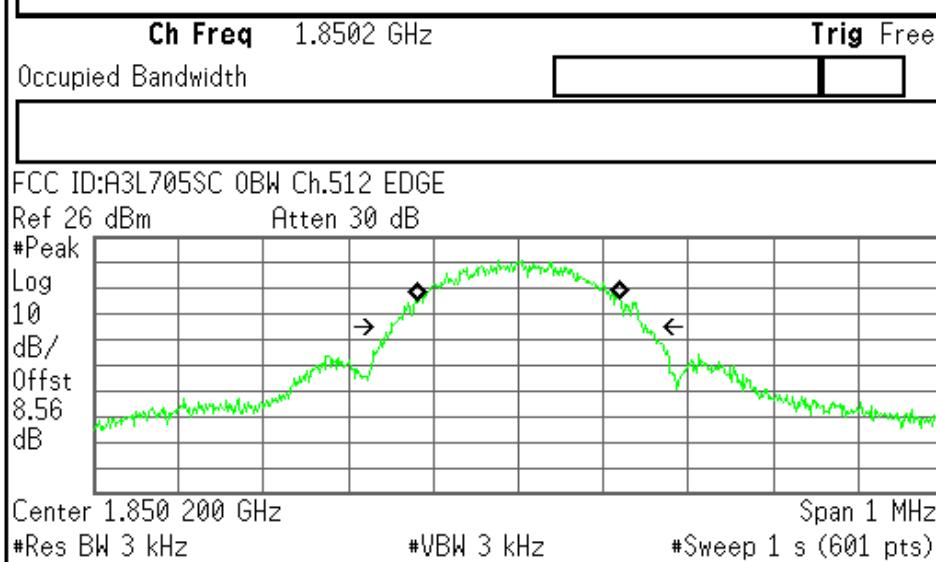


EDGE1900

Agilent

R T

Freq/Channel

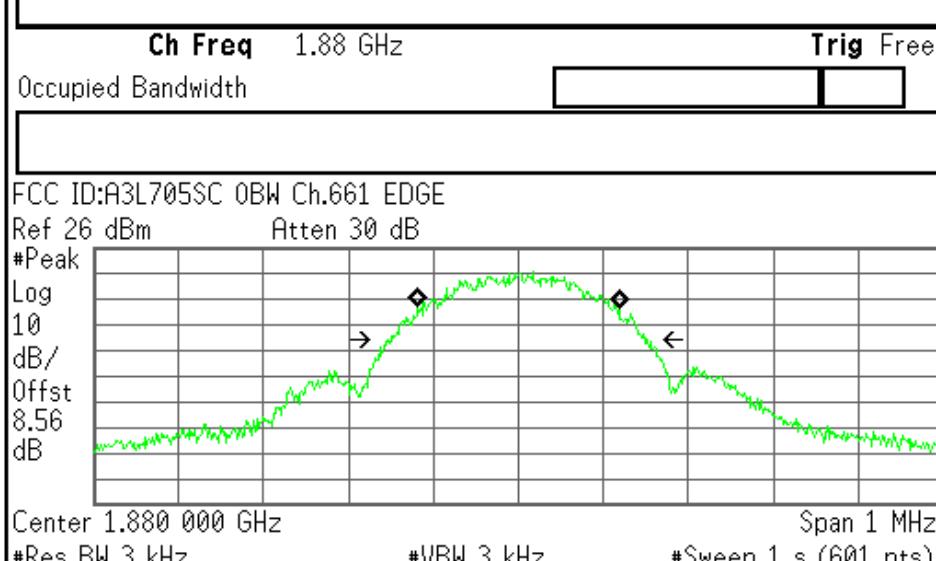
Center Freq  
1.85020000 GHzStart Freq  
1.84970000 GHzStop Freq  
1.85070000 GHzCF Step  
100.000000 kHz  
Auto ManFreq Offset  
0.00000000 HzSignal Track  
On Off

