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IT R&D Center
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Yeongtong-gu, Suwon city,
Gyeonggi-Do, Korea 443-742

FCC CFR47 PART 22 & 24 SUBPART CERTIFICATION REPORT

Model Tested : SGH-T101G
FCC ID(Requested) : A3LSGHT101G
Report No : FF-191-R1
Job No : FF-191
Date issued : September 30, 2008

- Abstract -

All measurement reported herein accordance with FCC Rules, 47CFR Part2,
Part22, Part24.

Prepared By

JH WOO – Test Engineer

Authorized By

WT JANG – Technical
Manager



TABLE OF CONTENT

MEASUREMENT REPORT	Page
1. FCC CERTIFICATION INFORMATION	3
1.1. §2.1033 General Information	3
2. INTRODUCTION	4
2.1. General	4
3. MEASURING INSTRUMENT CALIBRATION	5
4. TEST EQUIPMENT LIST	6
5. DESCRIPTION OF TESTS	7
5.1. Effective Radiated Power / Equivalent Isotropic Radiated Power	7
5.2. Radiated Spurious & Harmonic Emission	8
5.3. Peak-Average Ratio	9
5.4. Occupied Bandwidth	10
5.5. Spurious and Harmonic Emission at Antenna Terminal	10
5.5.1. Occupied Bandwidth Emission Limits	10
5.5.2. Conducted Spurious Emission	12
5.6. Frequency Stability / Temperature Variation	13
6. TEST DATA	14
6.1. Effective Radiated Power (E.R.P.)	14
6.2. Equivalent Isotropic Radiated Power (E.I.R.P.)	15
6.3. GSM850 Radiated Spurious & Harmonic measurement	16
6.4. GSM1900 Radiated Spurious & Harmonic measurement	17
6.5. GSM850 Radiated Spurious & Harmonic Conversion Table	18
6.6. GSM1900 Radiated Spurious & Harmonic Conversion Table	19
6.7. Frequency Stability	20
6.7.1. GSM850 Frequency Stability Table	20
6.7.2. GSM850 Frequency Stability Graph	21
6.7.3. GSM1900 Frequency Stability Table	23
6.7.4. GSM1900 Frequency Stability Graph	24
7. CONCLUSION	26
8. TEST PLOTS	27



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 : A3LSGHT101G
- Quantity : Quantity production is planned
- Emission Designators : 257KGXW(GSM850)
251KGXW(GSM1900)
- Tx Freq. Range : 824.2 - 848.8MHz (GSM850)
1850.2MHz - 1909.8MHz (GSM1900)
- Rx Freq. Range : 869.2 - 893.8 MHz (GSM850)
1930.2MHz - 1989.8MHz (GSM1900)
- Max. Power Rating : 0.986 W ERP GSM850 (29.94 dBm)
1.233 W EIRP GSM1900 (30.91 dBm)
- FCC Classification(s) : PCS Licensed Portable Tx Held to Ear (PCE)
- Equipment (EUT) Type : Dual-Band GSM850/1900 Phone
- Frequency Tolerance : $\pm 0.00025\%$ (2.5ppm)
- FCC Rule Part(s) : §24(E), §22(H), §2.
- Dates of Test : September 16-17, 2008
- Place of Test : SAMSUNG Lab,
- Test Report S/N : FF-191-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.

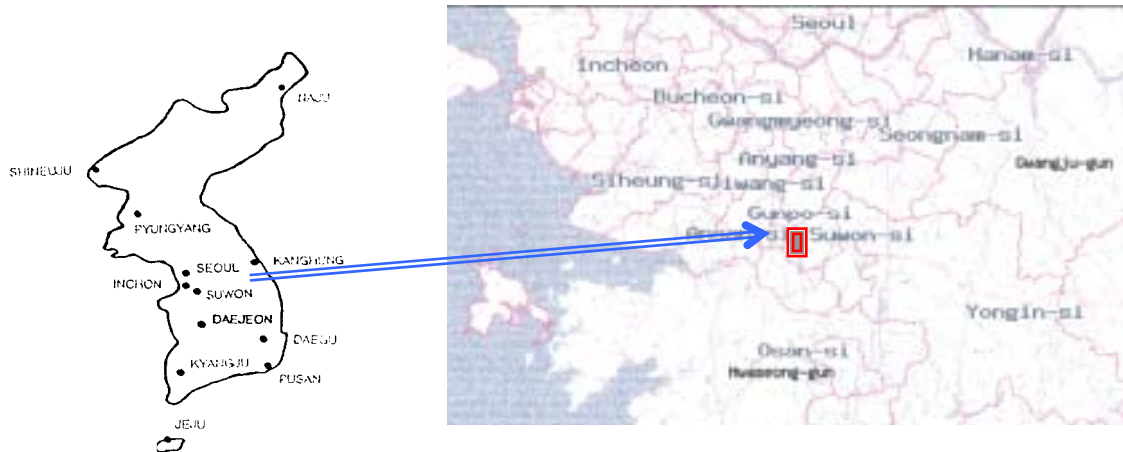


Figure1. Map of the Suwon City area.

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.

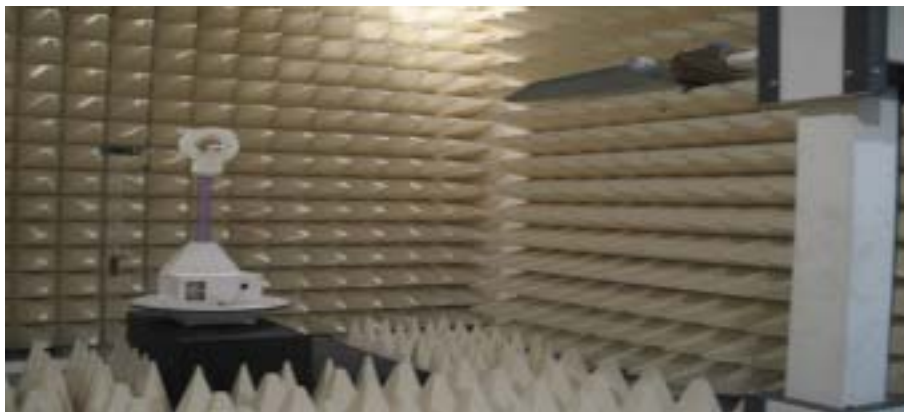


Figure2. Photograph of 3m Fully-Anechoic Chamber



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.



4. TEST EQUIPMENT LIST

Name Of Equipment	Model	Serial No.	Due Date
Spectrum Analyzer	ESI26	836119/010	2008-10-17
	E4440A(3Hz~26.5GHz)	MY46187454	2009-03-03
	E4440A(3Hz~26.5GHz)	MY41000233	2009-07-24
Signal Generator	SMR20	835197/030	2008-12-05
Network Analyzer	8753E	JP38160590	2009-06-20
Power Sensor	8485A	3318A19924	2008-10-01
Power Meter	E4419B	GB41293846	2009-09-12
Pre-Amplifier	8449B	3008A00691	2008-12-24
Communication test set	8960	MY47510060	2009-03-03
	8960	GB42230535	2009-01-02
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
Dipole Antenna	UHA 9105	9105-2412	2009-11-07
Communication test set	CMU200	109162	2008-10-17
Receive Antenna	HL040	353255/019	2009-10-29
Power Supply	E3640A	MY40003594	2009-06-20
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
Environmental Chamber	SH-241	92000549	2008-11-15
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 output Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004

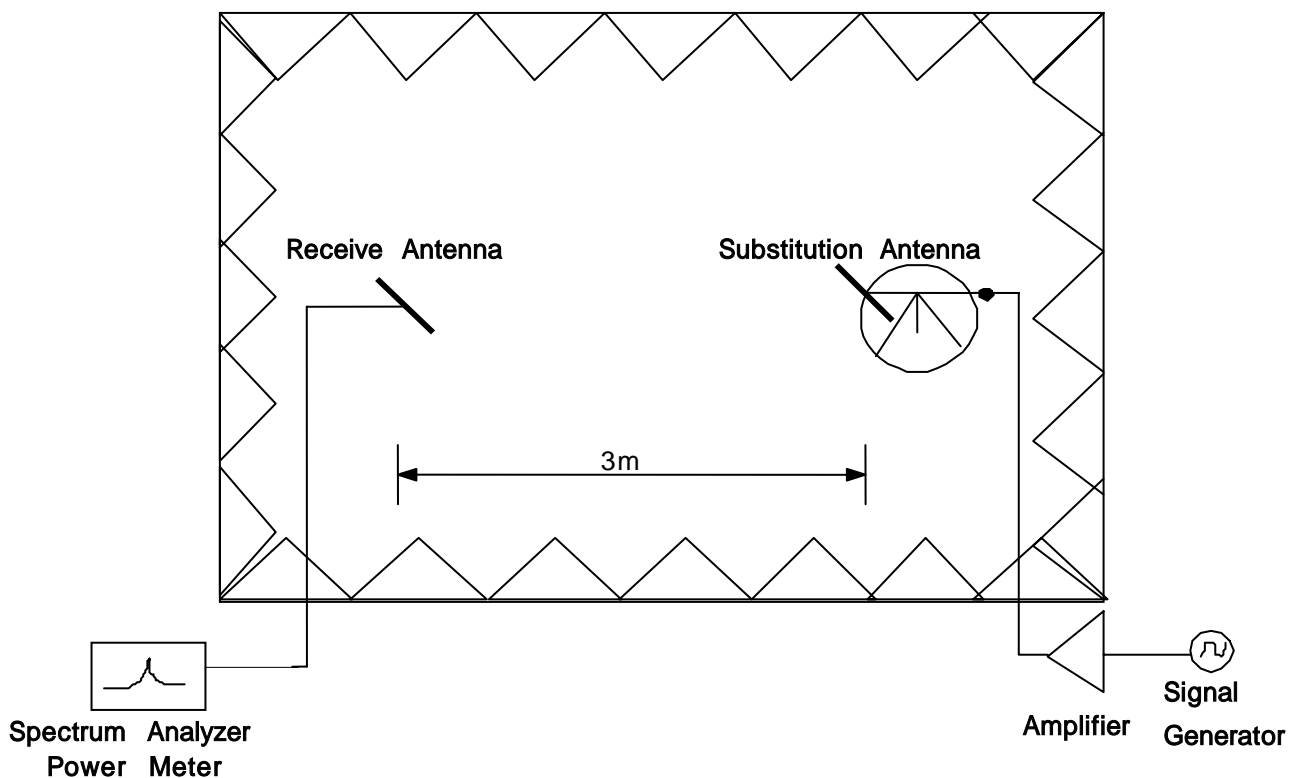


Figure 3. Diagram of ERP/EIRP test Set-up

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 GSM signals, an average detector is used, with $RBW=VBW=3\text{MHz}$, $SPAN=10\text{MHz}$. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of 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

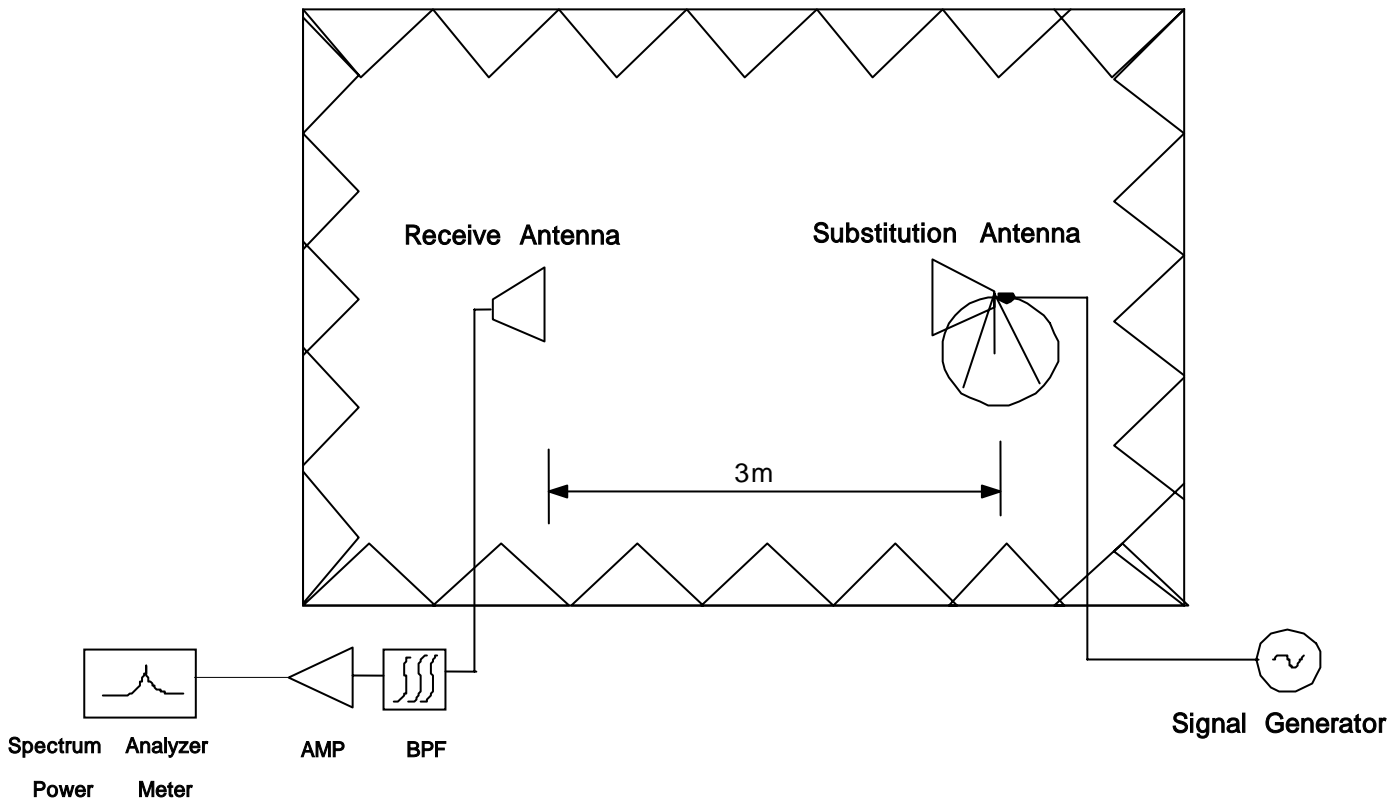


Figure 4. Diagram of Radiated Spurious & Harmonic test Set-up

The EUT was placed on 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 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 $25.5\text{dBm} - (-24.8) = 50.3\text{dBc}$.

5.3. Peak-Average Ratio

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

5.4.Occupied Bandwidth

Test Procedure

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

Plots of the EUT's occupied bandwidth are shown herein.

5.5. Spurious and Harmonic Emission at Antenna Terminal

5.5.1. Occupied Bandwidth Emission Limits

- (a) On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log(P)$ dB.
- (b) Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.
- (c) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.
- (d) The measurement of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.



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

Table 1. Broadband PCS Service Frequency Blocks

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

Table 2. Cellular Service Frequency Blocks

5.5.2. Conducted Spurious Emission

Minimum standard:

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

$$43 + 10\log (0.986 \text{ W}) = 42.94 \text{ dB}$$

$$29.94 \text{ dBm} - 42.94 \text{ dB} = -13 \text{ dBm}$$

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.

5.6. Frequency Stability / Temperature Variation

The frequency stability of the transmitter is measured by:

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

Specification- The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ± 0.00025 (± 2.5 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. Effective Radiated Power (E.R.P.)

Supply Voltage : 3.7VDC

Modulation : GSM850

Reference level

Frequency (MHz)	Output (dBm)	Polarization (H/V)	S/A (dBm)	Ant gain (dBd)	Ref level (dBm)
824.20	30.00	H	-7.16	-0.67	-6.49
		V	-7.44	-0.67	-6.77
836.60	29.00	H	-8.77	-0.73	-8.04
		V	-8.30	-0.73	-7.57
848.80	29.00	H	-10.71	-0.79	-9.92
		V	-9.57	-0.79	-8.78

Result

Frequency (MHz)	Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	ERP (dBm)	ERP (W)	Battery
824.20	-6.55	H	280/90	29.94	0.986	Standard
836.60	-7.67	H	286/65	29.37	0.865	Standard
848.80	-10.27	H	283/70	28.65	0.733	Standard

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

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

Radiated measurements at 3 meters by Substitution Method



6.2. 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	30.00	H	-8.96	9.70	-18.66
		V	-9.22	9.70	-18.92
1880.00	31.00	H	-8.75	9.70	-18.45
		V	-8.43	9.70	-18.13
1909.80	31.00	H	-8.73	9.70	-18.43
		V	-8.59	9.70	-18.29

Result

Frequency (MHz)	Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	EIRP (dBm)	EIRP (W)	Battery
1850.20	-19.21	V	326/90	29.71	0.935	Standard
1880.00	-18.54	H	84/165	30.91	1.233	Standard
1909.80	-18.65	H	92/170	30.78	1.197	Standard

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

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

Radiated measurements at 3 meters by Substitution Method

6.3. GSM850 Radiated Spurious & Harmonic measurement

Operating Frequency : 824.20 MHz(Low), 836.60MHz(Middle), 848.80MHz(High)

Measured Output Power : 29.94 dBm = 0.986 W

Modulation Signal : GSM850

Limit : $43 + 10\log_{10}(P) = 42.94$ dBc

Result

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	Result (dBc)	POL (H/V)
128	2	1648.40	-58.26	77.42	H
	3	2472.60	-52.60	66.67	H
	4	3296.80	-59.23	70.13	H
	5	4121.00	-62.56	70.01	H
	6	4945.20	-53.02	58.60	H
	7	5769.40	-56.73	59.63	V
190	2	1673.20	-59.68	77.94	H
	3	2509.80	-60.15	74.33	V
	4	3346.40	-60.50	71.31	H
	5	4183.00	-63.01	71.11	H
	6	5019.60	-60.85	65.83	V
	7	5856.20	-59.01	61.80	V
251	2	1697.60	-58.67	76.77	V
	3	2546.40	-60.69	75.12	H
	4	3395.20	-59.48	70.09	V
	5	4244.00	-63.94	71.79	H
	6	5092.80	-61.47	66.16	H
	7	5941.60	-56.34	58.92	V

NOTE :

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

Radiated Spurious Emission measurements at 3 meters by Substitution Method



6.4. GSM1900 Radiated Spurious & Harmonic measurement

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

Measured Output Power : 30.91 dBm = 1.233 W

Modulation Signal : GSM1900

Limit : $43 + 10\log_{10}(P) = 43.91$ dBc

Result

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	Result (dBc)	POL (H/V)
512	2	3700.40	-54.97	62.06	H
	3	5550.60	-57.50	60.04	V
	4	7400.80	-64.28	62.25	H
	5	9251.00	-	-	-
	6	11101.20	-	-	-
	7	12951.40	-	-	-
661	2	3760.00	-52.72	59.16	V
	3	5640.00	-60.32	62.47	V
	4	7520.00	-62.94	61.16	V
	5	9400.00	-	-	-
	6	11280.00	-	-	-
	7	13160.00	-	-	-
810	2	3819.60	-53.46	60.22	H
	3	5729.40	-62.35	64.36	V
	4	7639.20	-61.59	59.02	V
	5	9549.00	-	-	-
	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 10th harmonic and All modes of operation were investigated, and the worst-case results are reported.

