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FCC CFR47 PART 22 & 24 SUBPART CERTIFICATION REPORT

Model Tested:	SGH-T746
FCC ID (Requested):	A3LSGHT746
Report No:	FG-201-R2
Job No:	FG-201
Date issued:	July 29, 2009

- Abstract -

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

Prepared By

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Authorized By

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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
* FCC ID:	A3LSGHT746
* Model:	SGH-T746
* Quantity:	Quantity production is planned
* Emission Designators:	4M18F9W(Cellular WCDMA), 4M21F9W(PCS WCDMA)
* Tx Freq. Range:	826.4 - 846.6 MHz (Cellular WCDMA) 1852.4 - 1907.6 MHz (PCS WCDMA)
* Rx Freq. Range:	871.4 - 891.6 MHz (Cellular WCDMA) 1932.4 - 1987.6 MHz (PCS WCDMA)
* Max. Power Rating:	0.073 W Cellular WCDMA (18.64 dBm) 0.150 W PCS WCDMA(21.77 dBm)
* FCC Classification(s):	PCS Licensed Portable Tx Held to Ear (PCE)
* Equipment (EUT) Type:	850/1900 GSM/EDGE/WCDMA Phone with Bluetooth
* Modulation(s):	WCDMA
* Frequency Tolerance:	$\pm 0.00025\%$ (2.5ppm)
* FCC Rule Part(s):	§4(E), §2(H), §.
* Dates of Test:	July 01-02, 2009
* Place of Test:	SAMSUNG Lab,
* Test Report S/N:	FG-201-R2

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	2010-06-19
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-P R	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	2010-06-19
	E3640A	MY40003595	2010-06-19
	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. FCC 3G MEASUREMENT PROCEDURES

The maximum output power is a measure of the maximum power the UE can transmit (i.e. the actual power as would be measured assuming no measurement error) in a band width of at least $(1+\alpha)$ times the chip rate of the radio access mode

The default test configuration is configure an established radio link between the UE and a communication test set using a 12.2kbps RMC (reference measurement channel) configured in Test Loop Mode 1. Maximum output is verified according to 3GPP TS 34.121 Section 5.2

1. Configure TCP (Transmit Power Control) set to "All 1" S.
2. RMC and AMR connections at 12.2kbps are measured under 3.4kbps SRB (signaling radio bearer)
3. Measure the mean power of the UE in a bandwidth of at least $(1+\alpha)$ times the chip rate of the radio access mode. The mean power shall be averaged over at least one timeslot.

Table1
3GPP TS 34.121 Nominal Maximum Output Power

Operating Band	Power Class3		Power Class 4	
	Power (dBm)	Tol (dB)	Power (dBm)	Tol (dB)
Band II	+24	+1/-3	+21	+2/-2
Band V	+24	+1/-3	+21	+2/-2

Operating Band	Channel	HSDPA Inactive		HSDPA Active
		12.2 kbps RMC	12.2 kbps AMR	12.2 kbps RMC
Cellular WCDMA	4132	23.46	23.50	23.43
	4175	23.41	23.40	23.40
	4233	23.39	23.43	23.34
PCS WCDMA	9262	22.52	22.60	22.54
	9400	22.25	22.34	22.32
	9538	21.60	21.69	21.35