File Operation Status, C:\TEMP.GIF file saved

Agilent

R T

Freq/Channel

Center Freq  
1.88000000 GHzStart Freq  
1.87950000 GHzStop Freq  
1.88050000 GHzCF Step  
100.000000 kHz  
Auto ManFreq Offset  
0.00000000 HzSignal Track  
On Off

Occupied Bandwidth	239.4670 kHz	Occ BW % Pwr	99.00 %
x dB Bandwidth	307.600 kHz	x dB	-26.00 dB

File Operation Status, C:\TEMP.GIF file saved

Agilent

R T

Freq/Channel

Center Freq  
1.90980000 GHz

Start Freq  
1.90930000 GHz

Stop Freq  
1.91030000 GHz

CF Step  
100.000000 kHz  
Auto Man

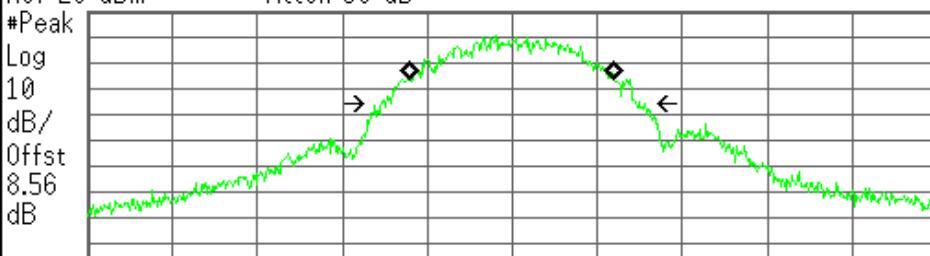
Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Ch Freq 1.9098 GHz  
Occupied Bandwidth

Trig Free

FCC ID:A3L705SC 0BW Ch.810 EDGE  
Ref 26 dBm Atten 30 dB



Occupied Bandwidth 244.9310 kHz  
Transmit Freq Error -728.141 Hz  
x dB Bandwidth 306.726 kHz

Occ BW % Pwr 99.00 %  
x dB -26.00 dB

File Operation Status, C:\TEMP.GIF file saved

ID : A3L705SC Transmit Power 512CH EDGE

Measurement/Instrument Screen

Control	EGPRS Transmit Power		PDTCH Params
EGPRS Transmit Power Setup ▾	EPSK Burst Power <b>25.28 dBm</b>		Downlink Traffic Power ▾
	EPSK Est Carrier Power <b>25.53 dBm</b>		Traffic Band PCS
	Single		Traffic Channel 512
Swap Window Positions			MS TX Level ▾
			Modulation Coding Scheme ▾
			Return
	Background	Active Cell Transferring	Sys Type: EGPRS
1 of 2		IntRef Offset R T	1 of 2

FCC ID : A3L705SC Transmit Power 661CH EDGE

Measurement/Instrument Screen																							
Control	EGPRS Transmit Power								PDTCH Params														
EGPRS Transmit Power Setup ▼	EPSK Burst Power <b>25.18 dBm</b> EPSK Est Carrier Power <b>25.26 dBm</b>								Downlink Traffic Power ▼														
Swap Window Positions	Single								Traffic Band PCS														
1 of 2	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Background</td> <td colspan="3" style="width: 60%;">Active Cell Transferring</td> <td colspan="3" style="width: 20%;">Sys Type: EGPRS</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>								Background	Active Cell Transferring			Sys Type: EGPRS										Traffic Channel 661
Background	Active Cell Transferring			Sys Type: EGPRS																			
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Background	Active Cell Transferring			Sys Type: EGPRS																			
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Background	Active Cell Transferring			Sys Type: EGPRS																			

FCC ID : A3L705SC Transmit Power 810CH EDGE

Measurement/Instrument Screen																							
Control	EGPRS Transmit Power								PDTCH Params														
EGPRS Transmit Power Setup ▼	EPSK Burst Power <b>25.09 dBm</b> EPSK Est Carrier Power <b>25.13 dBm</b>								Downlink Traffic Power ▼														
Swap Window Positions	Single								Traffic Band PCS														
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Background	Active Cell Transferring			Sys Type: EGPRS																			
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Background	Active Cell Transferring			Sys Type: EGPRS																			