Radiated Spurious Emission measurements at 3 meters by Substitution Method



6.5. GSM850 Radiated Spurious & Harmonic Conversion Table

Date : 2008. 09. 17

Test Engineer : JH WOO

Tx Cable loss
 Tx Horn Ant Gain
 Tx Level to radiate -13dBm
 ESI Level received from Tx with -13dBm
 Tested Level from EUT
 = ERP+2.14 - (-13 + -)

CH	Har	Frequency (MHz)	Tx C/L dB	Tx Horn Gain dBi	Tx Level dBm	ESI Level : H dBm	ESI Level : V dBm	Tested EUT Level : H dBm	Tested EUT Level : V dBm	Result EUT : H (dBc)	Result EUT : V (dBc)
128	2	1648.40	-8.82	9.50	-13.70	-25.78	-25.24	-58.26	-61.11	77.42	80.76
	3	2472.60	-11.14	10.70	-12.60	-30.65	-30.96	-52.60	-52.90	66.67	66.83
	4	3296.80	-13.37	12.30	-11.90	-34.30	-34.88	-59.23	-60.39	70.13	70.92
	5	4121.00	-14.90	12.50	-10.60	-37.37	-37.16	-62.56	-65.78	70.01	73.54
	6	4945.20	-16.77	12.70	-8.90	-39.95	-40.17	-53.02	-53.53	58.60	59.38
	7	5769.40	-18.24	12.90	-7.70	-42.25	-42.16	-59.18	-56.73	62.74	59.63
190	2	1673.20	-8.89	9.50	-13.60	-26.45	-26.15	-59.68	-61.49	77.94	80.06
	3	2509.80	-11.30	10.70	-12.40	-30.90	-30.96	-60.18	-60.15	74.44	74.33
	4	3346.40	-13.23	12.30	-12.10	-34.28	-34.36	-60.50	-61.94	71.31	72.83
	5	4183.00	-15.03	12.50	-10.50	-36.90	-37.13	-63.01	-65.28	71.11	73.23
	6	5019.60	-17.37	12.70	-8.30	-40.04	-40.64	-61.82	-60.85	66.93	65.83
	7	5856.20	-18.51	12.90	-7.40	-42.75	-42.94	-61.45	-59.01	63.38	61.80
251	2	1697.60	-8.86	9.50	-13.60	-26.64	-26.78	-59.74	-58.67	77.85	76.77
	3	2546.40	-11.34	10.70	-12.40	-30.32	-30.81	-60.69	-62.05	75.12	76.14
	4	3395.20	-13.31	12.30	-12.00	-34.25	-34.55	-61.13	-59.48	72.03	70.09
	5	4244.00	-15.10	12.50	-10.40	-37.07	-37.26	-63.94	-64.92	71.79	72.74
	6	5092.80	-17.35	12.70	-8.40	-40.12	-40.75	-61.47	-62.68	66.16	67.64
	7	5941.60	-18.38	12.90	-7.50	-43.10	-42.67	-60.02	-56.34	60.73	58.92



6.6. GSM1900 Radiated Spurious & Harmonic Conversion Table

Date : 2008. 09. 17

Test Engineer : JH WOO

Tx Cable loss
 Tx Horn Ant Gain
 Tx Level to radiate - 13dBm
 ESI Level received from Tx with -13dBm
 Tested Level from EUT
 = EIRP - (-13 +)

CH	Har	Frequency (MHz)	Tx C/L dB	Tx Horn Gain dBi	Tx Level dBm	ESI Level : H dBm	ESI Level : V dBm	Tested EUT Level : H dBm	Tested EUT Level : H dBm	Result EUT : H (dBc)	Result EUT : V (dBc)
512	2	3700.40	-13.91	12.40	-11.50	-36.82	-36.64	-54.97	-55.51	62.06	62.78
	3	5550.60	-18.04	12.90	-7.90	-41.37	-41.37	-57.55	-57.50	60.09	60.04
	4	7400.80	-20.27	10.50	-3.20	-45.94	-45.35	-64.28	-66.36	62.25	64.92
	5	9251.00	-23.06	11.20	-1.10	-51.85	-49.57	-	-	-	-
	6	11101.20	-25.92	11.60	1.30	-54.92	-54.59	-	-	-	-
	7	12951.40	-28.16	12.90	2.30	-56.76	-56.49	-	-	-	-
	661	2	3760.00	-14.05	12.40	-11.40	-37.50	-36.99	-52.75	-52.72	59.16
3		5640.00	-18.03	12.90	-7.90	-41.30	-41.76	-63.00	-60.32	65.61	62.47
4		7520.00	-20.41	10.60	-3.20	-45.54	-45.69	-63.36	-62.94	61.73	61.16
5		9400.00	-22.44	11.60	-2.20	-51.20	-50.63	-	-	-	-
6		11280.00	-26.22	12.10	1.10	-54.35	-54.25	-	-	-	-
7		13160.00	-27.70	12.80	1.90	-57.39	-57.52	-	-	-	-
810		2	3819.60	-14.59	12.40	-10.80	-37.15	-37.91	-53.46	-57.91	60.22
	3	5729.40	-18.34	13.00	-7.70	-41.97	-41.90	-66.36	-62.35	68.30	64.36
	4	7639.20	-20.39	11.20	-3.80	-46.12	-46.48	-63.30	-61.59	61.09	59.02
	5	9549.00	-23.07	11.70	-1.60	-50.91	-50.34	-	-	-	-
	6	11458.80	-26.21	11.70	1.50	-54.31	-54.64	-	-	-	-
	7	13368.60	-27.83	12.30	2.50	-58.60	-58.83	-	-	-	-

6.7. Frequency Stability

6.7.1. GSM850 Frequency Stability Table

Operating Frequency : 836,600,000 Hz

Channel : 190

Reference Voltage : 3.7VDC

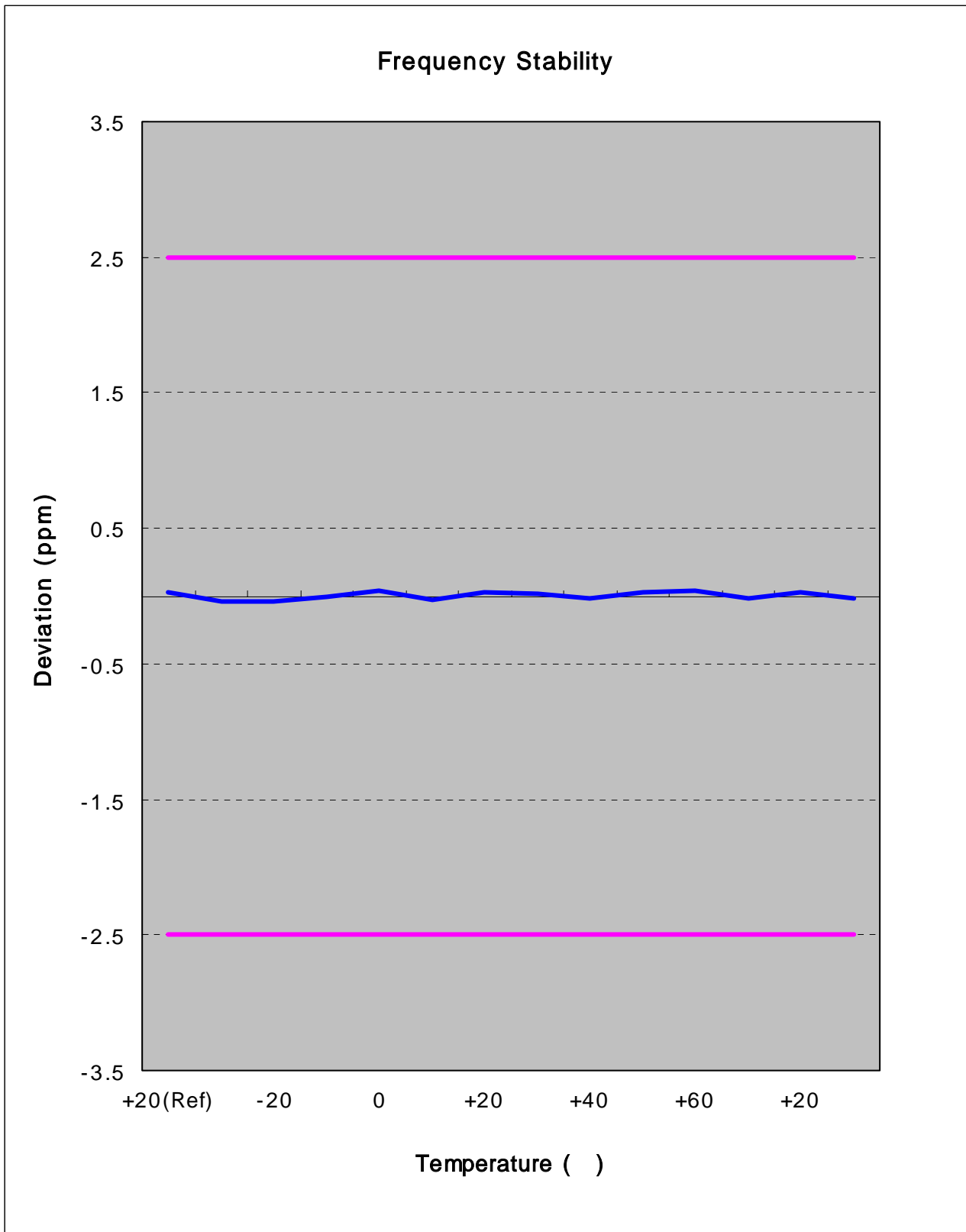
Deviation Limit : $\pm 0.00025\%$ or 2.5ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency Error (Hz)	Frequency (Hz)	Deviation (%)	ppm
100%	3.70	+20(Ref)	24.15	836,600,024	0.000003	0.029
100%		-30	-28.30	836,599,972	-0.000003	-0.034
100%		-20	-37.16	836,599,963	-0.000004	-0.044
100%		-10	-7.14	836,599,993	-0.000001	-0.009
100%		0	33.05	836,600,033	0.000004	0.040
100%		+10	-24.31	836,599,976	-0.000003	-0.029
100%		+20	24.15	836,600,024	0.000003	0.029
100%		+30	18.24	836,600,018	0.000002	0.022
100%		+40	-17.11	836,599,983	-0.000002	-0.020
100%		+50	25.22	836,600,025	0.000003	0.030
100%		+60	35.75	836,600,036	0.000004	0.043
85%		3.35	+20	-18.61	836,599,981	-0.000002
115%	4.26	+20	19.96	836,600,020	0.000002	0.024
Batt.Endpoint	3.35	+20	-18.61	836,599,981	-0.000002	-0.022

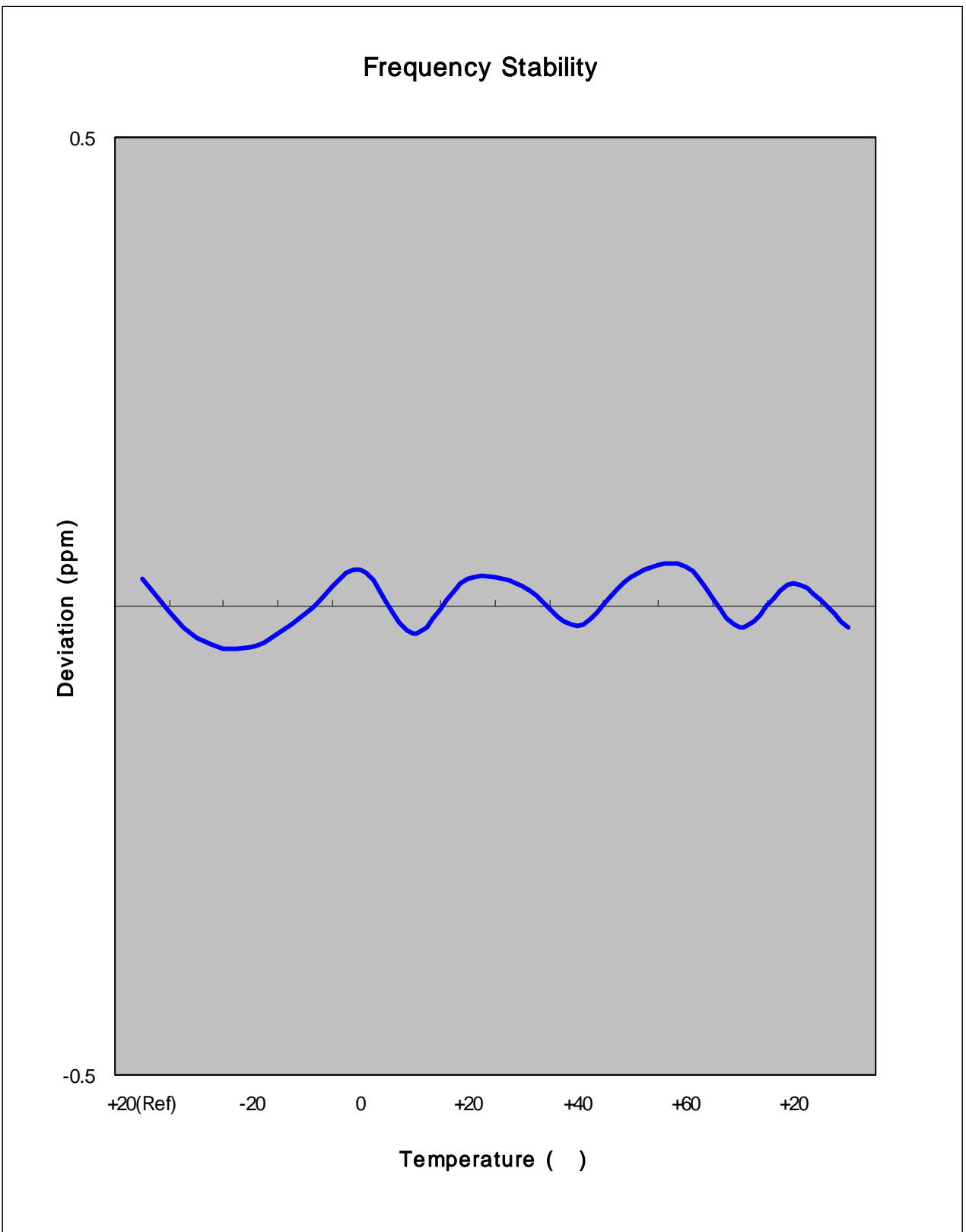
Note : The temperature is varied from -30 °C to +60 °C using an environmental chamber.

The EUT is tested down to the battery end point.

6.7.2. GSM850 Frequency Stability Graph



Zoom IN





6.7.3. GSM1900 Frequency Stability Table

Operating Frequency : 1,880,000,000 Hz

Channel : 661

Reference Voltage : 3.7VDC

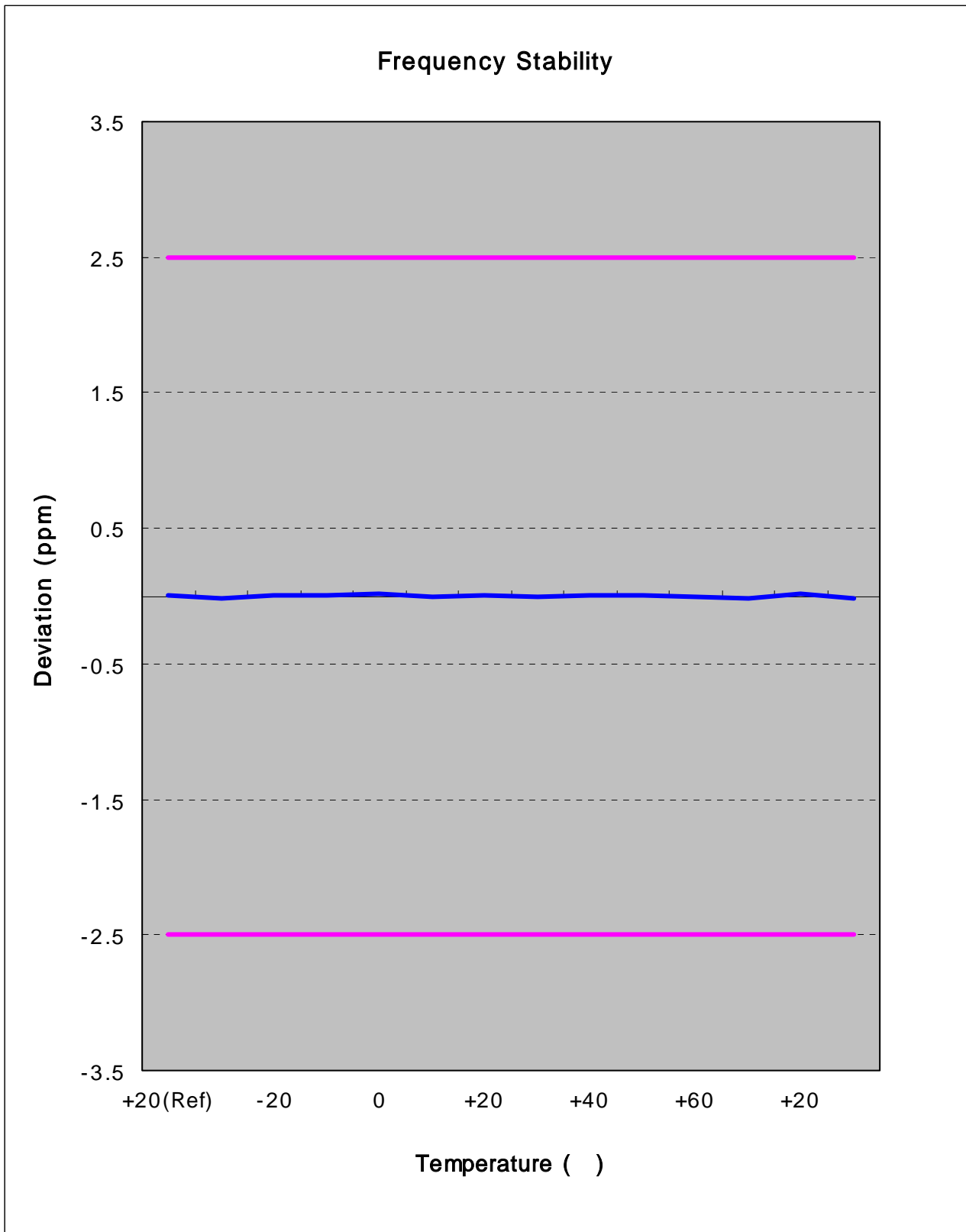
Deviation Limit : ± 0.00025 % or 2.5ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency Error (Hz)	Frequency (Hz)	Deviation (%)	ppm
100%	3.70	+20(Ref)	16.54	1,880,000,017	0.000001	0.009
100%		-30	-28.86	1,879,999,971	-0.000002	-0.015
100%		-20	13.51	1,880,000,014	0.000001	0.007
100%		-10	18.08	1,880,000,018	0.000001	0.010
100%		0	26.78	1,880,000,027	0.000001	0.014
100%		+10	-8.53	1,879,999,991	0.000000	-0.005
100%		+20	16.54	1,880,000,017	0.000001	0.009
100%		+30	-19.71	1,879,999,980	-0.000001	-0.010
100%		+40	20.45	1,880,000,020	0.000001	0.011
100%		+50	13.10	1,880,000,013	0.000001	0.007
100%		+60	-17.44	1,879,999,983	-0.000001	-0.009
85%		3.35	+20	-28.30	1,879,999,972	-0.000002
115%	4.26	+20	38.17	1,880,000,038	0.000002	0.020
Batt.Endpoint	3.35	+20	-28.30	1,879,999,972	-0.000002	-0.015

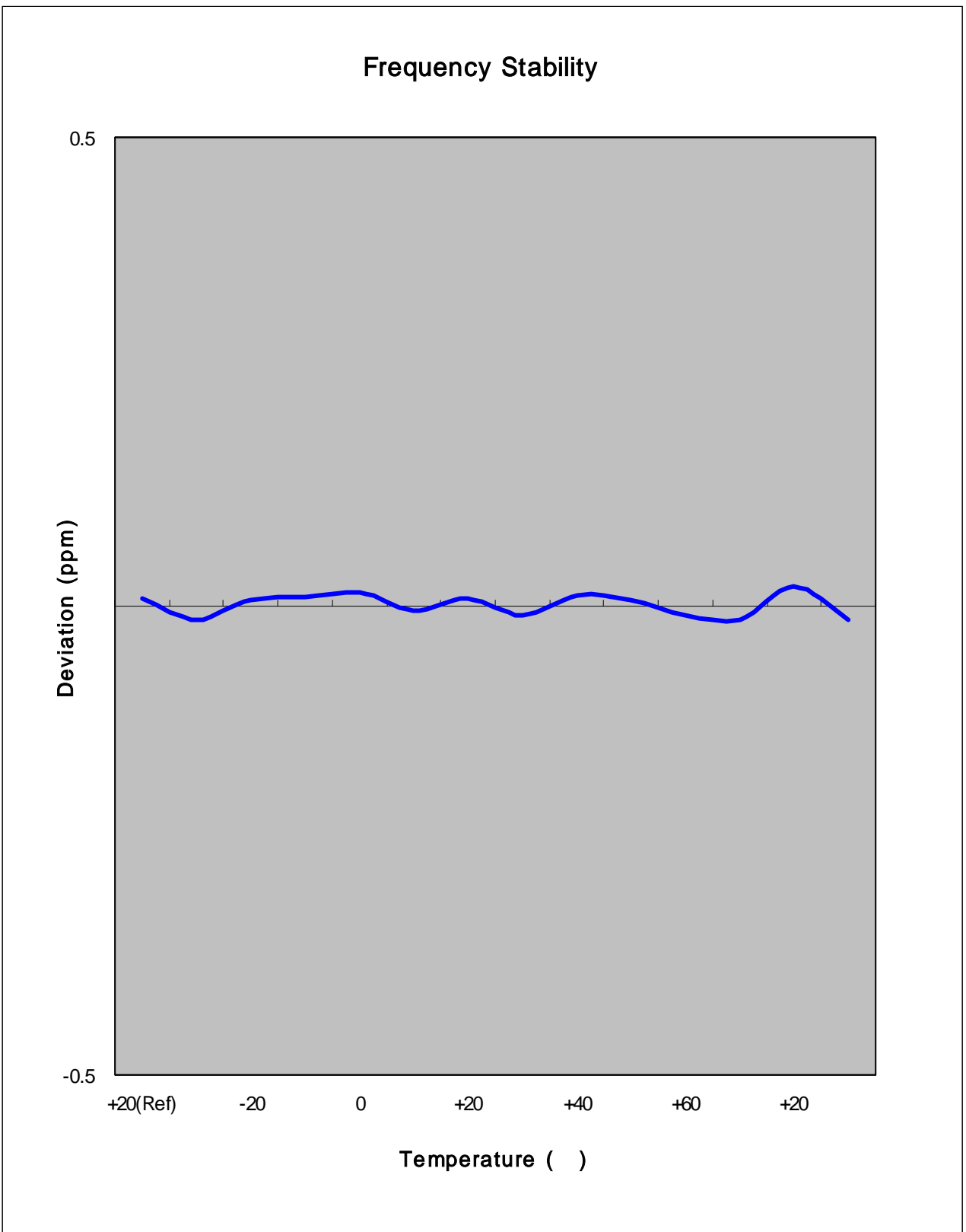
Note : The temperature is varied from -30 °C to +60 °C using an environmental chamber.

The EUT is tested down to the battery end point.

6.7.4. GSM1900 Frequency Stability Graph



Zoom IN





7. CONCLUSION

The data collected shows that the SAMSUNG Dual-Band GSM850/1900 Phone.

FCC ID : A3LSGHT101G complies with all the requirements of Parts 2,22,24 of the FCC Rules.