5.1 Effective Radiated Power / Equivalent Isotropic Radiated Power

Test Set-up for the ERP/EIRP TEST

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

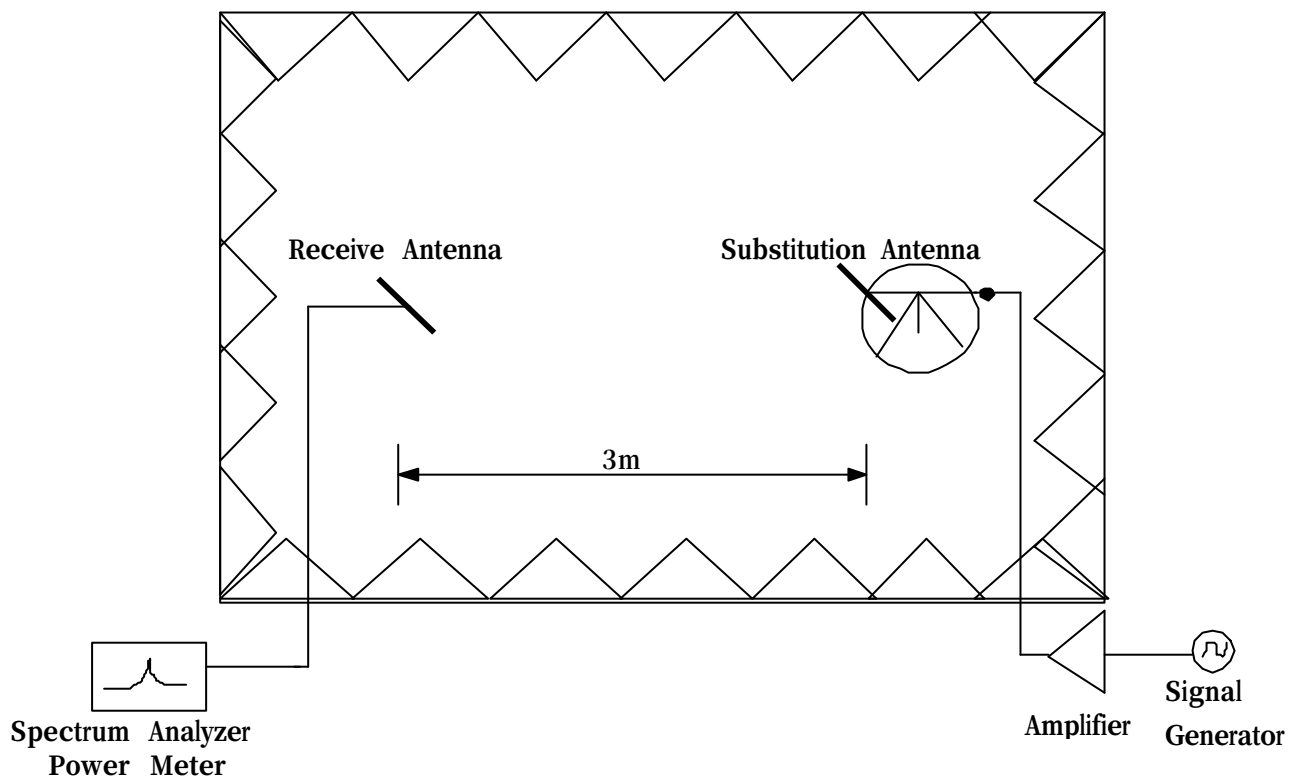


Figure 3. Diagram of ERP/EIRP test Set-up

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=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

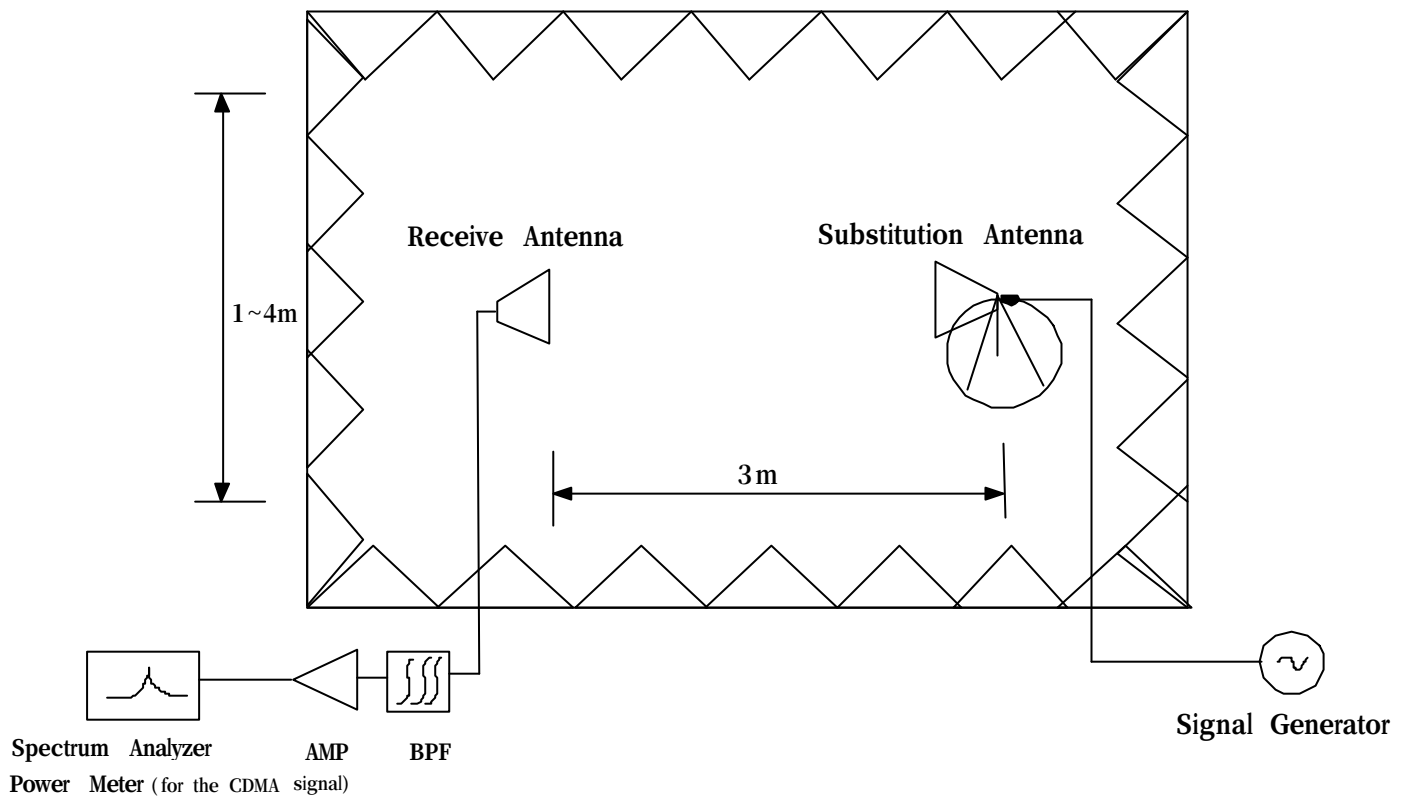


Figure 4. Diagram of Radiated Spurious & Harmonic test Set-up

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

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.

- End of page -

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 Emissions 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.

- End of page -

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 -13 dBm, calculation shown below.

$$43 + 10\log(0.150 \text{ W}) = 34.77\text{dB}$$

$$21.77 \text{ dBm} - 34.77 \text{ dB} = -13 \text{ dBm}$$

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 -13 dBm 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 -13 dBm to show compliance. The high, lowest and a middle channel were tested for out of band measurements. Plots are shown herein.

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.