8. TEST PLOTS

GSM850

Agilent

R T

Ch Freq 824.2 MHz **Trig** Free

Occupied Bandwidth

FCC ID:A3LSGHT101G 0BW Ch.128
Ref 33 dBm Atten 40 dB

Center 824.200 MHz Span 1 MHz
#Res BW 3 kHz #VBW 3 kHz #Sweep 1 s (601 pts)

Occupied Bandwidth	Occ BW % Pwr	99.00 %
247.4288 kHz	x dB	-26.00 dB
Transmit Freq Error		706.510 Hz
x dB Bandwidth		306.482 kHz

Freq/Channel	
Center Freq	824.200000 MHz
Start Freq	823.700000 MHz
Stop Freq	824.700000 MHz
CF Step	100.000000 kHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

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Agilent

R T

Ch Freq 836.6 MHz **Trig** Free

Occupied Bandwidth

FCC ID:A3LSGHT101G 0BW Ch.190
Ref 33 dBm Atten 40 dB

Center 836.600 MHz Span 1 MHz
#Res BW 3 kHz #VBW 3 kHz #Sweep 1 s (601 pts)

Occupied Bandwidth	Occ BW % Pwr	99.00 %
247.3729 kHz	x dB	-26.00 dB
Transmit Freq Error		-700.534 Hz
x dB Bandwidth		315.155 kHz

Freq/Channel	
Center Freq	836.600000 MHz
Start Freq	836.100000 MHz
Stop Freq	837.100000 MHz
CF Step	100.000000 kHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

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

Agilent

R T

Freq/Channel

Ch Freq 848.8 MHz Trig Free

Occupied Bandwidth

Center Freq
848.800000 MHz

Start Freq
848.300000 MHz

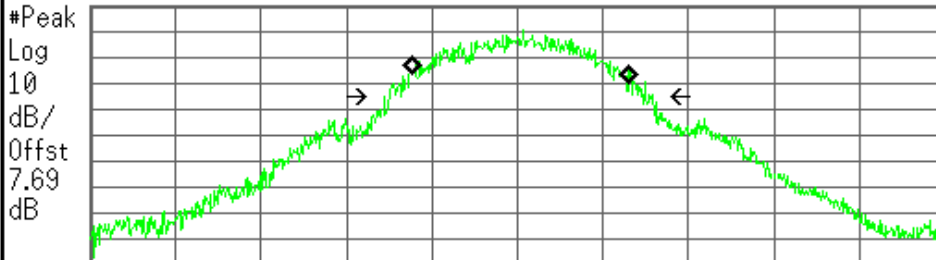
Stop Freq
849.300000 MHz

CF Step
100.000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

FCC ID:A3LSGHT101G 0BW Ch.251
Ref 33 dBm Atten 40 dB



Center 848.800 MHz Span 1 MHz
#Res BW 3 kHz #VBW 3 kHz #Sweep 1 s (601 pts)

Occupied Bandwidth 257.1209 kHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 2.719 kHz
x dB Bandwidth 318.549 kHz

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

Agilent

R T

Freq/Channel

FCC ID:A3LSGHT101G Rx Spurious Emission Mkr1 889.50 MHz
Ref -50 dBm #Atten 0 dB -89.06 dBm

Center Freq
881.500000 MHz

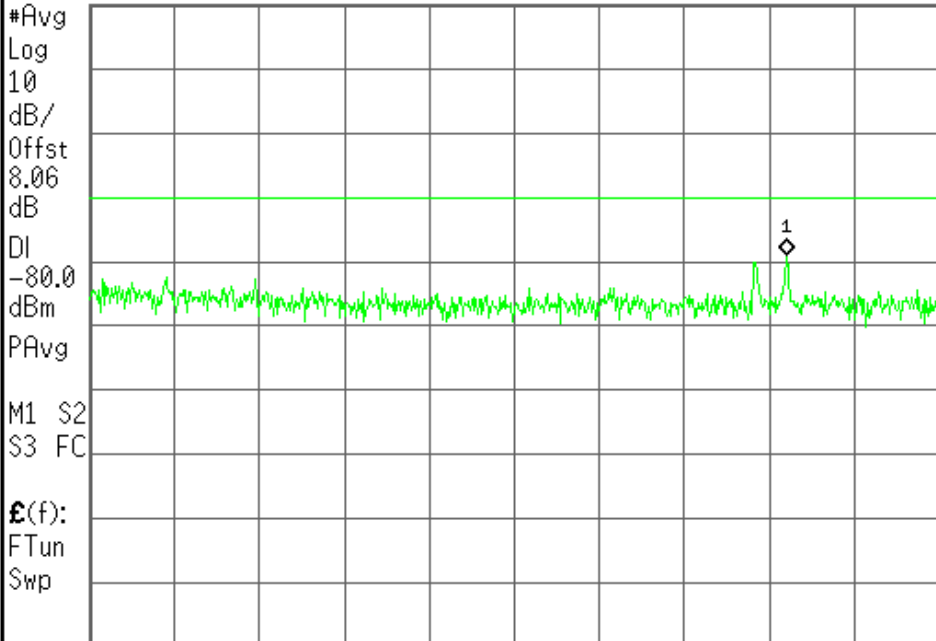
Start Freq
869.000000 MHz

Stop Freq
894.000000 MHz

CF Step
2.50000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off



Start 869.00 MHz Stop 894.00 MHz
#Res BW 10 kHz #VBW 10 kHz #Sweep 1 s (601 pts)

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Control	Transmit Power								TCH Parms	
Transmit Power Setup					Burst 1	Burst 2	Burst 3	Burst 4	Downlink Traffic Power	
	Burst Power				31.63	----	----	----	Traffic Band	
Swap Window Positions	Estimated Carrier Power				31.63	----	----	----	GS1850	
									Traffic Channel	
									128	
									MS TX Level	
								5		
								Channel Mode Setup		
								Return		
								1 of 2		
								1 of 2		

Phase & Frequency Error			
	Peak Phase °	RMS Phase °	Frequency Hz
Minimum	3.51	1.67	4.17
Maximum	5.09	1.98	17.12
Average	4.08	1.85	11.17
Pass/Fail	Pass	Pass	Pass

Active Cell Connected			Sys Type: GSM	
IntRef	Offset	R	T	

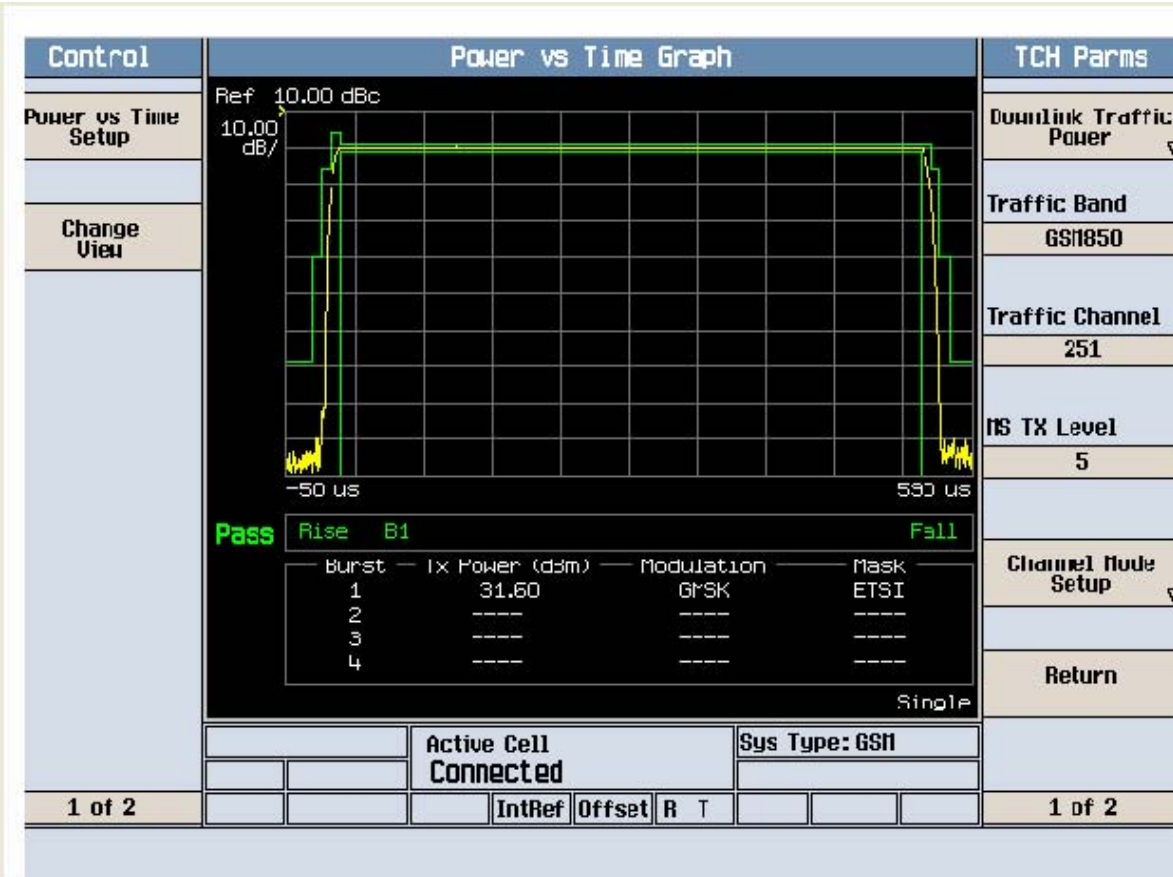
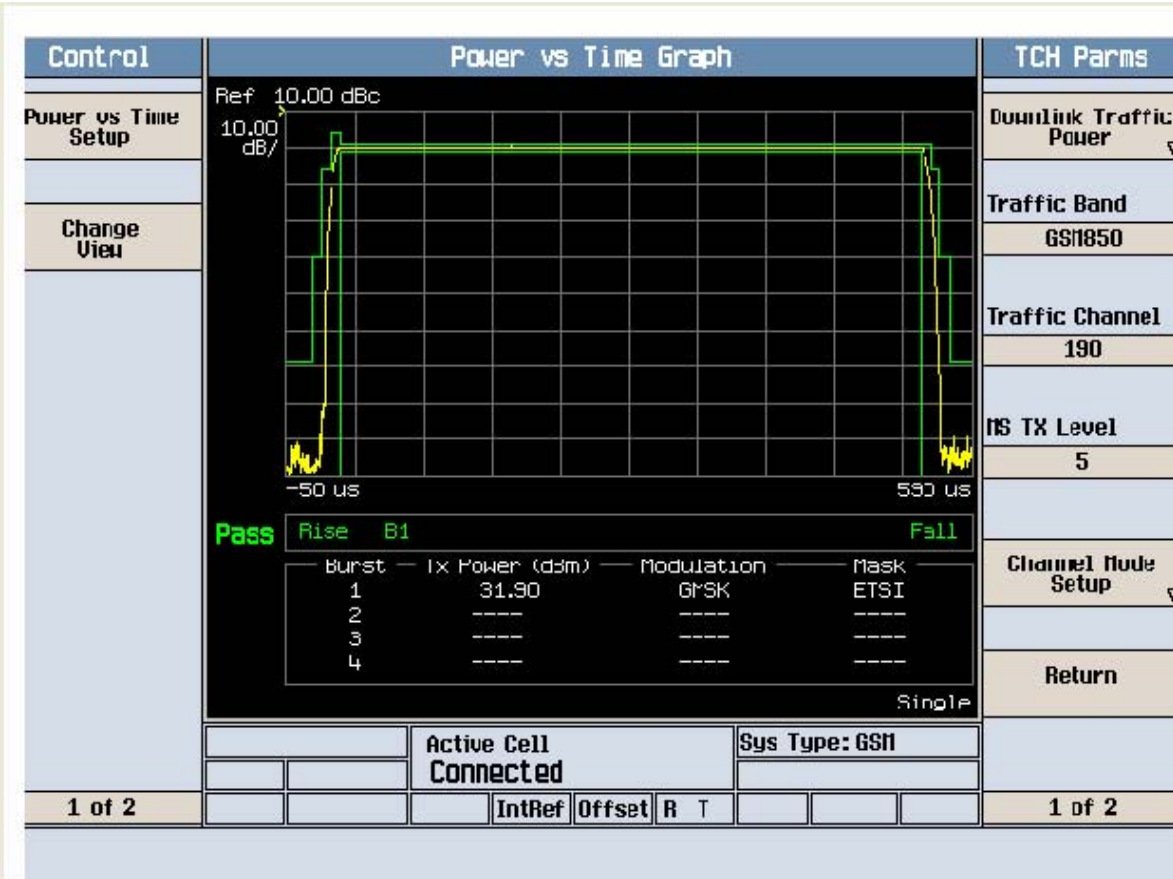
Control	Transmit Power								TCH Parms	
Transmit Power Setup					Burst 1	Burst 2	Burst 3	Burst 4	Downlink Traffic Power	
	Burst Power				31.90	----	----	----	Traffic Band	
Swap Window Positions	Estimated Carrier Power				31.90	----	----	----	GS1850	
									Traffic Channel	
									190	
									MS TX Level	
								5		
								Channel Mode Setup		
								Return		
								1 of 2		
								1 of 2		

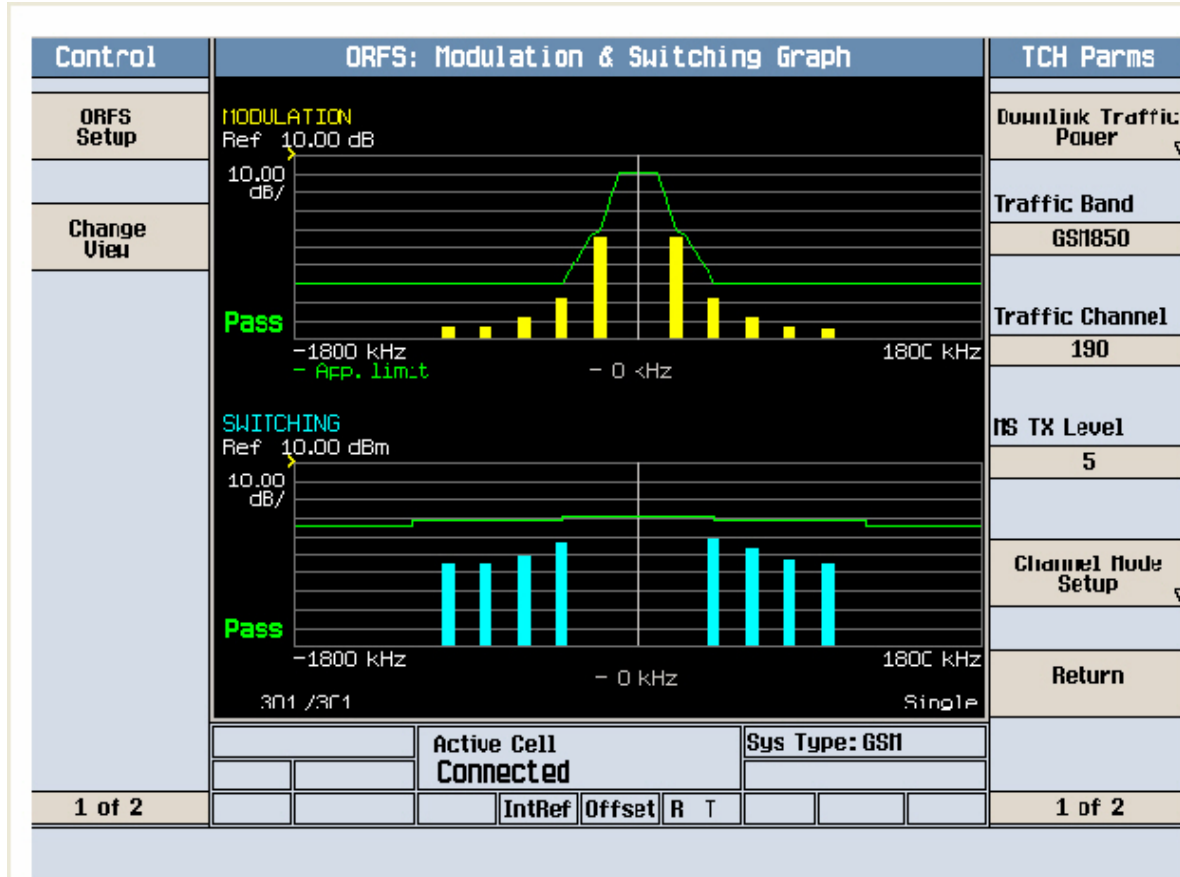
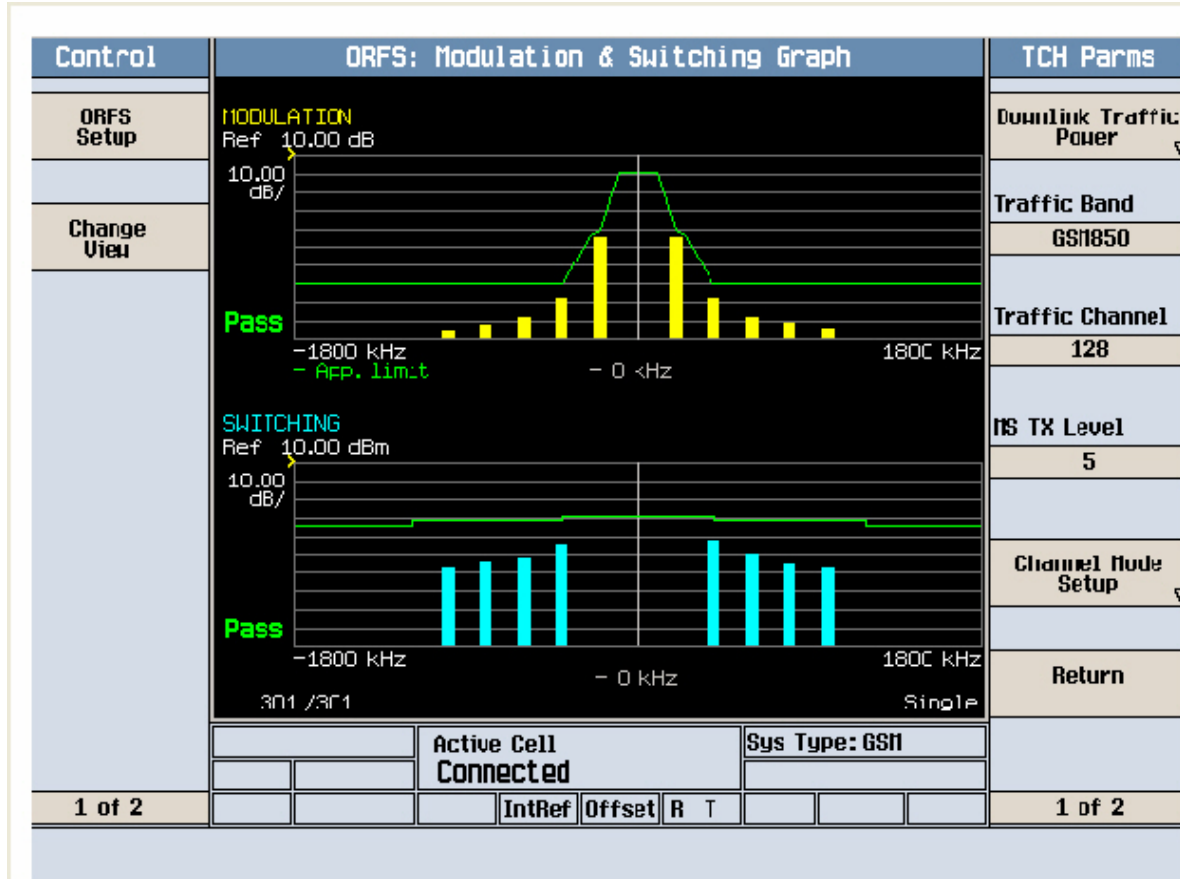
Phase & Frequency Error			
	Peak Phase °	RMS Phase °	Frequency Hz
Minimum	3.39	1.60	8.70
Maximum	5.07	1.91	22.02
Average	3.98	1.79	15.24
Pass/Fail	Pass	Pass	Pass

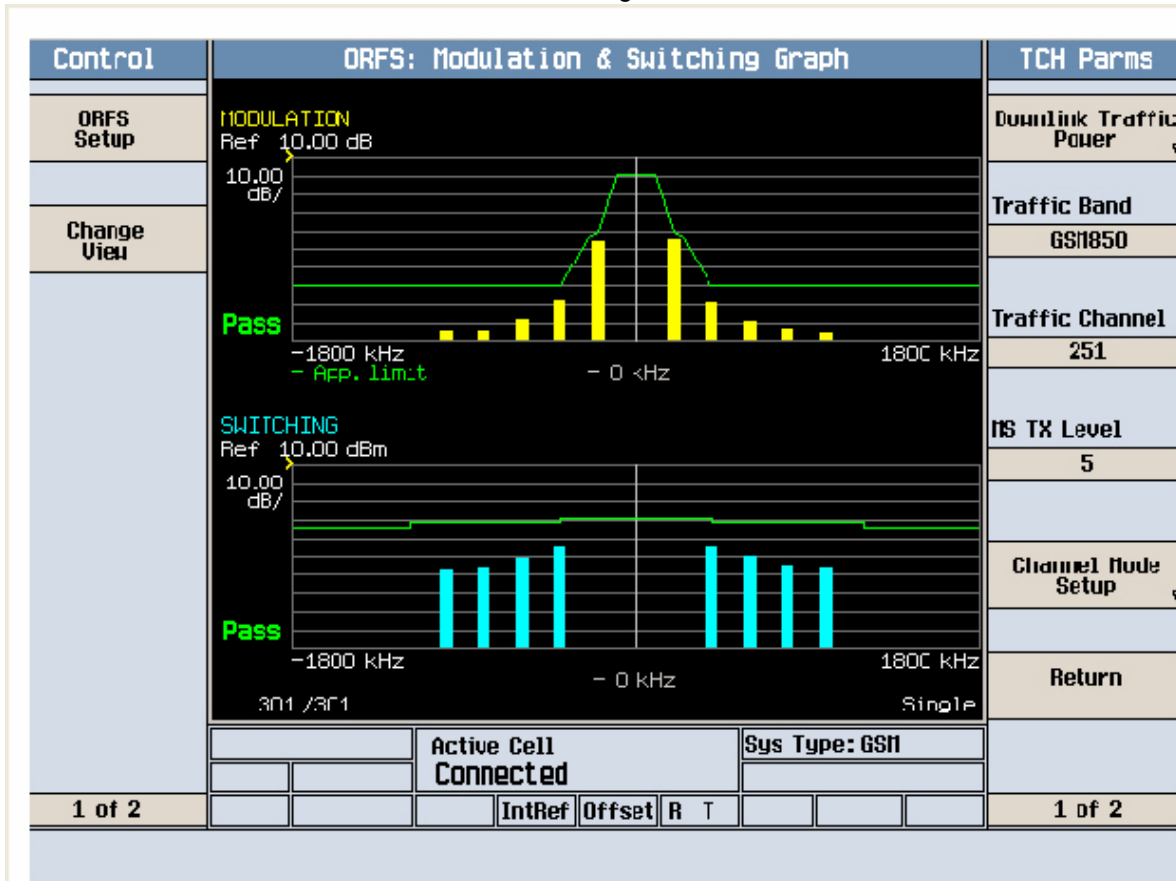
Active Cell Connected			Sys Type: GSM	
IntRef	Offset	R	T	

Control	Transmit Power				TCH Parms																								
Transmit Power Setup	<table border="1"> <thead> <tr> <th></th> <th>Burst 1</th> <th>Burst 2</th> <th>Burst 3</th> <th>Burst 4</th> </tr> </thead> <tbody> <tr> <td>Burst Power</td> <td>31.60</td> <td>----</td> <td>----</td> <td>----</td> </tr> <tr> <td>Estimated Carrier Power</td> <td>31.60</td> <td>----</td> <td>----</td> <td>----</td> </tr> </tbody> </table>					Burst 1	Burst 2	Burst 3	Burst 4	Burst Power	31.60	----	----	----	Estimated Carrier Power	31.60	----	----	----	Downlink Traffic Power									
	Burst 1	Burst 2	Burst 3	Burst 4																									
Burst Power	31.60	----	----	----																									
Estimated Carrier Power	31.60	----	----	----																									
	Single				Traffic Band																								
					GS1850																								
					Traffic Channel																								
					251																								
					MS TX Level																								
					5																								
Swap Window Positions	<table border="1"> <thead> <tr> <th colspan="4">Phase & Frequency Error</th> </tr> <tr> <th></th> <th>Peak Phase °</th> <th>RMS Phase °</th> <th>Frequency Hz</th> </tr> </thead> <tbody> <tr> <td>Minimum</td> <td>4.16</td> <td>1.18</td> <td>9.07</td> </tr> <tr> <td>Maximum</td> <td>5.35</td> <td>2.28</td> <td>22.50</td> </tr> <tr> <td>Average</td> <td>4.64</td> <td>2.14</td> <td>15.62</td> </tr> <tr> <td>Pass/Fail</td> <td>Pass</td> <td>Pass</td> <td>Pass</td> </tr> </tbody> </table>				Phase & Frequency Error					Peak Phase °	RMS Phase °	Frequency Hz	Minimum	4.16	1.18	9.07	Maximum	5.35	2.28	22.50	Average	4.64	2.14	15.62	Pass/Fail	Pass	Pass	Pass	Channel Mode Setup
Phase & Frequency Error																													
	Peak Phase °	RMS Phase °	Frequency Hz																										
Minimum	4.16	1.18	9.07																										
Maximum	5.35	2.28	22.50																										
Average	4.64	2.14	15.62																										
Pass/Fail	Pass	Pass	Pass																										
	50 / 50				Return																								
	Single																												
	Active Cell Connected		Sys Type: GSM																										
1 of 2	IntRef	Offset	R	T	1 of 2																								

Control	Power vs Time Graph	TCH Parms	
Power vs Time Setup		Downlink Traffic Power	
Change View		Traffic Band	
		GS1850	
		Traffic Channel	
		128	
		MS TX Level	
		5	
		Channel Mode Setup	
		Return	
		Single	
	Active Cell Connected		Sys Type: GSM
1 of 2	IntRef	Offset	R T



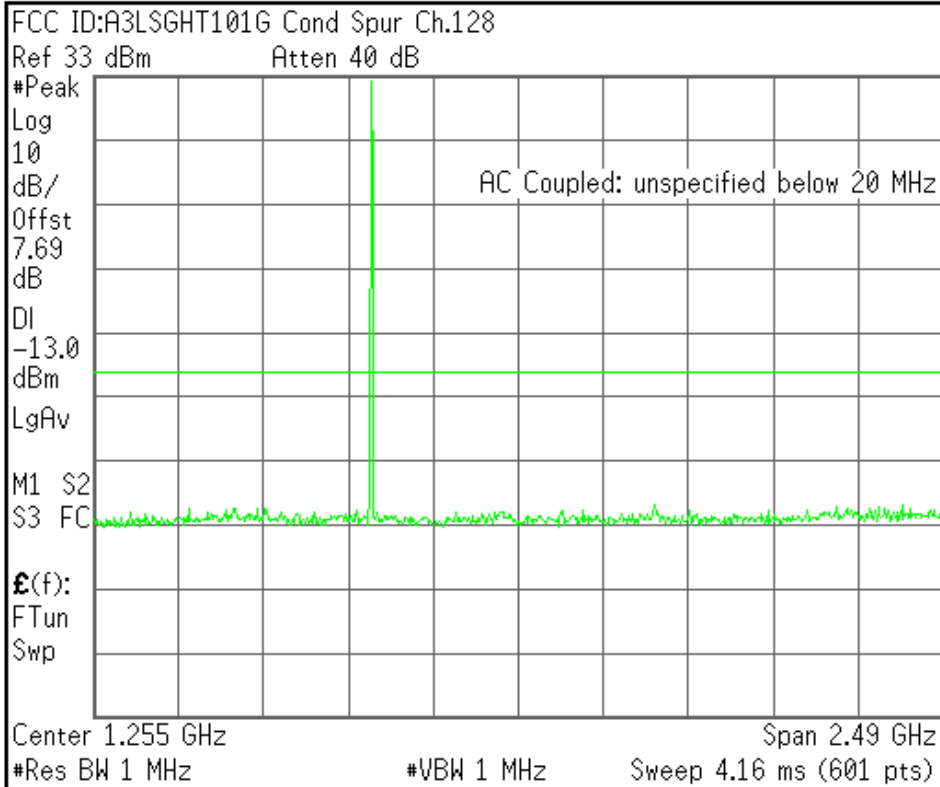




Agilent

R T

Freq/Channel



Center Freq
1.25500000 GHz

Start Freq
10.00000000 MHz

Stop Freq
2.50000000 GHz

CF Step
249.0000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

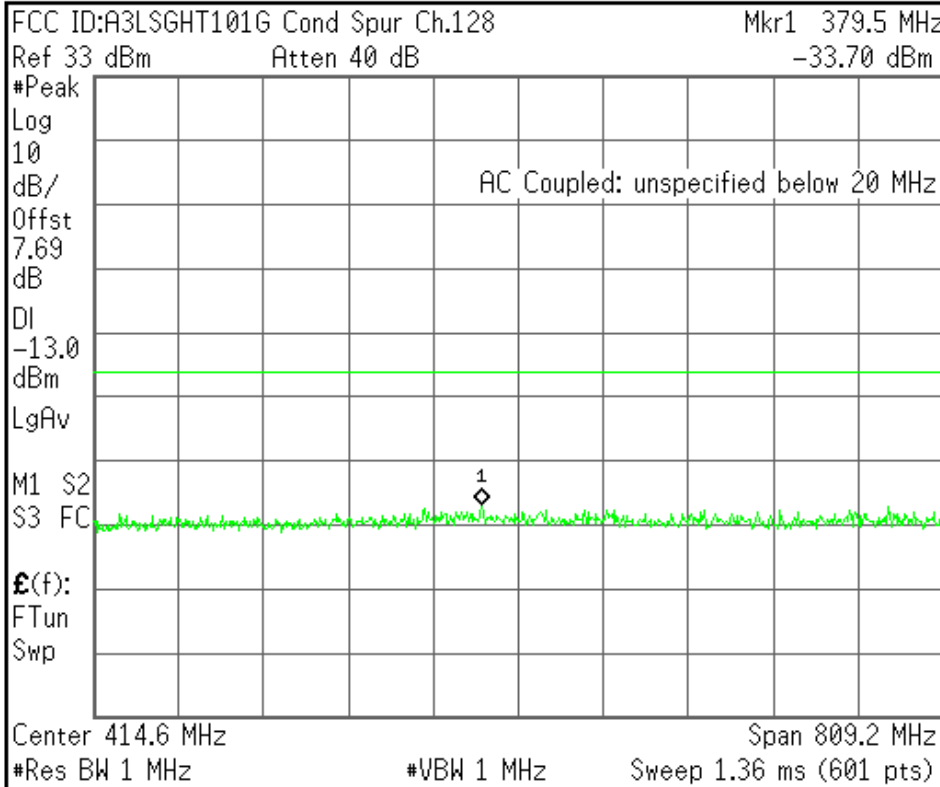
Signal Track
On Off

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

Agilent

R T

Freq/Channel



Center Freq
414.600000 MHz

Start Freq
10.00000000 MHz

Stop Freq
819.200000 MHz

CF Step
80.9200000 MHz
Auto Man

Freq Offset
0.00000000 Hz

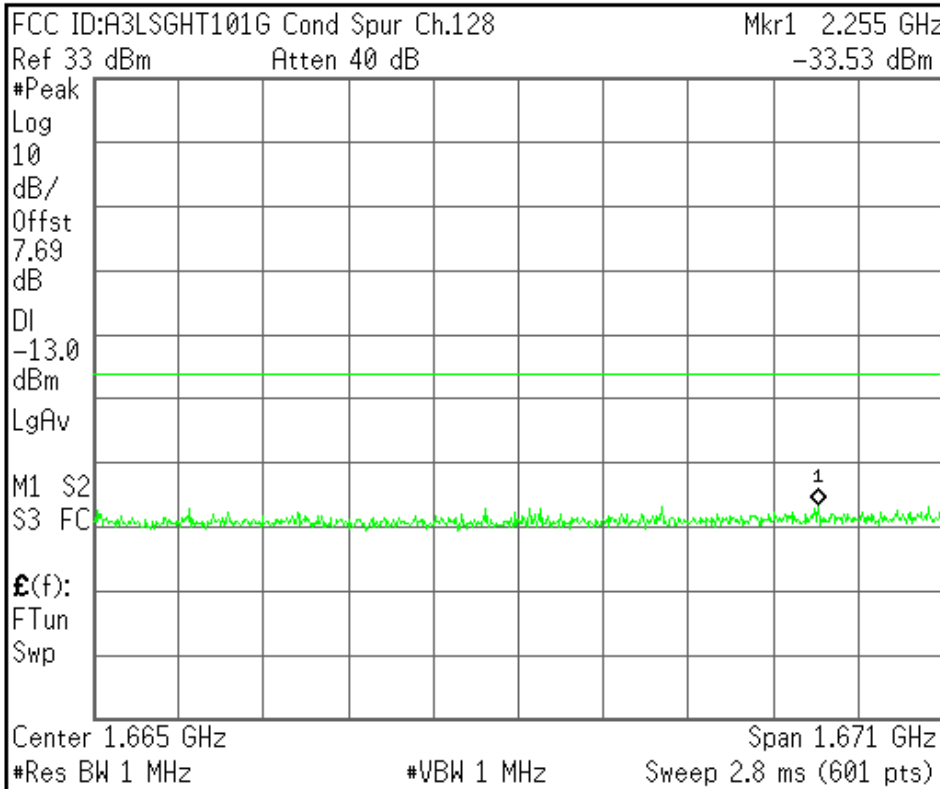
Signal Track
On Off

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

Agilent

R T

Freq/Channel



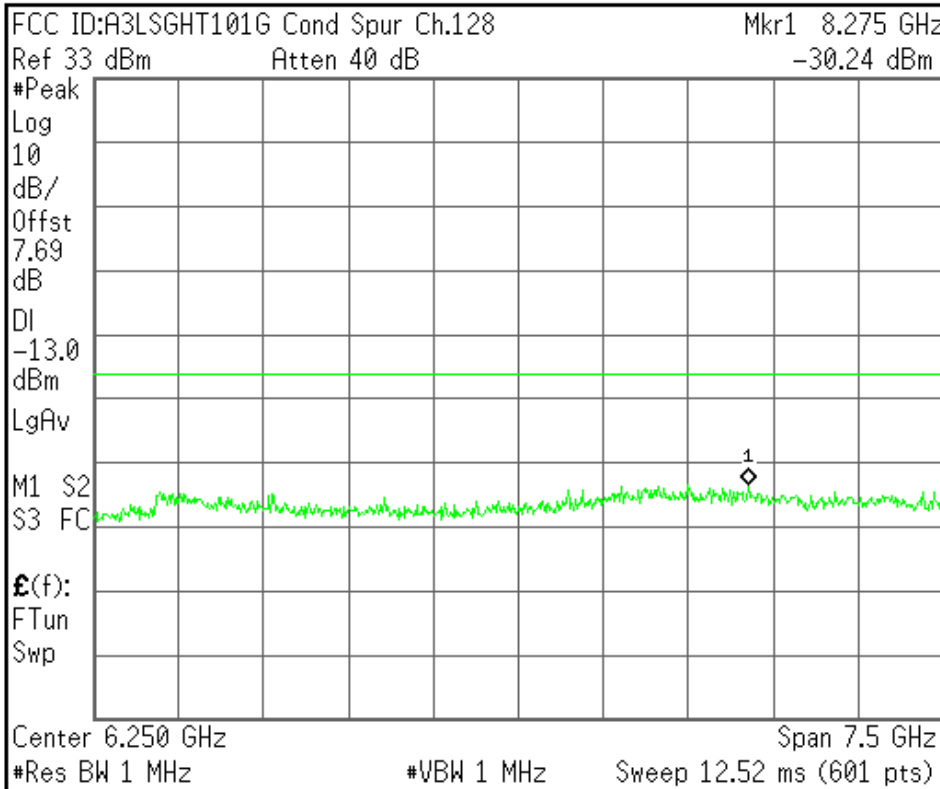
Center Freq 1.66460000 GHz
Start Freq 829.200000 MHz
Stop Freq 2.50000000 GHz
CF Step 167.080000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



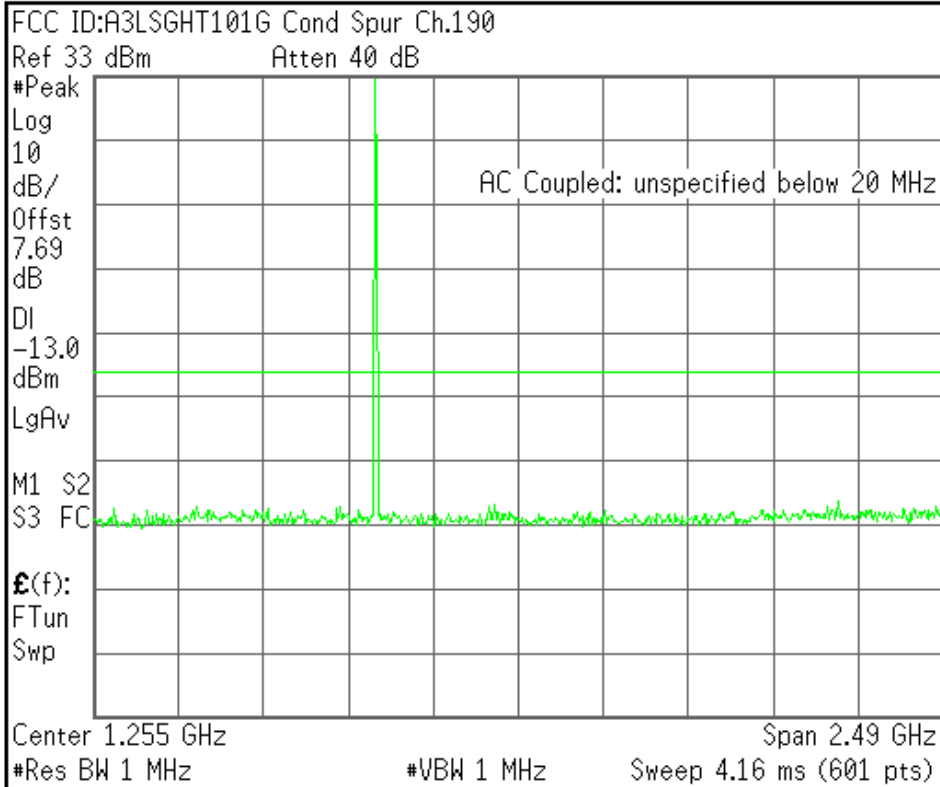
Center Freq 6.25000000 GHz
Start Freq 2.50000000 GHz
Stop Freq 10.00000000 GHz
CF Step 750.000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



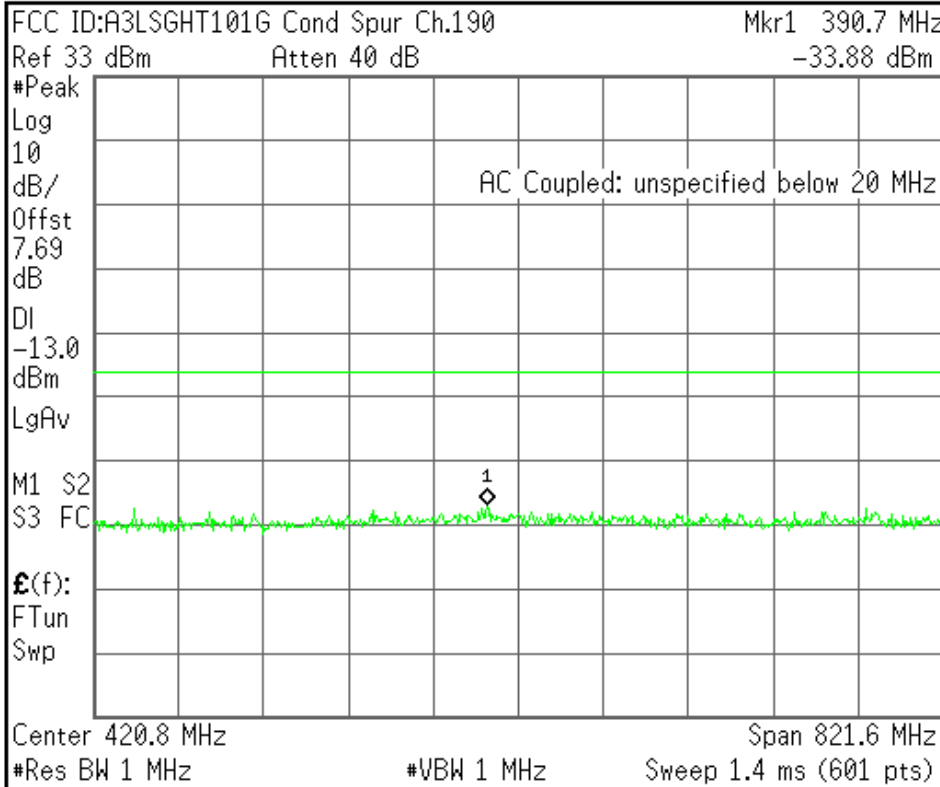
Center Freq	1.25500000 GHz
Start Freq	10.00000000 MHz
Stop Freq	2.50000000 GHz
CF Step	249.0000000 MHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

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

Agilent

R T

Freq/Channel



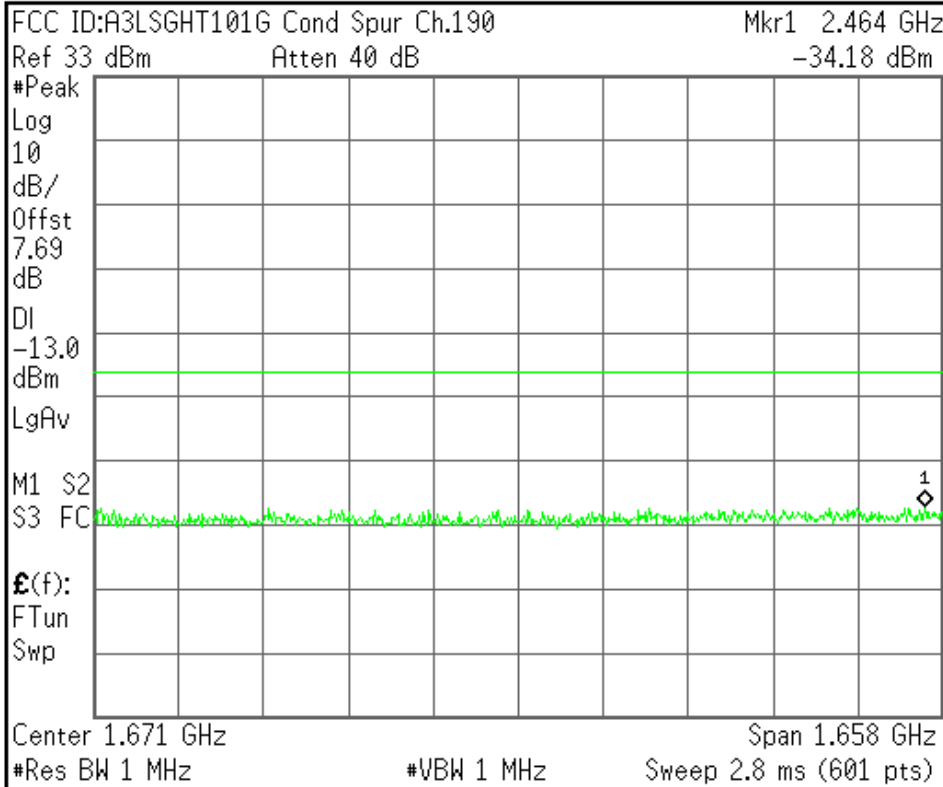
Center Freq	420.800000 MHz
Start Freq	10.00000000 MHz
Stop Freq	831.6000000 MHz
CF Step	82.16000000 MHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

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

Agilent

R T

Freq/Channel



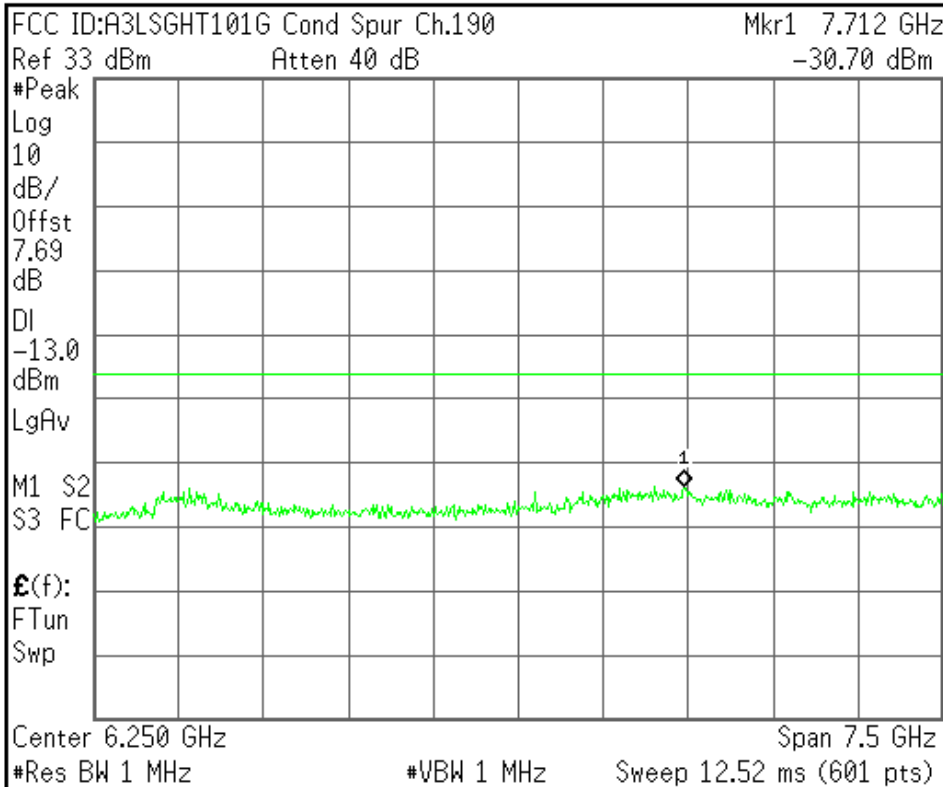
Center Freq 1.67080000 GHz
Start Freq 841.600000 MHz
Stop Freq 2.50000000 GHz
CF Step 165.840000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