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6. TEST DATA

6.1 Conducted Output Power

A base station simulator was used to establish communication with the Samsung 850/1900 GSM/EDGE/WCDMA Phone with Bluetooth
FCC ID: A3LSGHT746. The base station simulator parameters were set to produce the maximum power from the EUT. This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA inactive at 12.2 kbps RMC. The WCDMA conducted powers are reported below, respectively.

BAND	Channel	UMTS RF Conducted Power Table			
		HSDPA Inactive		HSDPA Active	
		12.2 kbps RMC [dBm]	12.2 kbps AMR [dBm]	12.2 kbps RMC [dBm]	12.2 kbps AMR [dBm]
Cellular	4132	23.46	23.50	23.43	23.50
	4183	23.41	23.40	23.40	23.40
	4233	23.39	23.43	23.34	23.43
PCS	9262	22.52	22.60	22.54	22.60
	9400	22.25	22.34	22.32	22.34
	9538	21.60	21.69	21.35	21.69

Table 6.1 WCDMA Conducted Output Powers

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

Supply Voltage : 3.7VDC

Modulation : Cellular WCDMA

■Reference level

Frequency (MHz)	Output (dBm)	Polarization	P/M (dBm)	Ant gain (dBd)	Ref level (dBm)
826.4	17.00	H	-19.44	-0.67	-18.77
		V	-19.68	-0.67	-19.01
836.6	18.00	H	-19.92	-0.73	-19.19
		V	-19.39	-0.73	-18.66
846.6	19.00	H	-21.61	-0.79	-20.82
		V	-20.33	-0.79	-19.54

■Result

Frequency (MHz)	From EUT Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	ERP (dBm)	ERP (W)	Battery
826.4	-18.92	H	283/100	16.85	0.048	Standard
836.6	-19.64	H	287/90	17.55	0.057	Standard
846.6	-21.18	H	279/80	18.64	0.073	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 Equivalent Isotropic Radiated Power(E.I.R.P.)

Supply Voltage : 3.7VDC

Modulation : PCS WCDMA

■Reference level

Frequency (MHz)	Output (dBm)	Polarization	P/M (dBm)	Ant gain (dBi)	Ref level (dBm)
1852.4	22.00	H	-16.70	9.70	-26.40
		V	-16.36	9.70	-26.06
1880.0	22.00	H	-17.15	9.70	-26.85
		V	-17.17	9.70	-26.87
1907.6	21.00	H	-18.18	9.70	-27.88
		V	-17.75	9.70	-27.45

■Result

Frequency (MHz)	From EUT Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	EIRP (dBm)	EIRP (W)	Battery
1852.4	-26.67	H	104/180	21.73	0.149	Standard
1880.0	-27.10	V	225/100	21.77	0.150	Standard
1907.6	-27.55	H	121/0	21.33	0.136	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

6.4 Cellular WCDMA Radiated Spurious & Harmonic measurement

Operating Frequency : 826.4 MHz(Low), 836.4 MHz(Middle), 846.6 MHz(High)

Measured Output Power : 18.64 dBm = 0.073 W

Modulation Signal : CDMA

$$\text{Limit : } 43 + 10\log_{10}(P) = 31.64\text{dBc}$$

■Result

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	POL (H/V)	Result (dBc)
4132	2	1652.80	-62.47	V	69.15
	3	2479.20	-67.55	V	69.29
	4	3305.60	-66.80	H	65.27
	5	4132.00	-	-	-
	6	4958.40	-	-	-
	7	5784.80	-	-	-
4175	2	1672.80	-62.89	V	68.04
	3	2509.20	-67.16	H	68.54
	4	3345.60	-66.64	H	64.69
	5	4182.00	-	-	-
	6	5018.40	-	-	-
	7	5854.80	-	-	-
4233	2	1693.20	-62.87	V	68.08
	3	2539.80	-66.67	H	68.07
	4	3386.40	-66.84	V	65.16
	5	4233.00	-	-	-
	6	5079.60	-	-	-
	7	5926.20	-	-	-

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 PCS WCDMA Radiated Spurious & Harmonic measurement

Operating Frequency : 1852.4 MHz(Low), 1880.00 MHz(Middle), 1907.60 MHz(High)

Measured Output Power : 21.77 dBm = 0.150 W

Modulation Signal : PCS

Limit : $43 + 10\log_{10}(P) = 34.77\text{dBc}$

■Result

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	POL (H/V)	Result (dBc)
9262	2	3704.80	-61.14	H	58.19
	3	5557.20	-66.48	V	58.25
	4	7409.60	-67.75	H	55.11
	5	9262.00	-	-	-
	6	11114.40	-	-	-
	7	12966.80	-	-	-
9400	2	3760.00	-61.41	V	58.03
	3	5640.00	-67.21	V	58.68
	4	7520.00	-68.07	V	55.28
	5	9400.00	-	-	-
	6	11280.00	-	-	-
	7	13160.00	-	-	-
9538	2	3815.20	-57.37	H	53.84
	3	5722.80	-66.80	H	57.90
	4	7630.40	-68.62	H	55.31
	5	9538.00	-	-	-
	6	11445.60	-	-	-
	7	13353.20	-	-	-