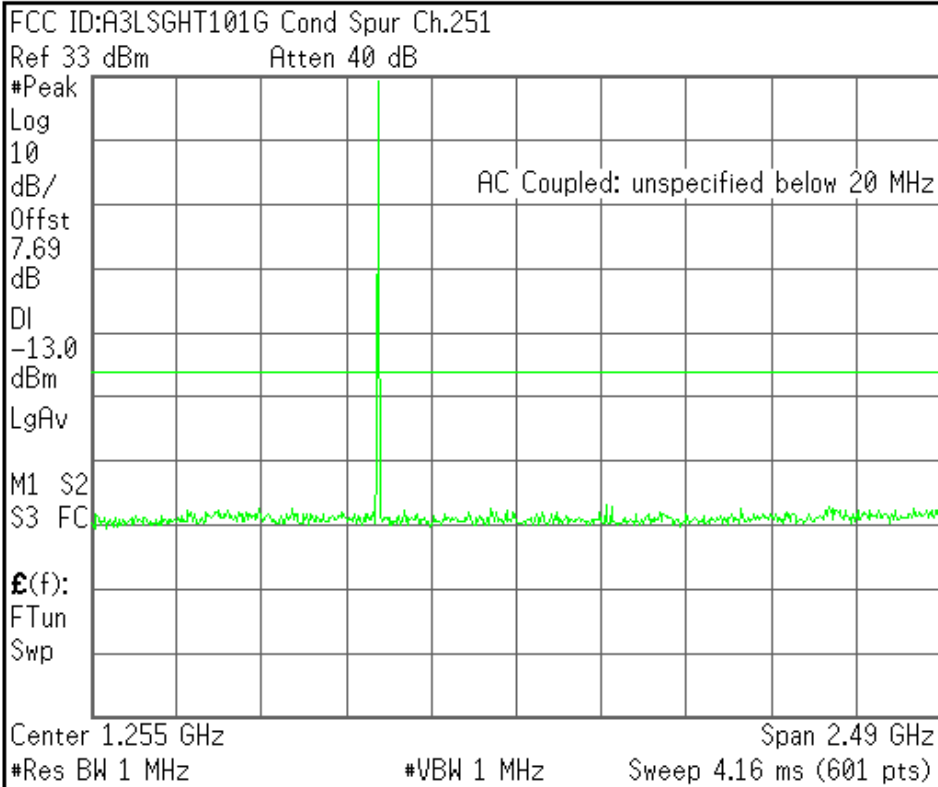
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Start Freq 2.50000000 GHz
Stop Freq 10.00000000 GHz
CF Step 750.000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



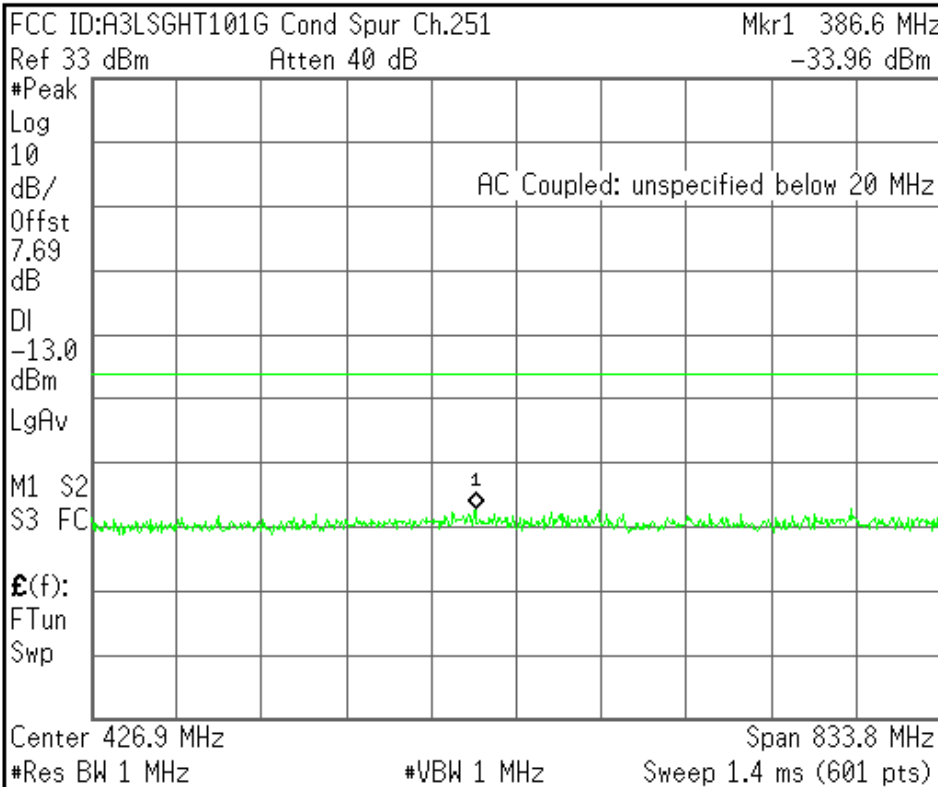
Center Freq	1.25500000 GHz
Start Freq	10.00000000 MHz
Stop Freq	2.50000000 GHz
CF Step	249.0000000 MHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

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

Agilent

R T

Freq/Channel



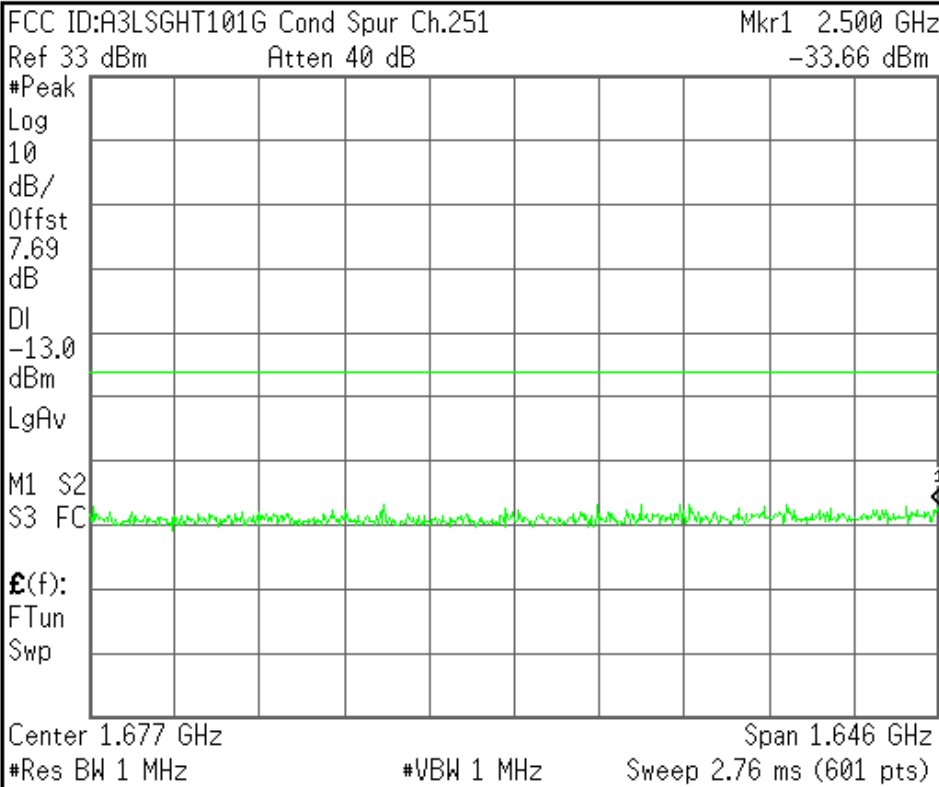
Center Freq	426.900000 MHz
Start Freq	10.00000000 MHz
Stop Freq	843.800000 MHz
CF Step	83.3800000 MHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

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

Agilent

R T

Freq/Channel



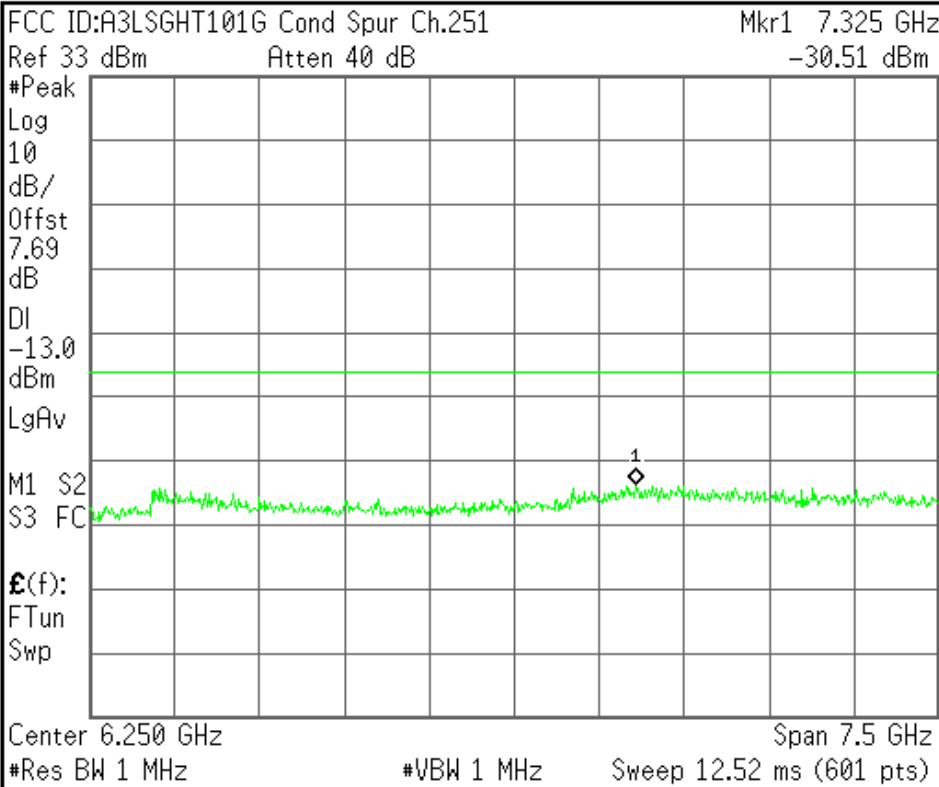
Center Freq 1.67690000 GHz
Start Freq 853.800000 MHz
Stop Freq 2.50000000 GHz
CF Step 164.620000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



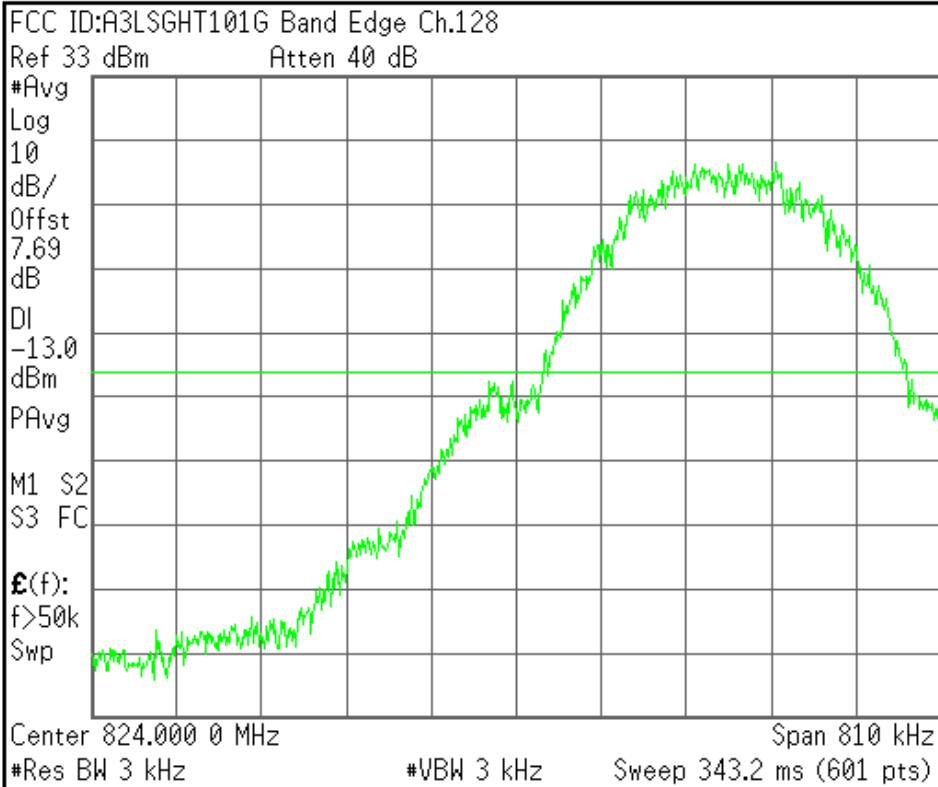
Center Freq 6.25000000 GHz
Start Freq 2.50000000 GHz
Stop Freq 10.00000000 GHz
CF Step 750.000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



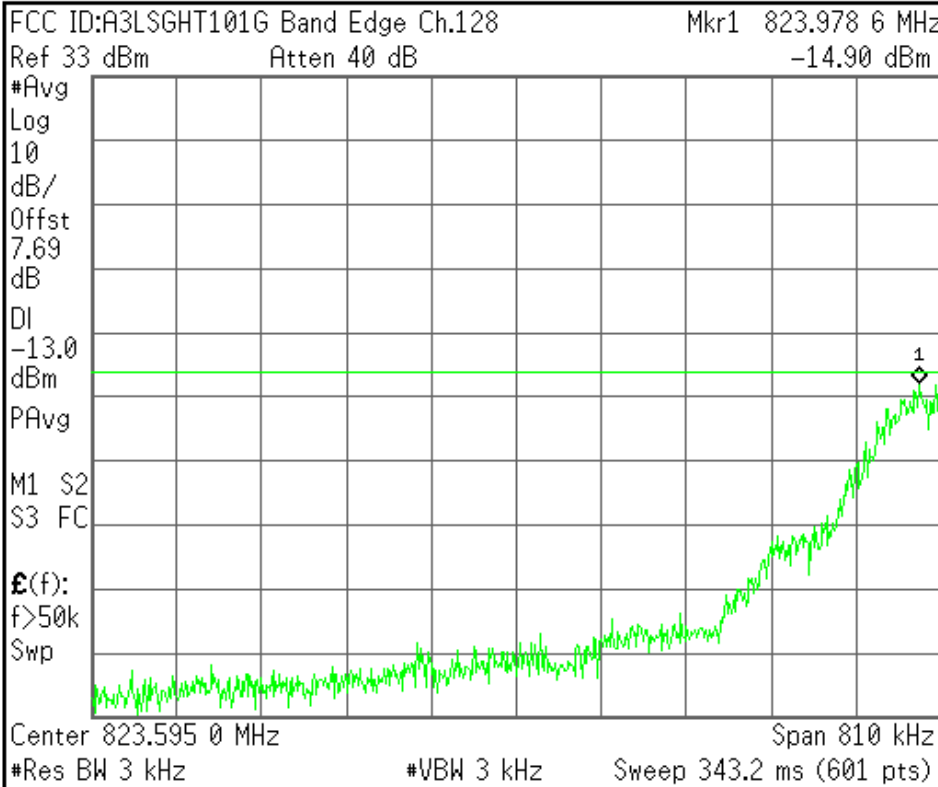
Center Freq 824.000000 MHz
Start Freq 823.595000 MHz
Stop Freq 824.405000 MHz
CF Step 81.0000000 kHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



Center Freq 823.595000 MHz
Start Freq 823.190000 MHz
Stop Freq 824.000000 MHz
CF Step 81.0000000 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:A3LSGHT101G Band Edge Ch.251

Ref 33 dBm Atten 40 dB

#Avg

Log

10

dB/

Offst

7.69

dB

DI

-13.0

dBm

PAvg

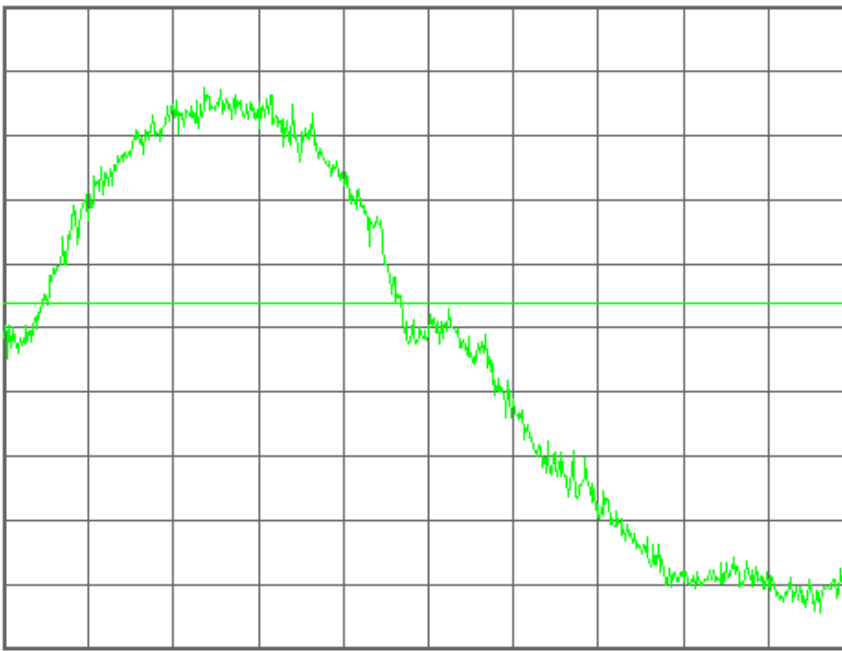
M1 S2

S3 FC

$\mathcal{E}(f)$:

f>50k

Swp



Center 849.000 0 MHz

Span 810 kHz

#Res BW 3 kHz

#VBW 3 kHz

Sweep 343.2 ms (601 pts)

Center Freq
849.000000 MHz

Start Freq
848.595000 MHz

Stop Freq
849.405000 MHz

CF Step
81.0000000 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:A3LSGHT101G Band Edge Ch.251

Mkr1 849.016 0 MHz

Ref 33 dBm Atten 40 dB

-14.98 dBm

#Avg

Log

10

dB/

Offst

7.69

dB

DI

-13.0

dBm

PAvg

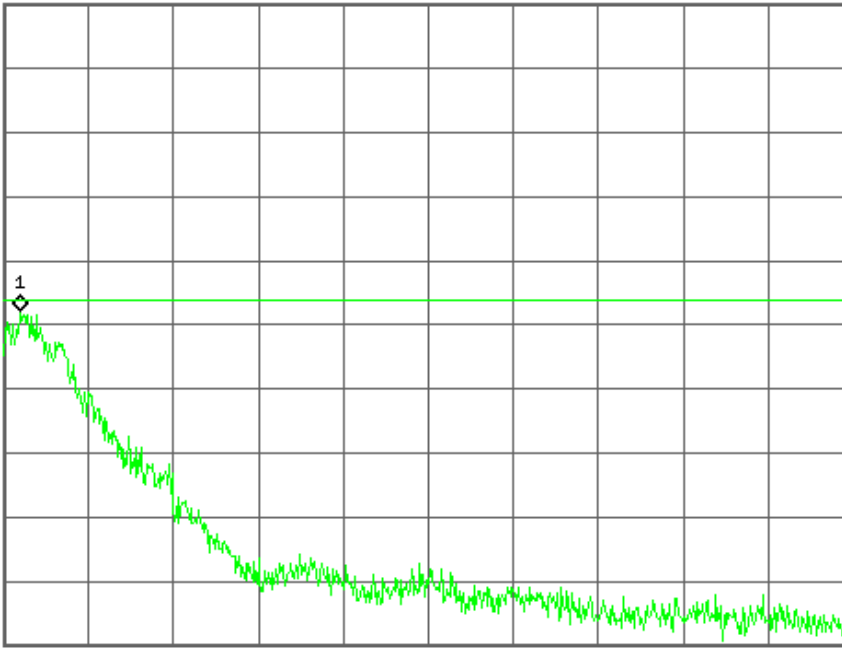
M1 S2

S3 FC

$\mathcal{E}(f)$:

f>50k

Swp



Center 849.405 0 MHz

Span 810 kHz

#Res BW 3 kHz

#VBW 3 kHz

Sweep 343.2 ms (601 pts)

Center Freq
849.405000 MHz

Start Freq
849.000000 MHz

Stop Freq
849.810000 MHz

CF Step
81.0000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

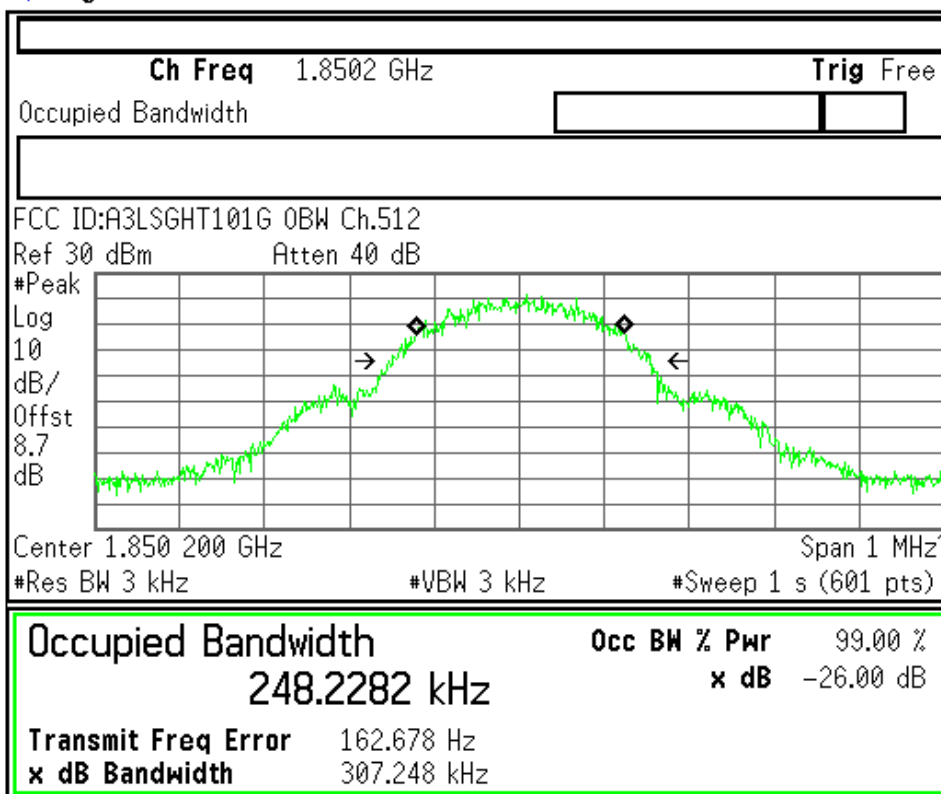
Signal Track
On Off

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

GSM1900

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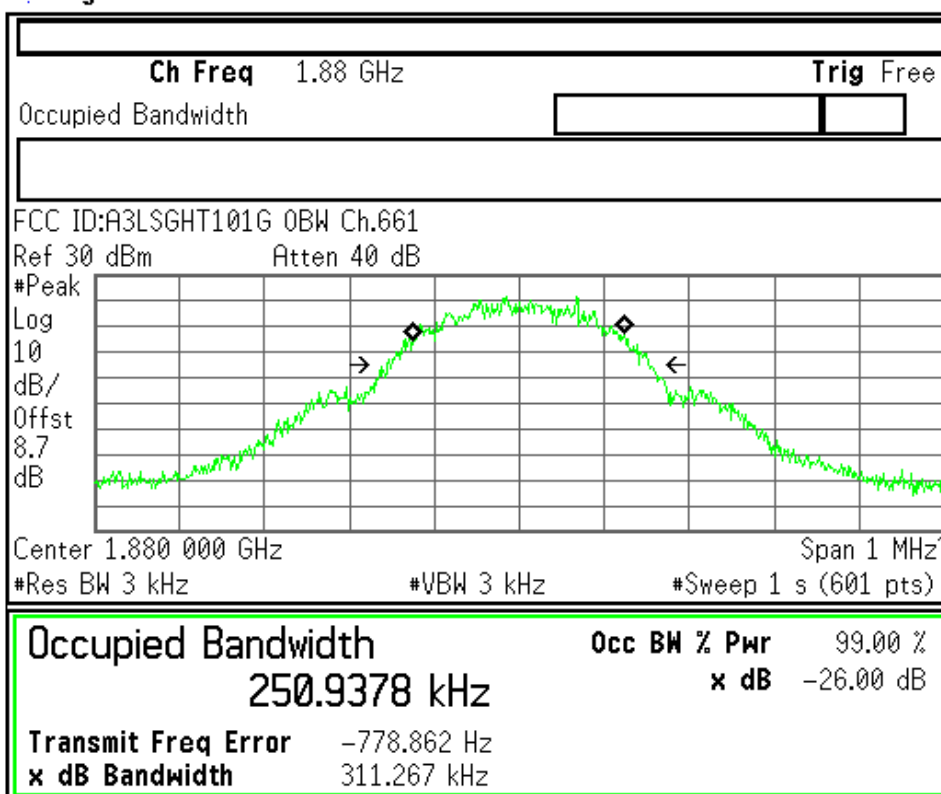


Freq/Channel
Center Freq 1.85020000 GHz
Start Freq 1.84970000 GHz
Stop Freq 1.85070000 GHz
CF Step 100.000000 kHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

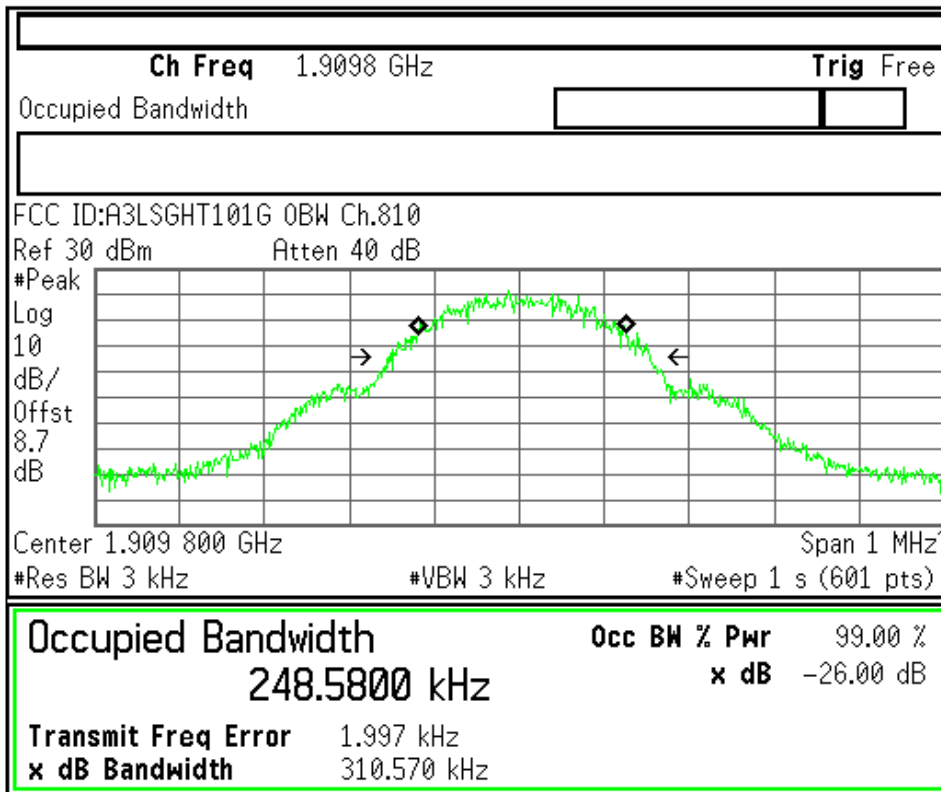
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Freq/Channel
Center Freq 1.88000000 GHz
Start Freq 1.87950000 GHz
Stop Freq 1.88050000 GHz
CF Step 100.000000 kHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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



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

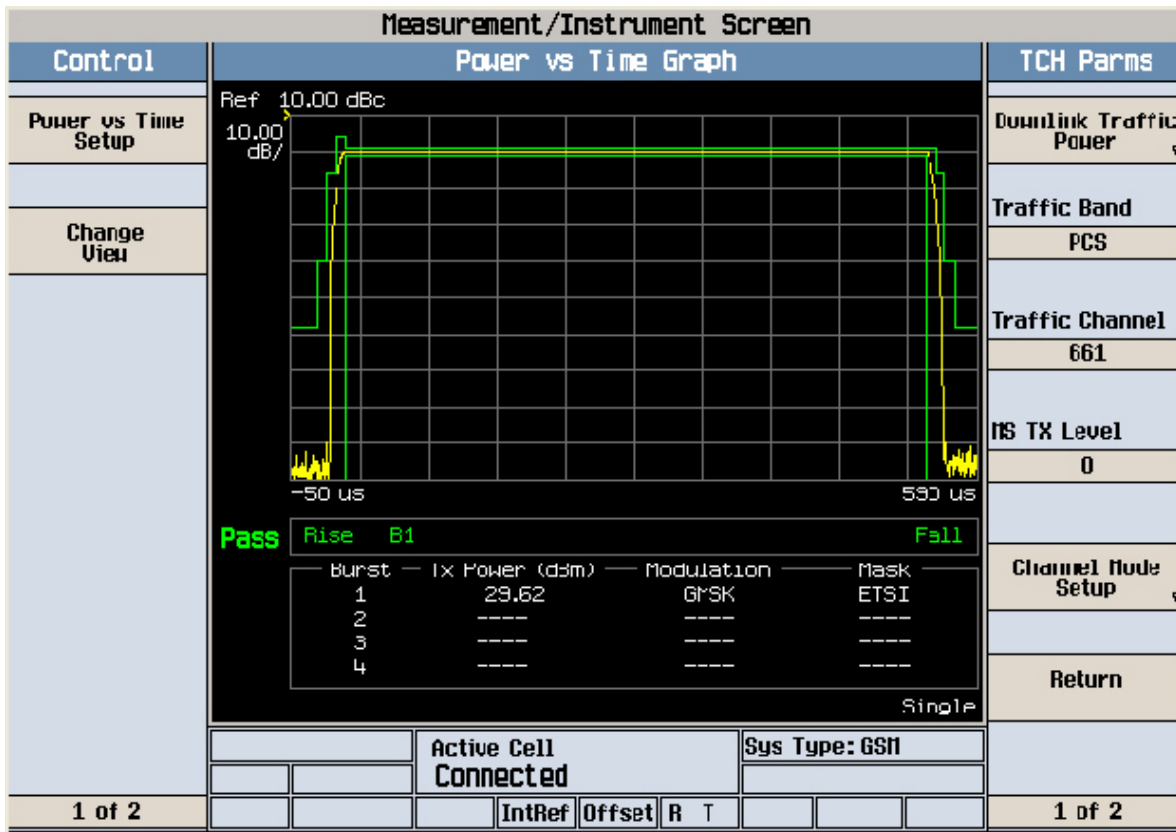
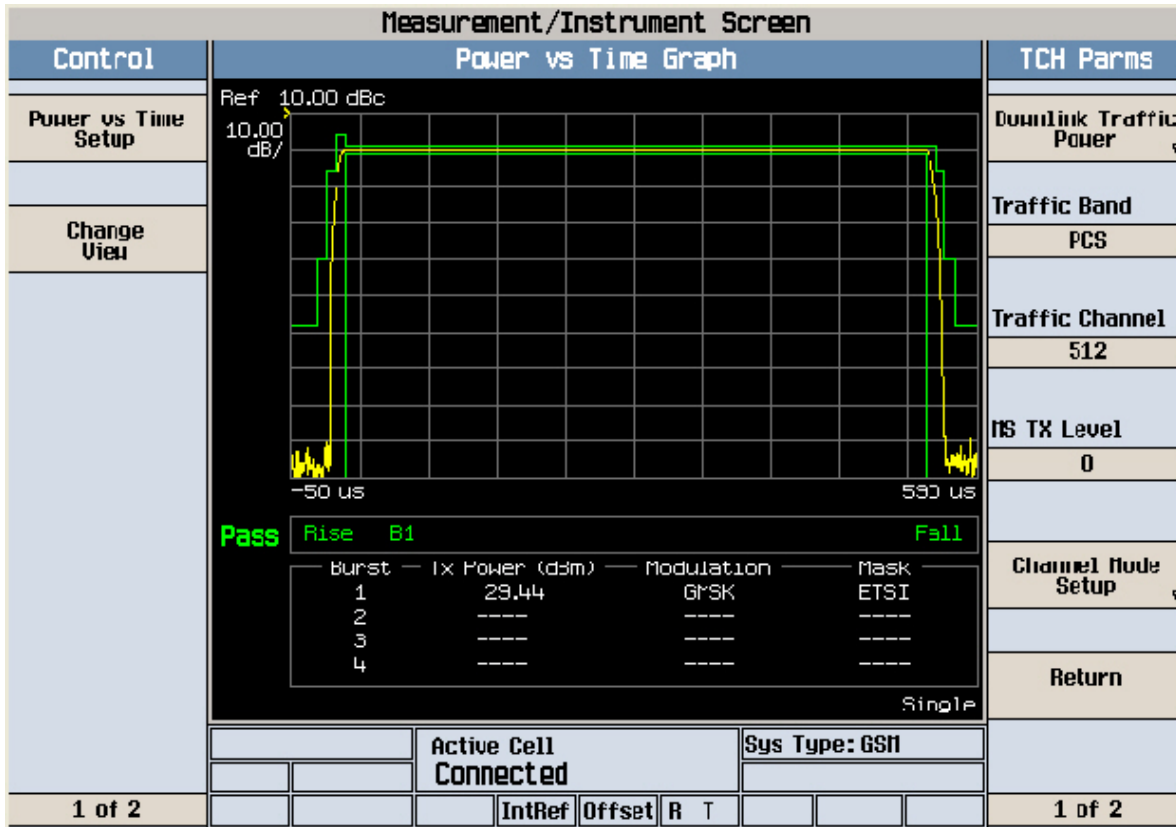
File Operation Status, C:\TEMP.GIF file saved

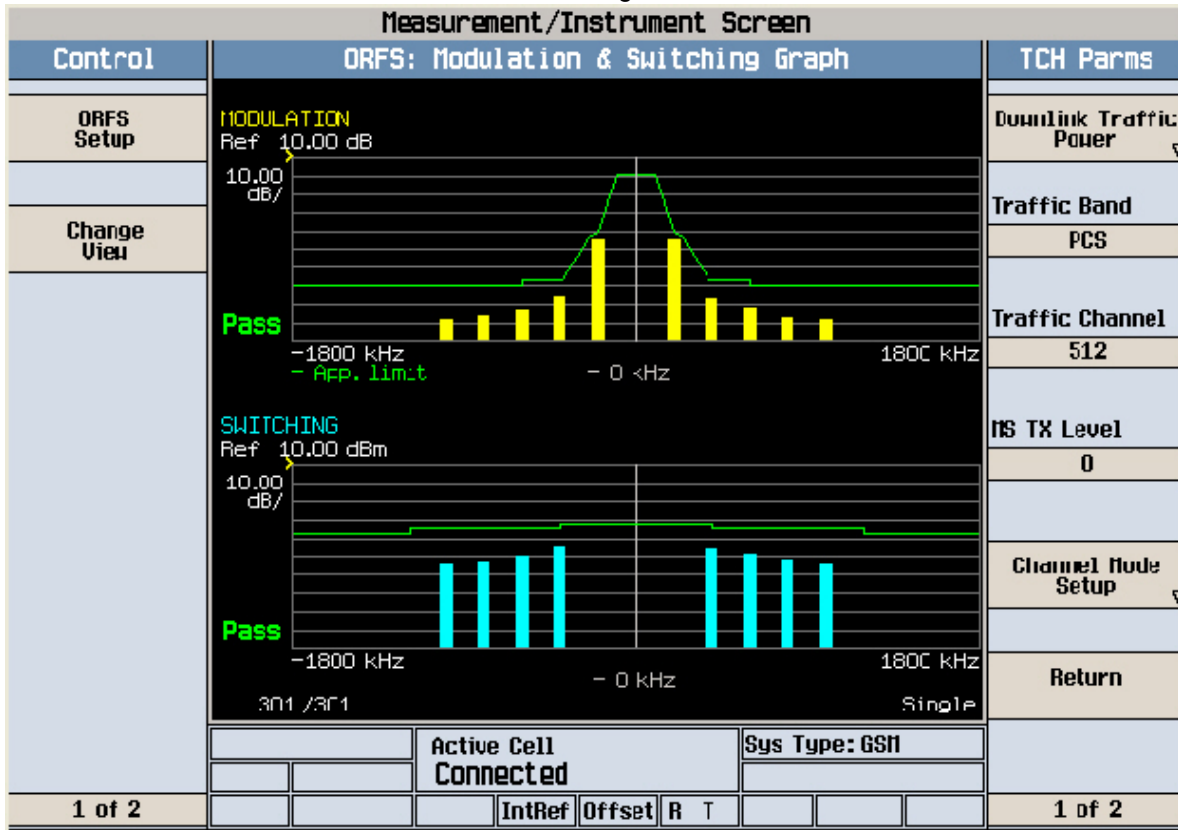
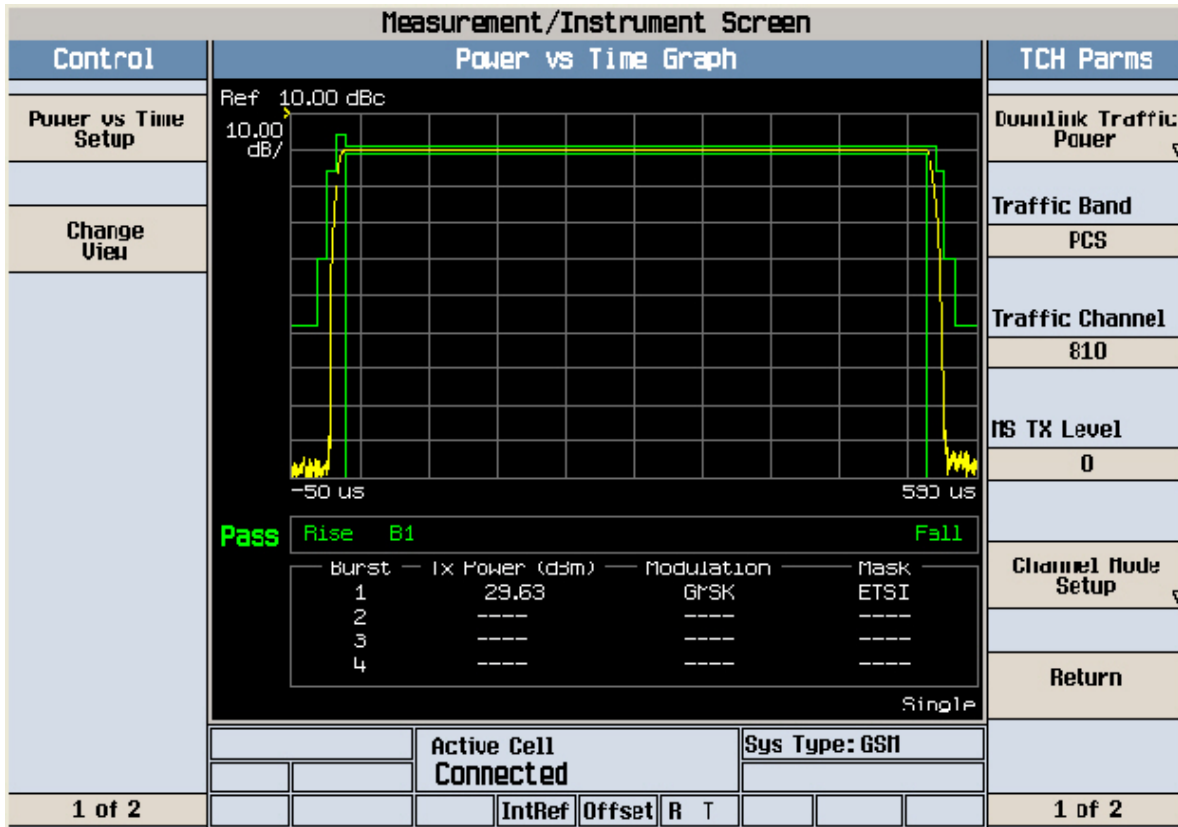
FCC ID : A3LSGHT101G Transmit Power 512CH

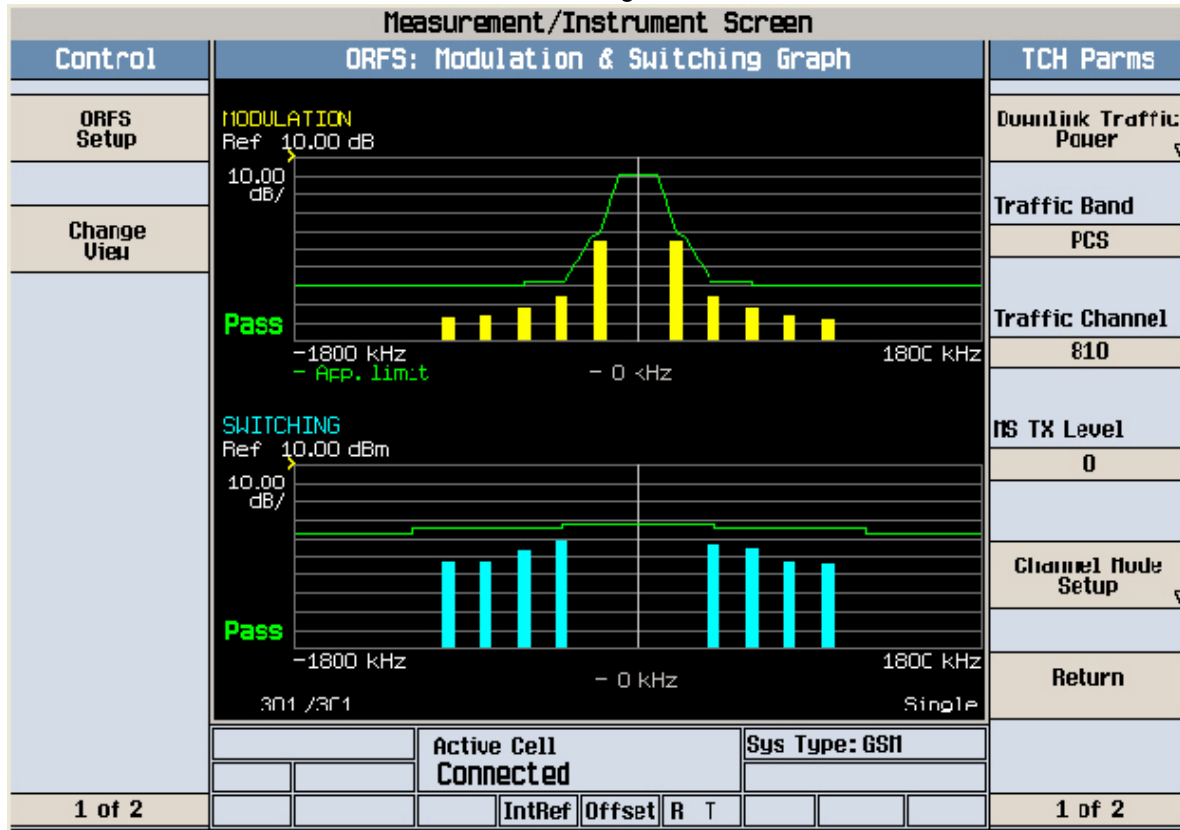
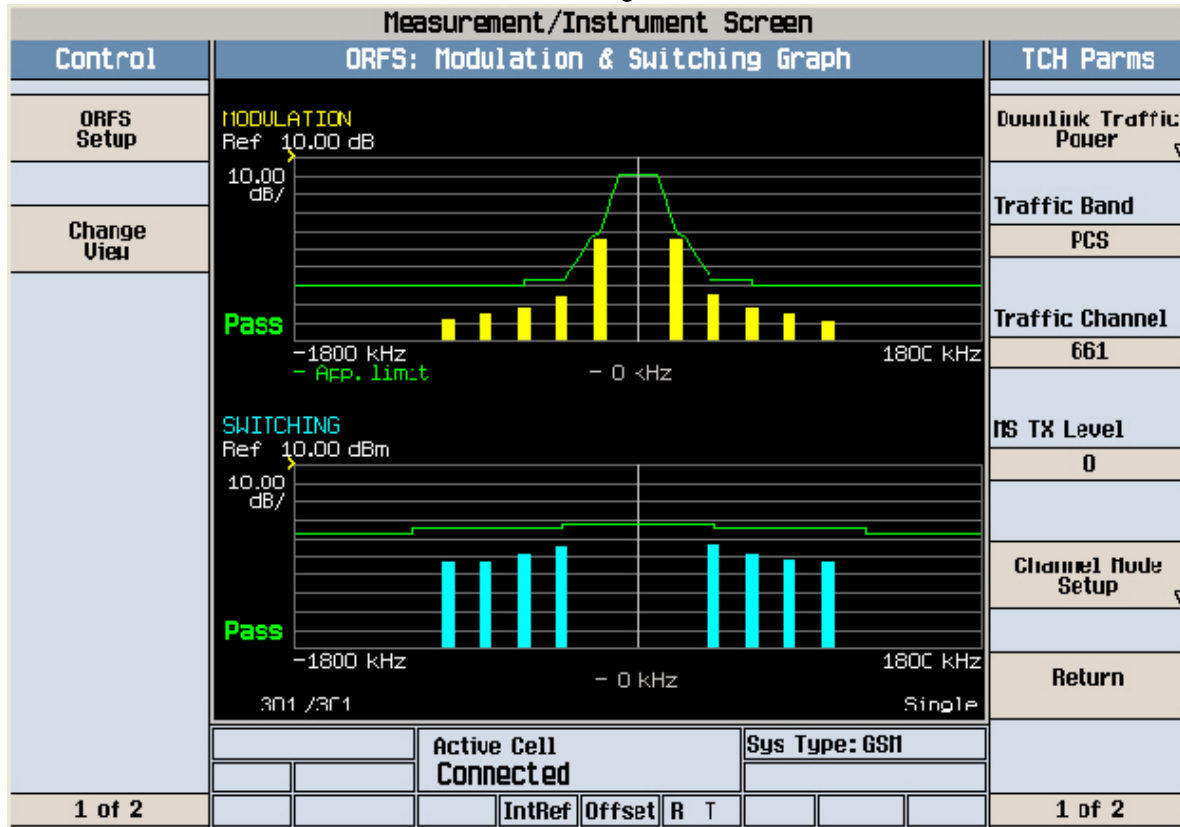
Measurement/Instrument Screen										
Control		Transmit Power						TCH Parms		
Transmit Power Setup	▼					Burst 1	Burst 2	Burst 3	Burst 4	Downlink Traffic Power
		Burst Power				29.44	----	----	----	Traffic Band
		Estimated Carrier Power				29.44	----	----	----	PCS
						Single				Traffic Channel
								512		
Snap Window Positions		Phase & Frequency Error								RIS TX Level
				Peak Phase °	RMS Phase °	Frequency Hz				0
		Minimum	4.05	1.51	-5.36				Channel Mode Setup	
		Maximum	6.20	2.06	28.60				▼	
		Average	5.04	1.81	9.86				Return	
Pass/Fail	Pass	Pass	Pass							
		50 / 50				Single				
		Active Cell Connected				Sys Type: GSM				
1 of 2				IntRef	Offset	R T			1 of 2	