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

6.6 Cellular WCDMA Radiated Spurious & Harmonic Conversion Table

Date : July 02, 2009

Test Engineer : JH HAN

- 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	⑤Test ed EUT Level : H dBm	⑤Test ed EUT Level : V dBm	⑥ Result EUT : H (dBc)	⑥ Result EUT : V (dBc)
4357	2	1652.80	-9.02	9.50	-13.50	-26.68	-27.10	-62.82	-62.47	69.92	69.15
	3	2479.20	-11.25	10.70	-12.50	-32.14	-31.45	-67.65	-67.55	69.29	69.88
	4	3305.60	-13.26	12.30	-12.00	-35.31	-35.43	-66.80	-66.97	65.27	65.32
	5	4132.00	-14.79	12.50	-10.70	-38.87	-38.90	-	-	-	-
	6	4958.40	-16.60	12.70	-9.10	-40.93	-40.69	-	-	-	-
	7	5784.80	-18.02	12.90	-7.90	-43.59	-43.30	-	-	-	-
4408	2	1673.20	-9.05	9.50	-13.50	-28.00	-28.63	-63.95	-62.89	69.73	68.04
	3	2509.80	-11.31	10.70	-12.40	-32.40	-31.64	-67.16	-67.32	68.54	69.46
	4	3346.40	-13.33	12.30	-12.00	-35.73	-35.60	-66.64	-66.85	64.69	65.03
	5	4183.00	-15.01	12.50	-10.50	-39.30	-39.11	-	-	-	-
	6	5019.60	-16.84	12.70	-8.90	-41.59	-41.32	-	-	-	-
	7	5856.20	-18.26	12.90	-7.60	-43.87	-43.84	-	-	-	-
4458	2	1693.20	-9.07	9.50	-13.40	-28.83	-27.75	-63.13	-62.87	68.08	68.90
	3	2539.80	-11.35	10.70	-12.40	-32.38	-32.94	-66.67	-67.39	68.07	68.23
	4	3386.40	-13.26	12.30	-12.00	-35.94	-35.46	-67.43	-66.84	65.27	65.16
	5	4233.00	-15.20	12.50	-10.30	-39.34	-39.07	-	-	-	-
	6	5079.60	-16.99	12.70	-8.70	-41.96	-41.42	-	-	-	-
	7	5926.20	-18.38	12.90	-7.50	-43.98	-43.32	-	-	-	-

6.7 PCS WCDMA Radiated Spurious & Harmonic Conversion Table

Date : July 02, 2009

Test Engineer : JH HAN

- 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 : V dBm	⑥ Result EUT : H (dBc)	⑥ Result EUT : V (dBc)
9262	2	3704.80	-14.02	12.40	-11.40	-37.72	-37.72	-61.14	-61.68	58.19	58.73
	3	5557.20	-17.68	12.90	-8.20	-42.81	-43.00	-66.72	-66.48	58.68	58.25
	4	7409.60	-20.47	10.50	-3.00	-47.41	-47.39	-67.75	-68.66	55.11	56.04
	5	9262.00	-23.65	11.20	-0.50	-50.87	-51.74	-	-	-	-
	6	11114.40	-26.73	11.60	2.10	-55.94	-55.98	-	-	-	-
	7	12966.80	-28.60	12.90	2.70	-59.18	-59.44	-	-	-	-
9400	2	3760.00	-14.17	12.40	-11.20	-38.11	-38.15	-61.75	-61.41	58.41	58.03
	3	5640.00	-17.83	12.90	-8.10	-42.84	-43.30	-67.26	-67.21	59.19	58.68
	4	7520.00	-20.58	10.60	-3.00	-47.63	-47.25	-68.14	-68.07	55.28	55.59
	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	-	-	-	-
9538	2	3815.20	-14.18	12.40	-11.20	-38.30	-38.19	-57.37	-57.65	53.84	54.23
	3	5722.80	-17.92	13.00	-8.10	-43.67	-43.62	-66.80	-67.34	57.90	58.49
	4	7630.40	-20.95	11.20	-3.30	-47.83	-48.14	-68.62	-68.68	55.56	55.31
	5	9538.00	-23.60	11.70	-1.10	-52.43	-52.81	-	-	-	-
	6	11445.60	-26.67	11.70	2.00	-56.85	-56.63	-	-	-	-
	7	13353.20	-28.41	12.30	3.10	-60.50	-59.87	-	-	-	-

6.8 Frequency Stability

6.8.1 Cellular WCDMA Frequency Stability Table

Operating Frequency : 836,600,000 Hz

Channel : 4183

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)	-45.80	836,599,954	-0.000005	-0.055
100%		-30	0.50	836,600,001	0.000000	0.001
100%		-20	-47.30	836,599,953	-0.000006	-0.057
100%		-10	-34.60	836,599,965	-0.000004	-0.041
100%		0	-26.00	836,599,974	-0.000003	-0.031
100%		+10	-39.30	836,599,961	-0.000005	-0.047
100%		+20	-45.80	836,599,954	-0.000005	-0.055
100%		+30	-3.20	836,599,997	0.000000	-0.004
100%		+40	39.00	836,600,039	0.000005	0.047
100%		+50	-48.90	836,599,951	-0.000006	-0.058
100%		+60	14.60	836,600,015	0.000002	0.017
85%	3.25	+20	-32.50	836,599,968	-0.000004	-0.039
115%	4.26	+20	17.30	836,600,017	0.000002	0.021
Batt. Endpoint	3.25	+20	-33	836,599,968	-0.000004	-0.039

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

6.8.2 PCS WCDMA Frequency Stability Table

Operating Frequency : 1,880,000,000 Hz

Channel : 9400

Reference Voltage : 3.7VDC

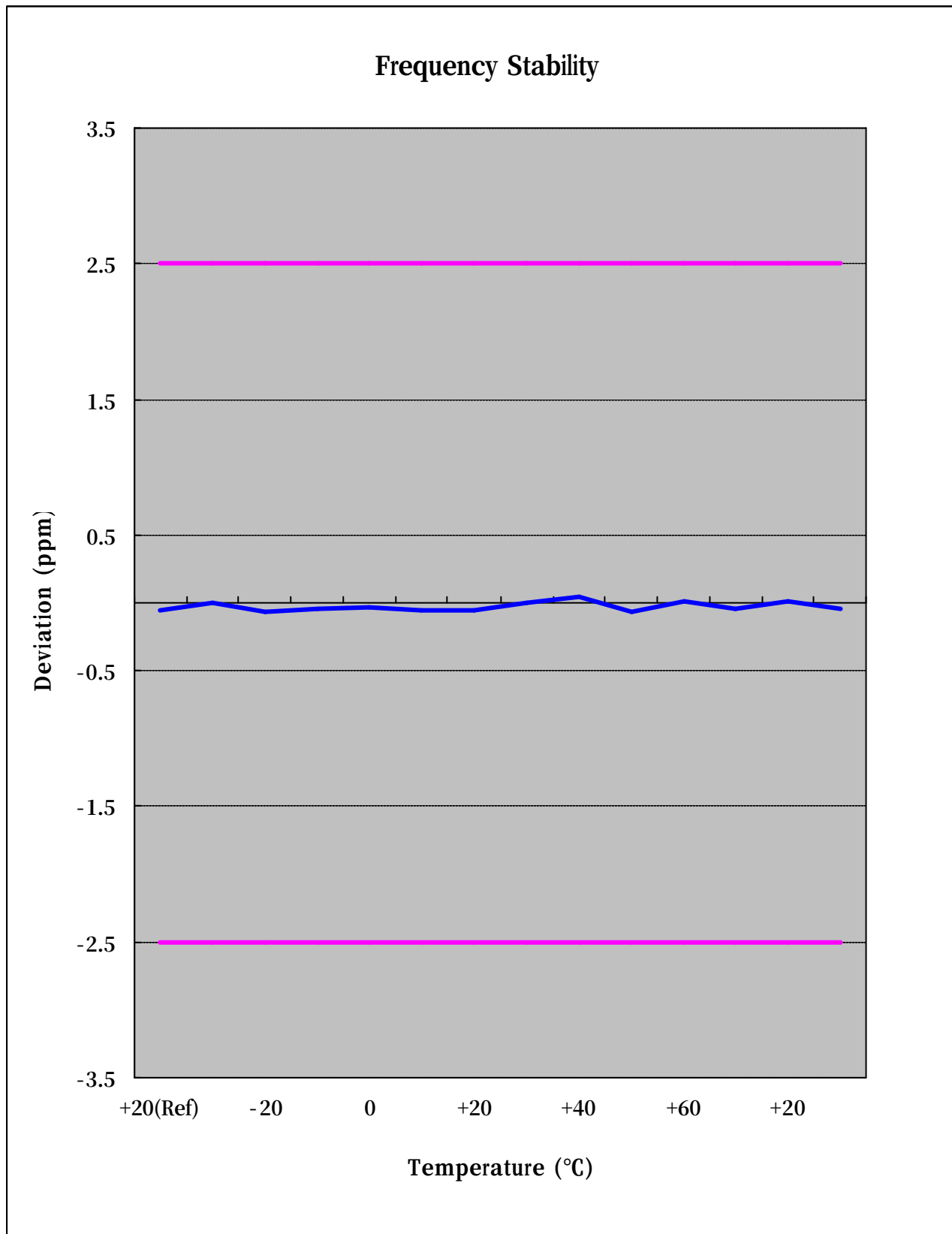
Deviation Limit : ± 0.00025 % or 2.5ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency Error (Hz)	Frequency (Hz)	Deviation (%)	ppm
100%	3.70	+20(Ref)	26.40	836,600,026	0.000003	0.032
100%		-30	7.80	836,600,008	0.000001	0.009
100%		-20	29.20	836,600,029	0.000003	0.035
100%		-10	19.20	836,600,019	0.000002	0.023
100%		0	-31.10	836,599,969	-0.000004	-0.037
100%		+10	-22.60	836,599,977	-0.000003	-0.027
100%		+20	26.40	836,600,026	0.000003	0.032
100%		+30	11.40	836,600,011	0.000001	0.014
100%		+40	-0.40	836,600,000	0.000000	0.000
100%		+50	25.90	836,600,026	0.000003	0.031
100%		+60	-6.00	836,599,994	-0.000001	-0.007
85%	3.25	+20	-7.00	836,599,993	-0.000001	-0.008
115%	4.26	+20	-20.50	836,599,980	-0.000002	-0.025
Batt. Endpoint	3.25	+20	-7.00	836,599,993	-0.000001	-0.008