Measurement/Instrument Screen										
Control	Transmit Power							TCH Parms		
Transmit Power Setup					Burst 1	Burst 2	Burst 3	Burst 4	Downlink Traffic Power	
	Burst Power				29.62	----	----	----	Traffic Band	PCS
Swap Window Positions	Estimated Carrier Power				29.62	----	----	----	Traffic Channel	661
	Single									
	Phase & Frequency Error									
			Peak Phase °	RMS Phase °	Frequency Hz					
	Minimum		4.10	1.53	-11.53		MS TX Level			
Maximum		6.15	1.99	29.89		0				
Average		4.93	1.78	1.90		Channel Mode Setup				
Pass/Fail		Pass	Pass	Pass		Return				
50 / 50 Single										
			Active Cell Connected			Sys Type: GSM				
1 of 2				IntRef	Offset	R	T			1 of 2

Measurement/Instrument Screen										
Control	Transmit Power							TCH Parms		
Transmit Power Setup					Burst 1	Burst 2	Burst 3	Burst 4	Downlink Traffic Power	
	Burst Power				29.63	----	----	----	Traffic Band	PCS
Swap Window Positions	Estimated Carrier Power				29.63	----	----	----	Traffic Channel	810
	Single									
	Phase & Frequency Error									
			Peak Phase °	RMS Phase °	Frequency Hz					
	Minimum		3.65	1.43	8.84		MS TX Level			
Maximum		6.65	2.02	21.19		0				
Average		4.89	1.76	16.31		Channel Mode Setup				
Pass/Fail		Pass	Pass	Pass		Return				
50 / 50 Single										
			Active Cell Connected			Sys Type: GSM				
1 of 2				IntRef	Offset	R	T			1 of 2







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Freq/Channel

FCC ID:A3LSGHT101G Cond Spur Ch.512

Ref 30 dBm Atten 40 dB



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

Center 1.255 GHz Span 2.49 GHz
#Res BW 1 MHz #VBW 1 MHz Sweep 4.16 ms (601 pts)

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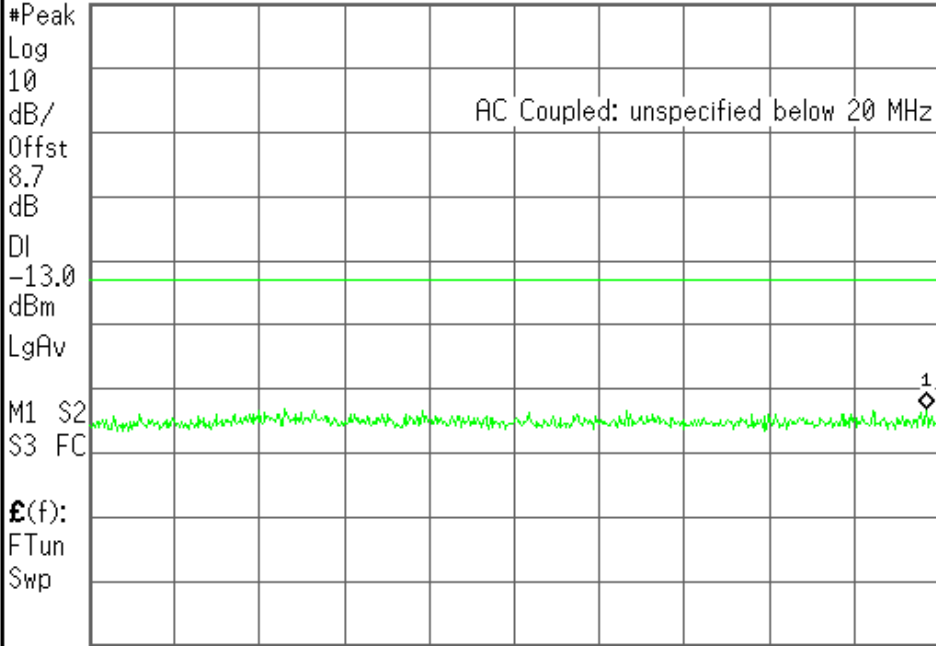
Freq/Channel

FCC ID:A3LSGHT101G Cond Spur Ch.512

Mkr1 1.815 GHz

Ref 30 dBm Atten 40 dB

-32.95 dBm



Center Freq
926.350000 MHz

Start Freq
10.0000000 MHz

Stop Freq
1.84270000 GHz

CF Step
183.270000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

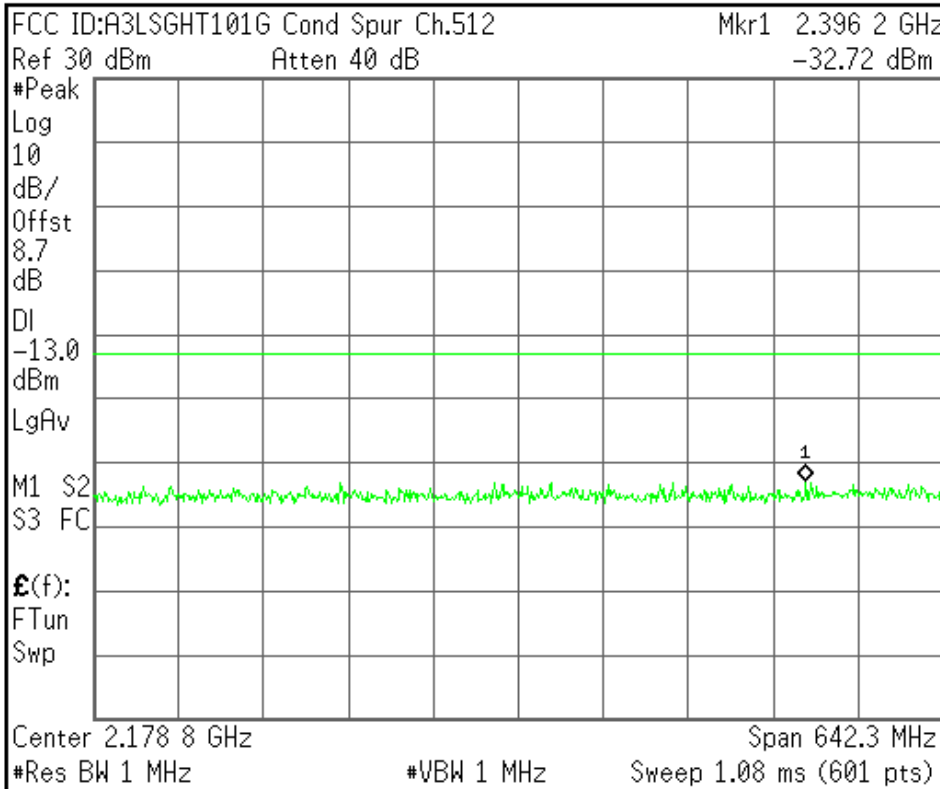
Center 926 MHz Span 1.833 GHz
#Res BW 1 MHz #VBW 1 MHz Sweep 3.08 ms (601 pts)

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

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R T

Freq/Channel



Center Freq
2.17885000 GHz

Start Freq
1.85770000 GHz

Stop Freq
2.50000000 GHz

CF Step
64.2300000 MHz
Auto Man

Freq Offset
0.00000000 Hz

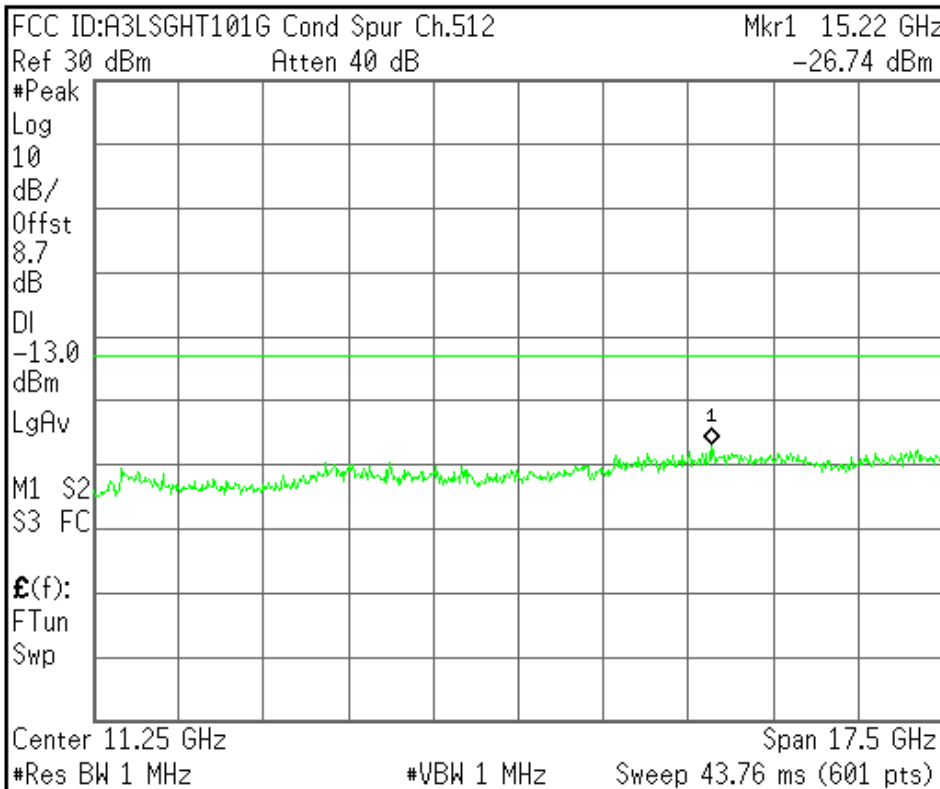
Signal Track
On Off

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

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R T

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

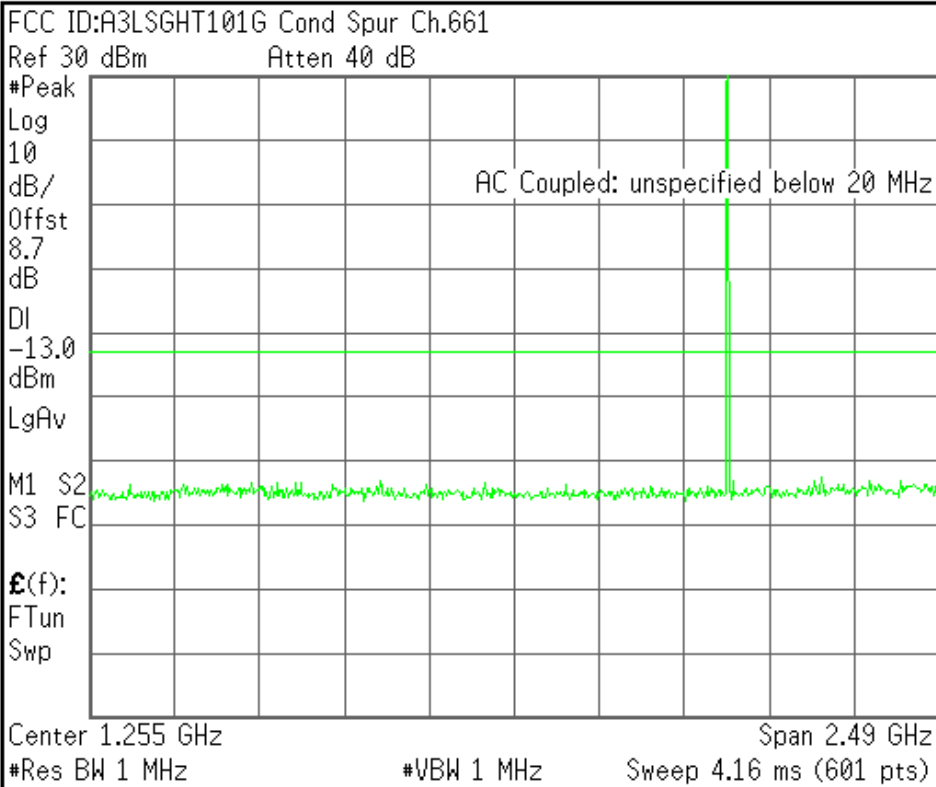
Signal Track
On Off

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

Agilent

R T

Freq/Channel



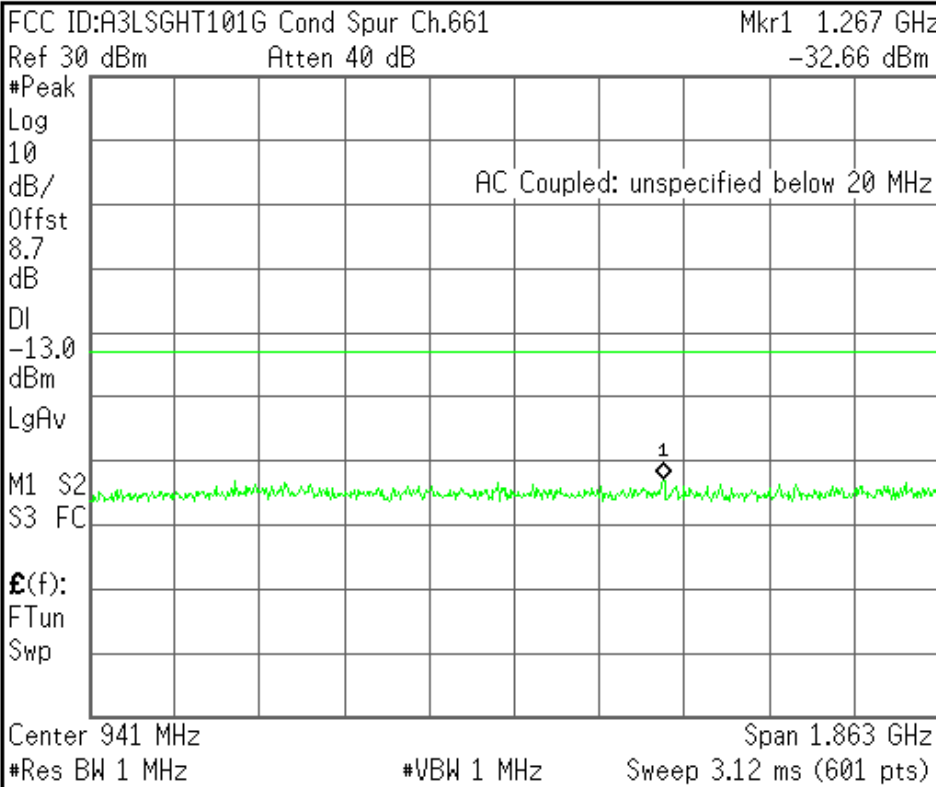
Center Freq	1.25500000 GHz
Start Freq	10.00000000 MHz
Stop Freq	2.50000000 GHz
CF Step	249.0000000 MHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

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

Agilent

R T

Freq/Channel



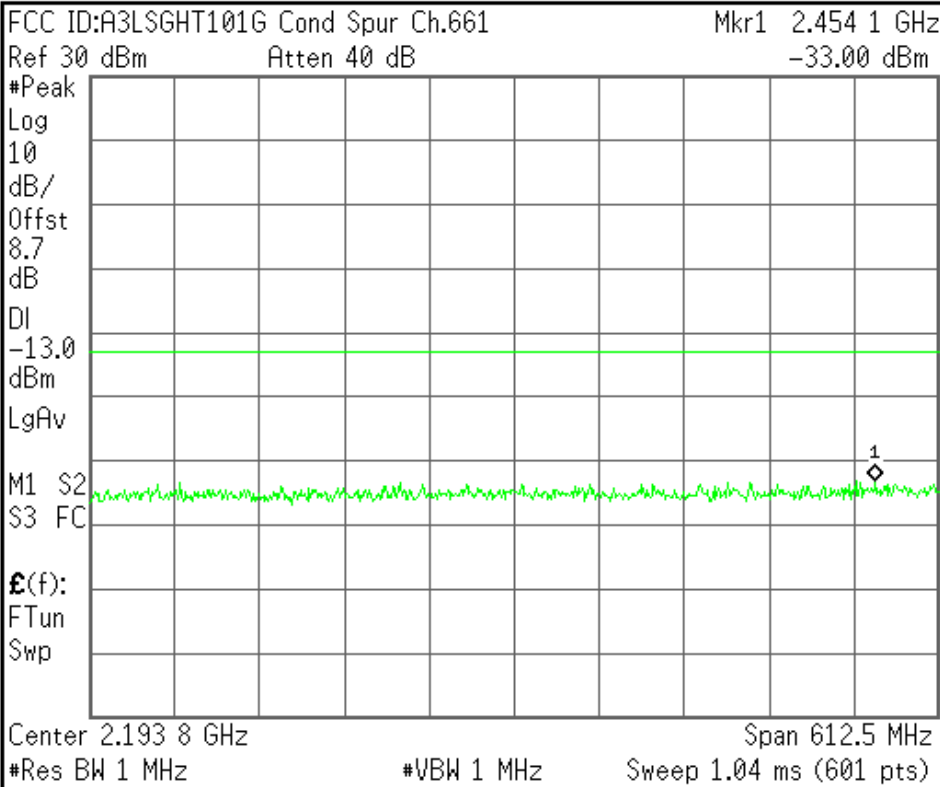
Center Freq	941.250000 MHz
Start Freq	10.00000000 MHz
Stop Freq	1.87250000 GHz
CF Step	186.250000 MHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

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

Agilent

R T

Freq/Channel



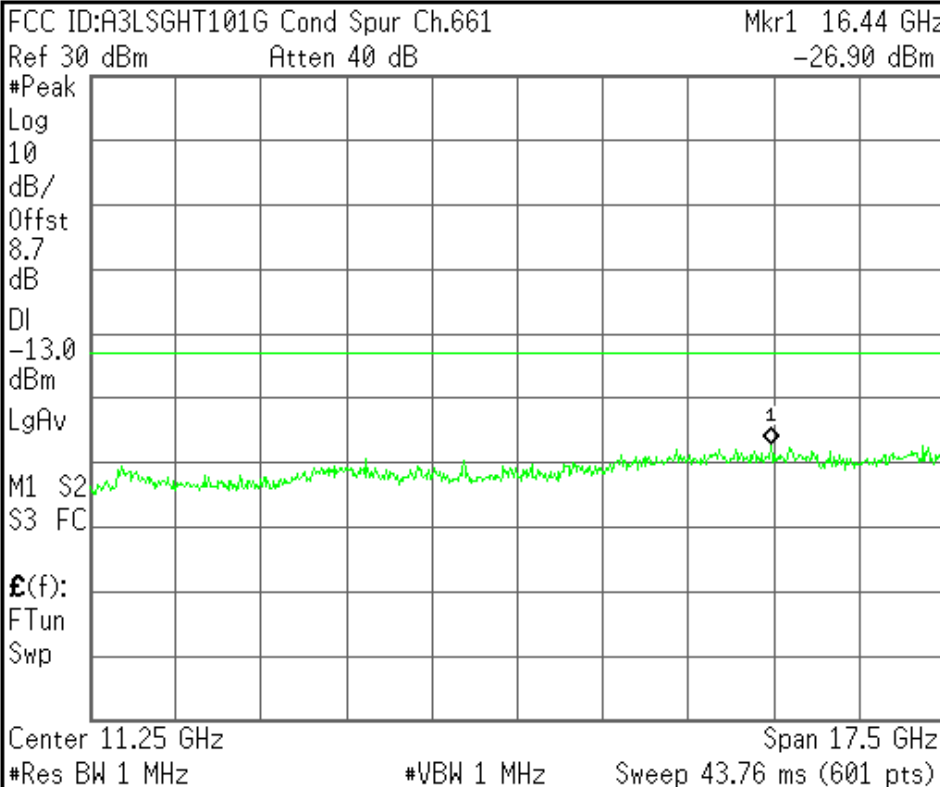
Center Freq 2.19375000 GHz
Start Freq 1.88750000 GHz
Stop Freq 2.50000000 GHz
CF Step 61.2500000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