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

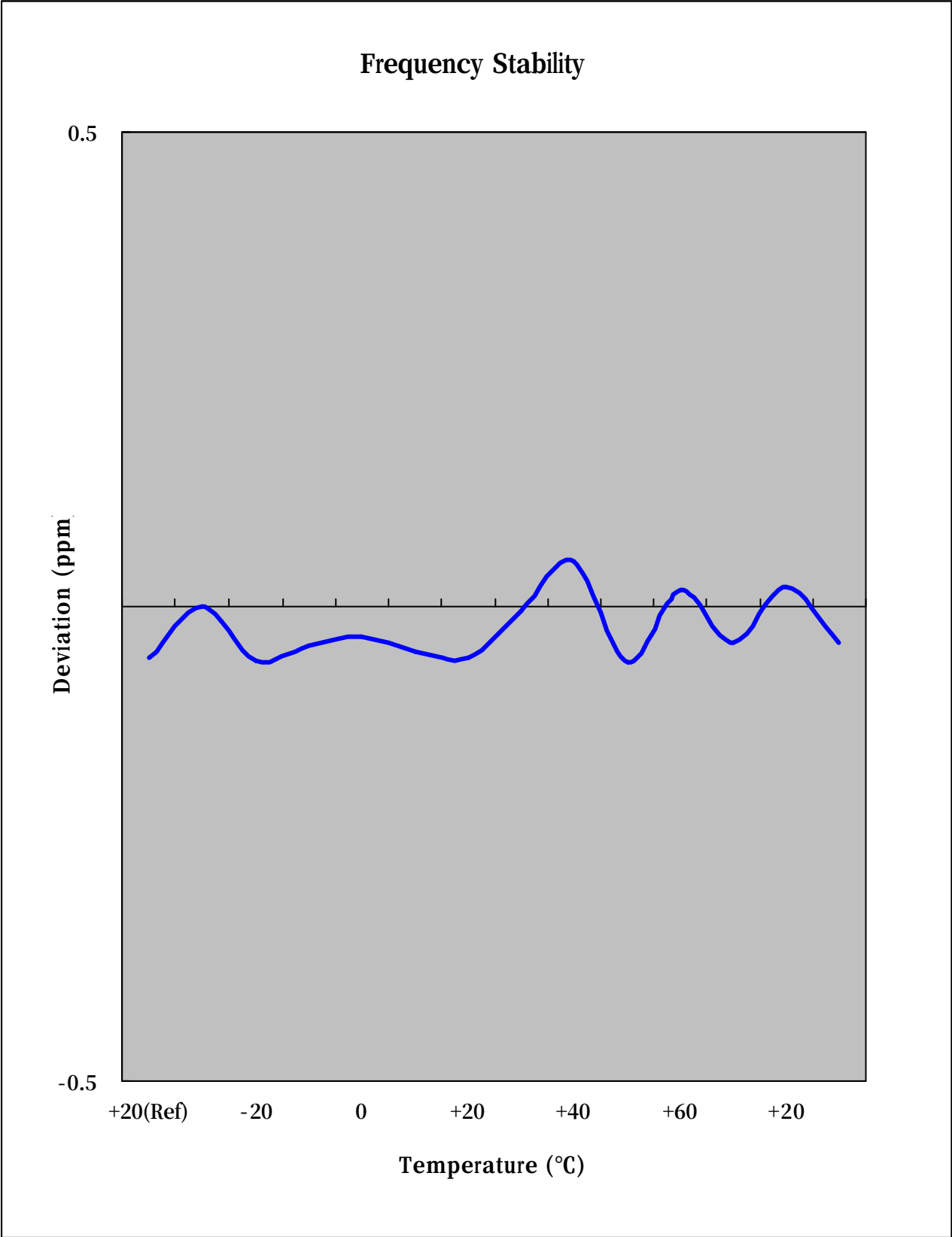
The EUT is tested down to the battery end point

6.8.3 Cellular WCDMA Frequency Stability Graph

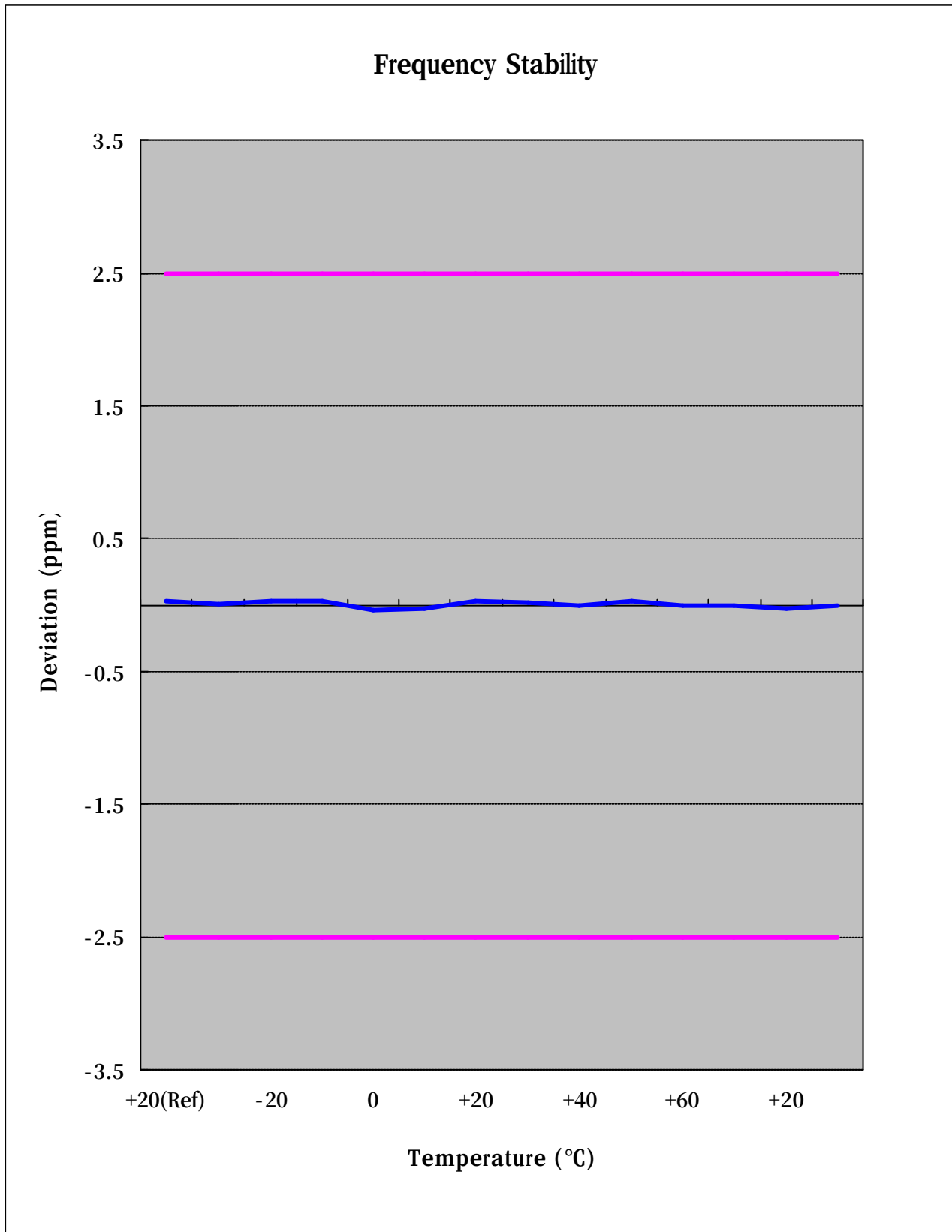


- End of page -

Zoom In

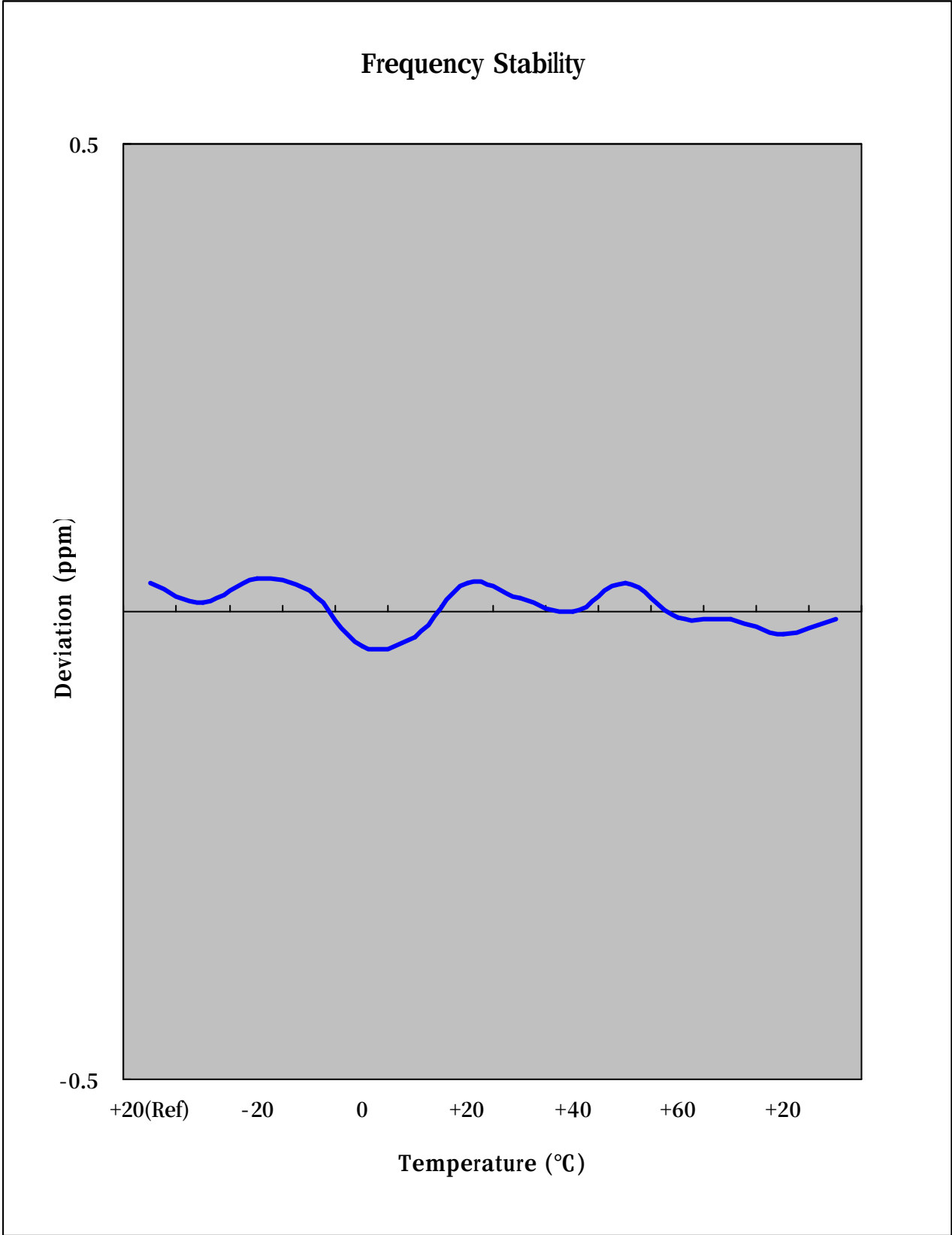


6.8.4 PCS WCDMA Frequency Stability Graph



- End of page -

Zoom In



7. SAMPLE CALCULATION

7.1 Emission Designator

Emission Designator = 4M19F9W

CDMA BW = 4.19MHz

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 850/1900 GSM/EDGE/WCDMA Phone with Bluetooth FCC ID : A3LSGHT746 complies with all the requirements of Parts 2, 22, 24 of the FCC Rules.