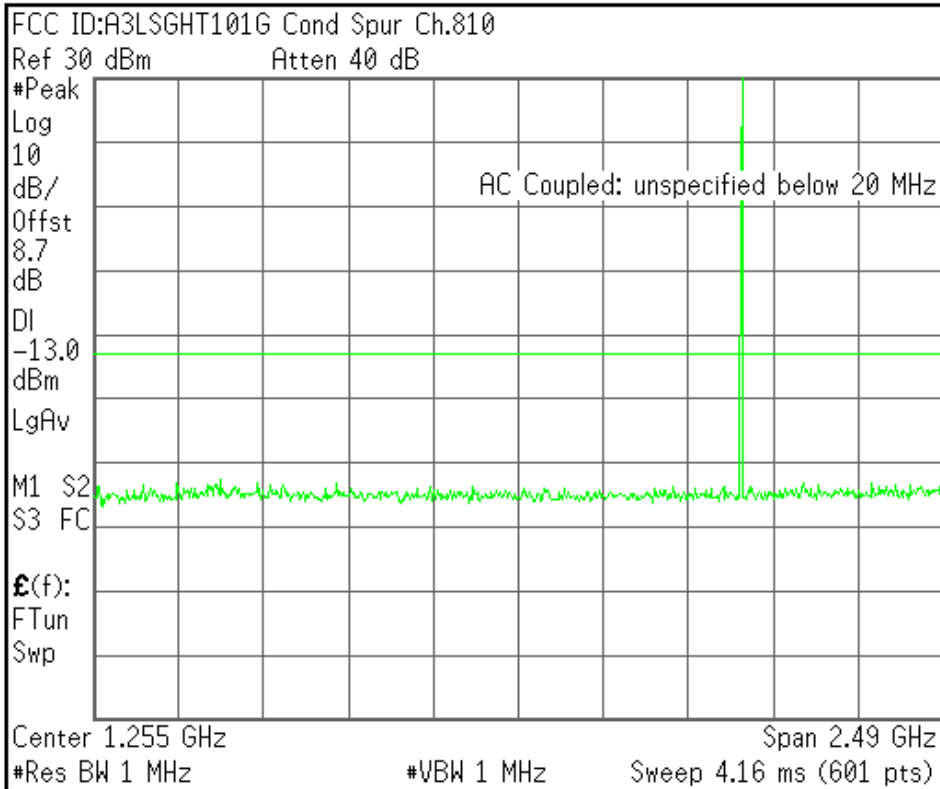
Center Freq 11.2500000 GHz
Start Freq 2.50000000 GHz
Stop Freq 20.0000000 GHz
CF Step 1.75000000 GHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



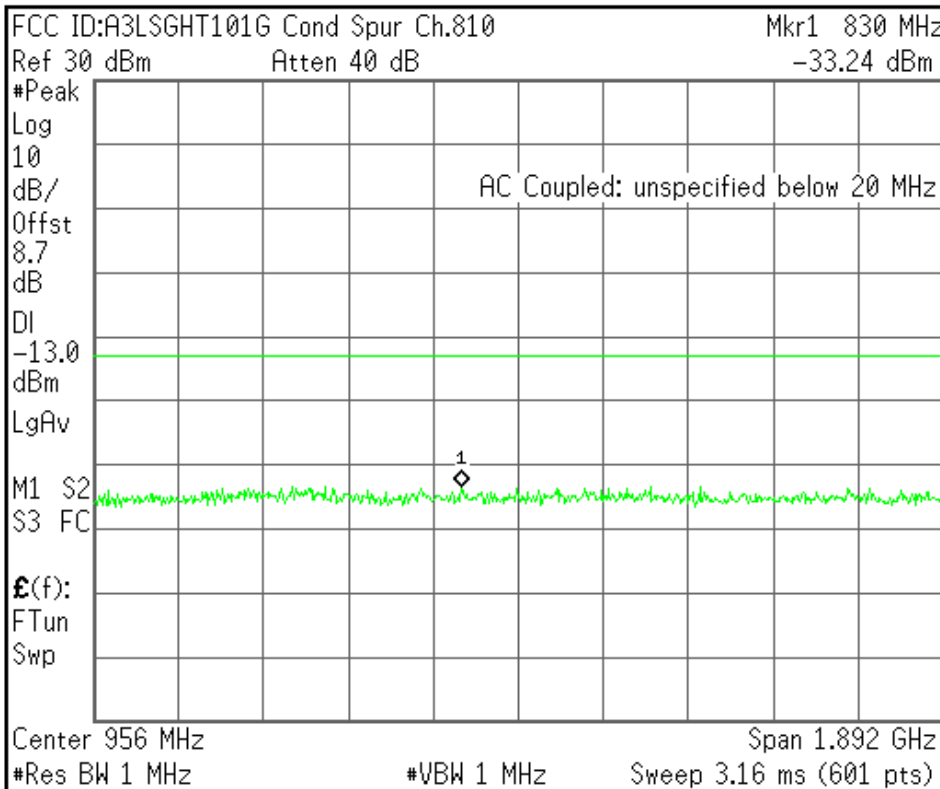
Center Freq 1.25500000 GHz
Start Freq 10.00000000 MHz
Stop Freq 2.50000000 GHz
CF Step 249.0000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



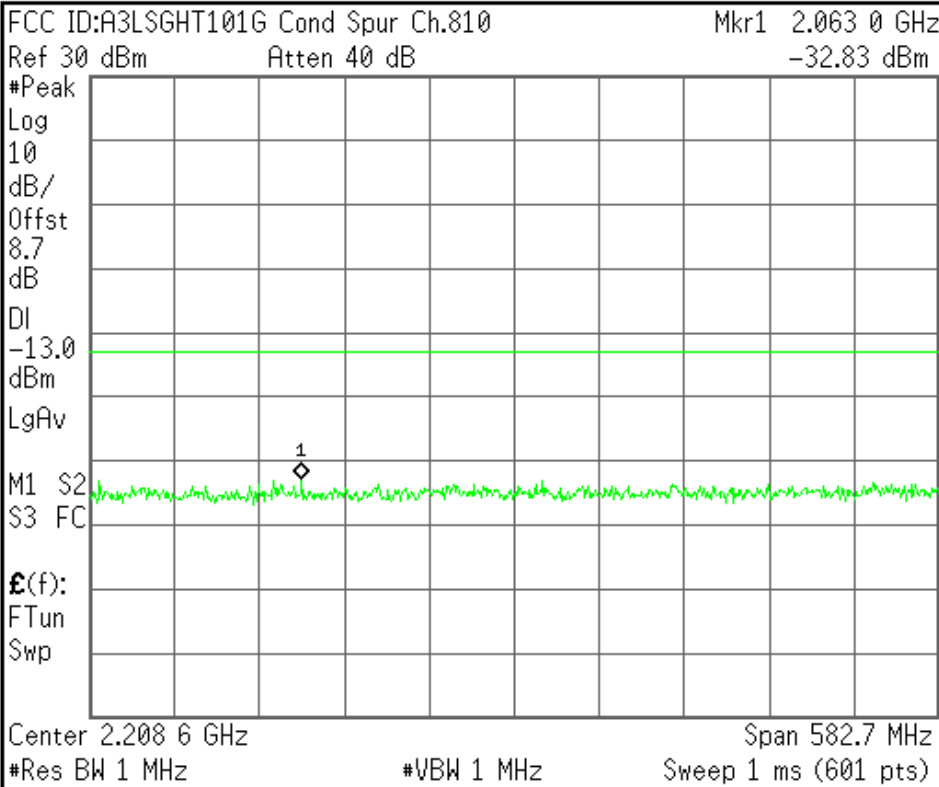
Center Freq 956.150000 MHz
Start Freq 10.00000000 MHz
Stop Freq 1.90230000 GHz
CF Step 189.2300000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



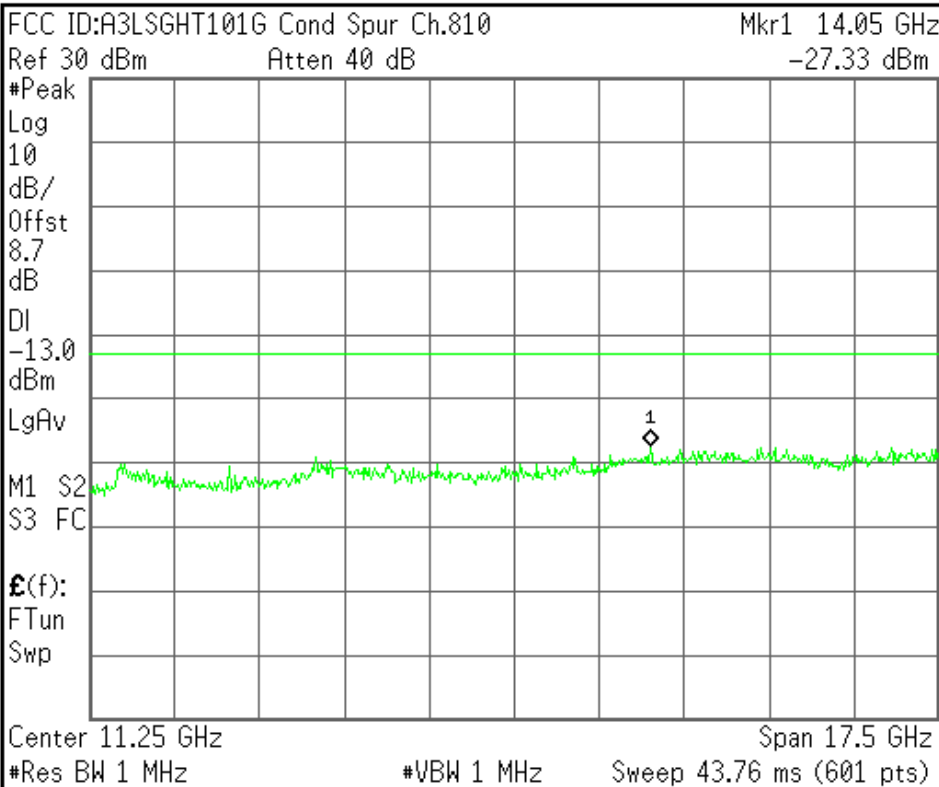
Center Freq 2.20865000 GHz
Start Freq 1.91730000 GHz
Stop Freq 2.50000000 GHz
CF Step 58.2700000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



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

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Freq/Channel

FCC ID:A3LSGHT101G Band Edge Ch.512

Ref 30 dBm

Atten 40 dB

#Avg

Log

10

dB/

Offst

8.7

dB

DI

-13.0

dBm

PAvg

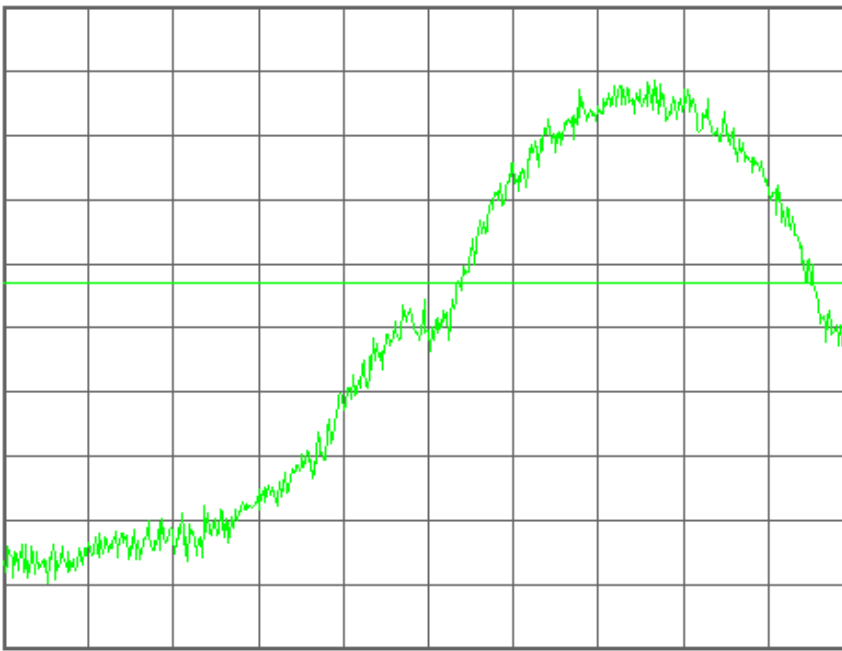
M1 S2

S3 FC

$\mathcal{E}(f)$:

f>50k

Swp



Center 1.850 000 0 GHz

Span 810 kHz

#Res BW 3 kHz

#VBW 3 kHz

Sweep 343.2 ms (601 pts)

Center Freq
1.85000000 GHz

Start Freq
1.84959500 GHz

Stop Freq
1.85040500 GHz

CF Step
81.0000000 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:A3LSGHT101G Band Edge Ch.512

Mkr1 1.849 984 0 GHz

Ref 30 dBm

Atten 40 dB

-16.58 dBm

#Avg

Log

10

dB/

Offst

8.7

dB

DI

-13.0

dBm

PAvg

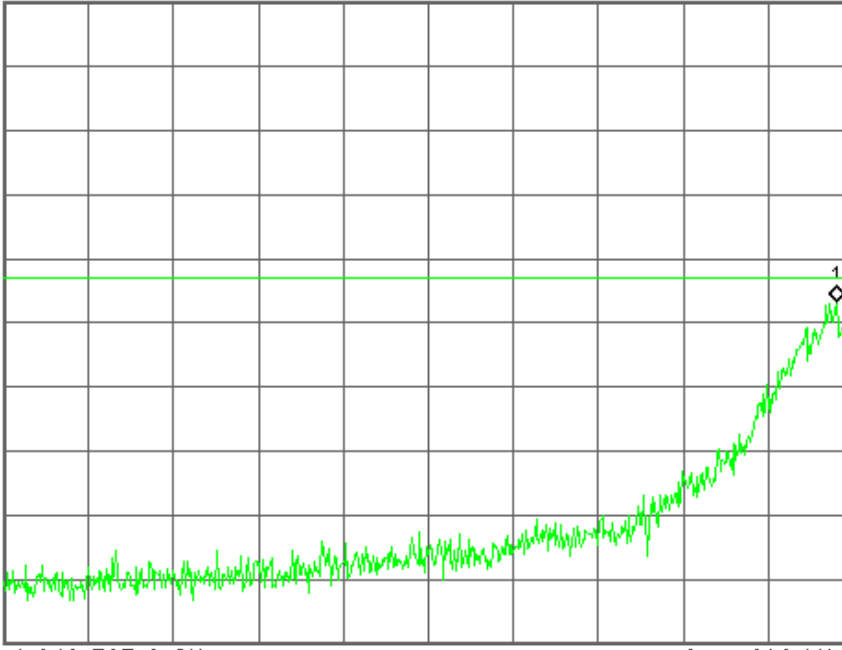
M1 S2

S3 FC

$\mathcal{E}(f)$:

f>50k

Swp



Center 1.849 595 0 GHz

Span 810 kHz

#Res BW 3 kHz

#VBW 3 kHz

Sweep 343.2 ms (601 pts)

Center Freq
1.84959500 GHz

Start Freq
1.84919000 GHz

Stop Freq
1.85000000 GHz

CF Step
81.0000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

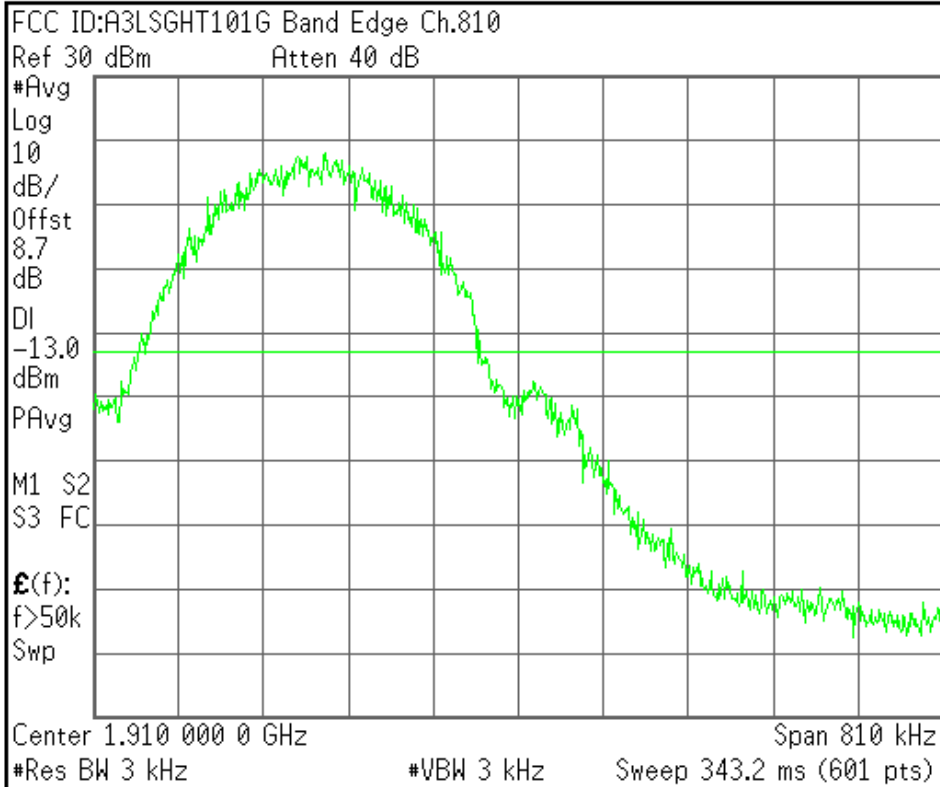
Signal Track
On Off

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

Agilent

R T

Freq/Channel



Center Freq
1.91000000 GHz

Start Freq
1.90959500 GHz

Stop Freq
1.91040500 GHz

CF Step
81.0000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

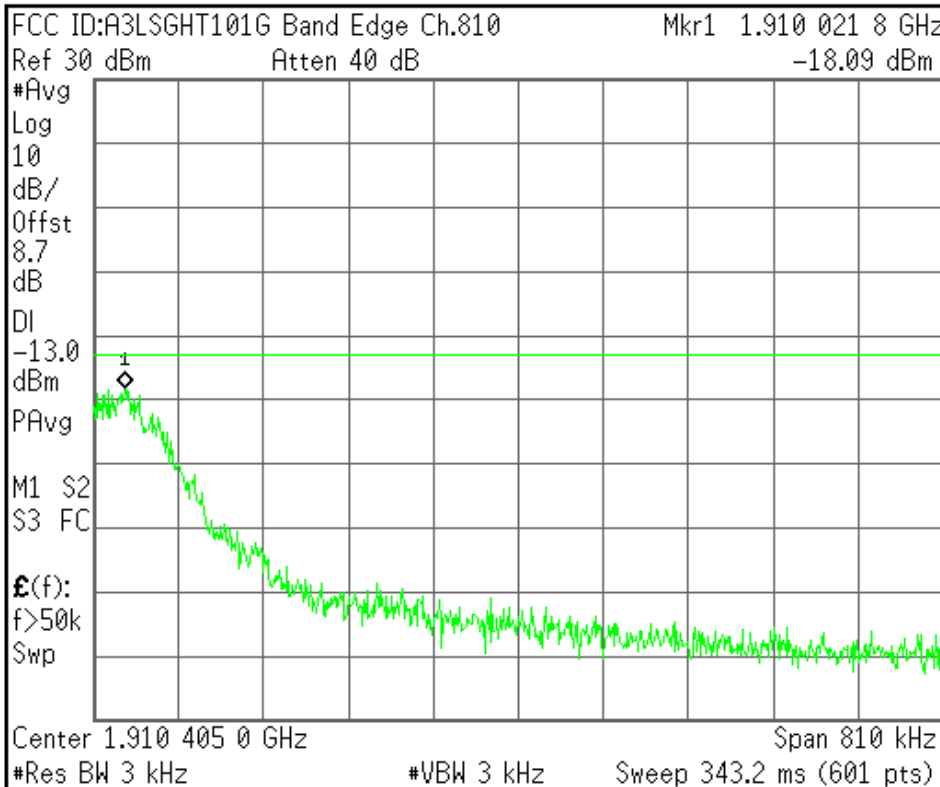
Signal Track
On Off

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

Agilent

R T

Freq/Channel



Center Freq
1.91040500 GHz

Start Freq
1.91000000 GHz

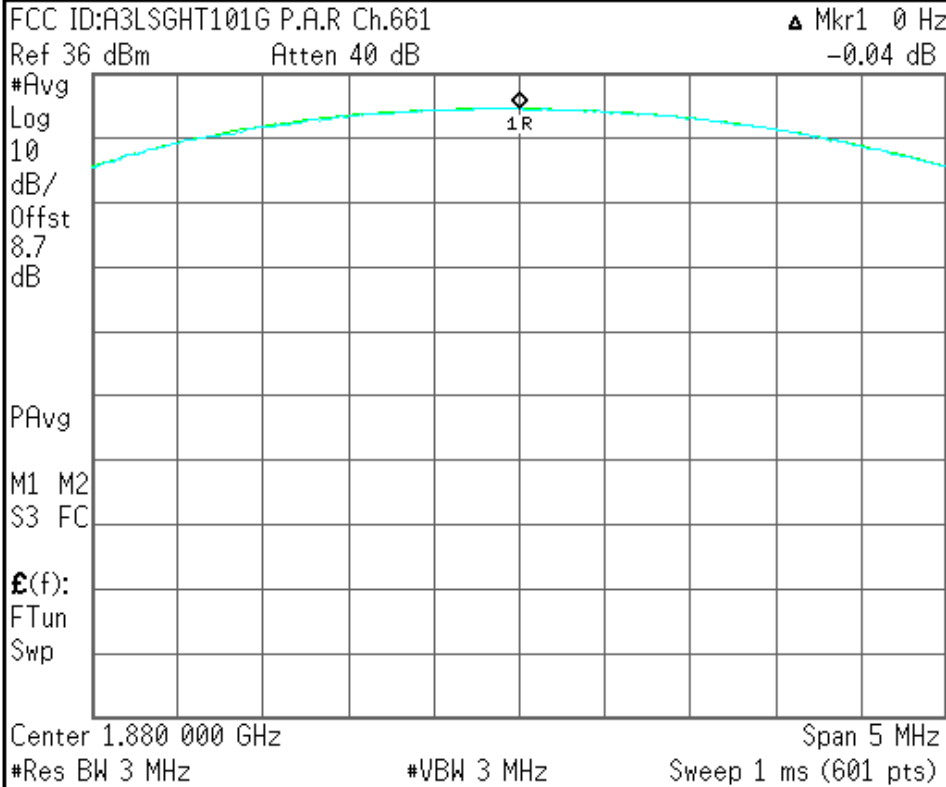
Stop Freq
1.91081000 GHz

CF Step
81.0000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

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



Center Freq 1.88000000 GHz
Start Freq 1.87750000 GHz
Stop Freq 1.88250000 GHz
CF Step 500.000000 kHz Auto <u>Man</u>
Freq Offset 0.00000000 Hz
Signal Track On <u>Off</u>

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