- End of page -

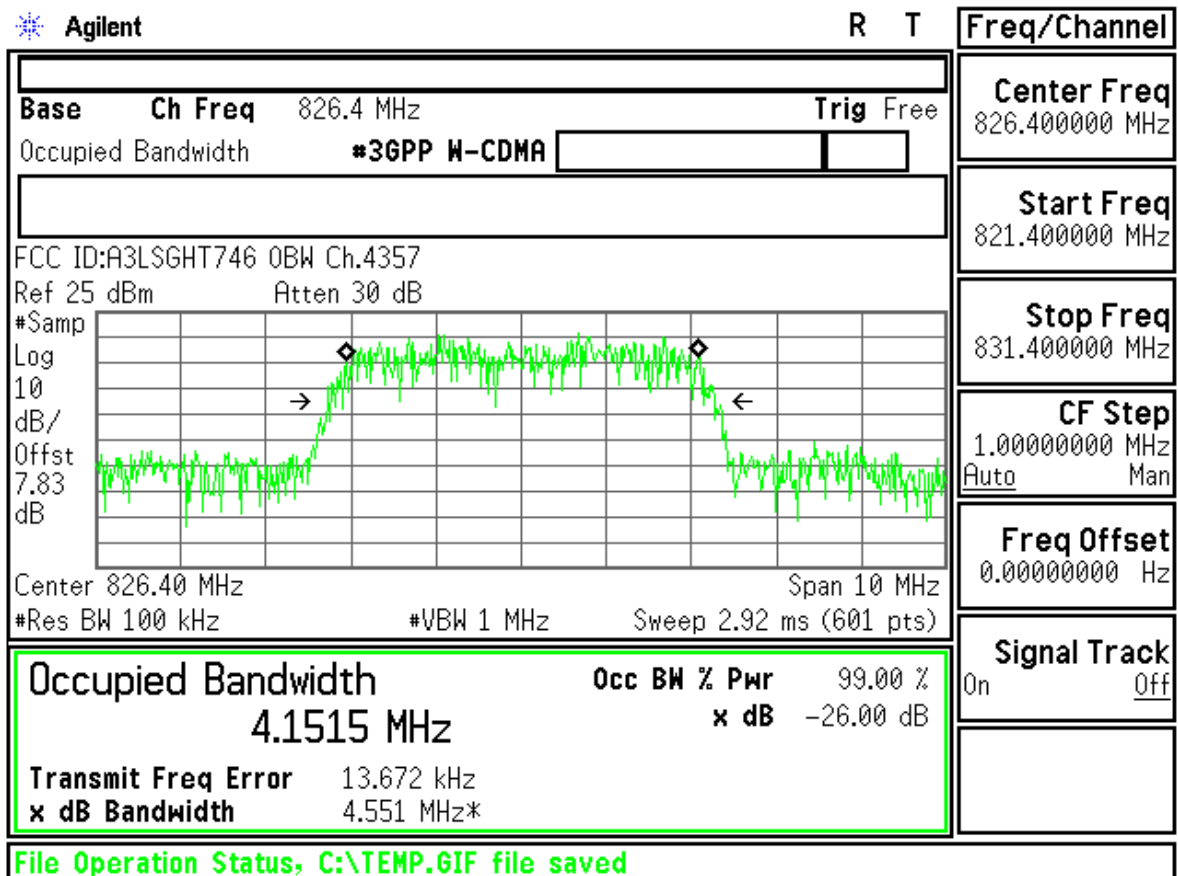
9. TEST PLOT

A3LSGHT746 BAND 5

Control	Waveform Quality										Call Parms	
Waveform Quality Setup ▾			Minimum		Maximum		Average		Cell Power			
	EVM (%):		4.75		9.45		5.13		-104.00			
	Frequency Error (Hz):		-11.19		14.05		-0.31		dBm/3.84 MHz			
	Origin Offset (dB):		-30.71		-28.87		-29.86		Channel Type			
	Phase Error (°):		1.84		4.35		2.05		12.2k RMC			
	Mag Error (%):		3.48		5.72		3.67		Paging Service			
	Time Error (chips):		0.99		1.15		1.03					
	Max PCDE:		-34.71 dB		at Cch.64.16:0		RB Test Mode					
	50 / 50						Single					
Calibrate Measurements	Thermal Power										HSDPA Parameters	
	Thermal Power 23.46 dBm										34.121 Preset Call Configs ▾	
	Single										Channel (UARFCN) Parms	
			Active Cell Connected				Sys Type: UTRA FDD					
					IntRef		Offset		R T			
	1 of 2										1 of 3	

Control	Waveform Quality							Call Parms
Waveform Quality Setup ▾				Minimum	Maximum	Average		Cell Power
	EVM (%):			3.25	8.68	3.86		-104.00
	Frequency Error (Hz):			-18.84	15.46	-1.30		dBm/3.84 MHz
	Origin Offset (dB):			-32.11	-29.45	-30.37		Channel Type
	Phase Error (°):			1.41	4.13	1.71		12.2k RMC
	Mag Error (%):			2.00	5.00	2.46		Paging Service
	Time Error (chips):			0.80	1.02	0.87		
Max PCDE:			-35.09 dB at Cch.64.16:0				RB Test Mode	
50 / 50			Single					
Calibrate Measurements	Thermal Power							HSDPA Parameters
	Thermal Power							
	23.41 dBm							34.121 Preset Call Configs ▾
Swap Window Positions								Channel (UARFCN) Parms
	Single							
1 of 2			Active Cell Connected			Sys Type: UTRA FDD		1 of 3
			IntRef	Offset	R T			

Measurement/Instrument Screen											
Control		Waveform Quality							Call Params		
Waveform Quality Setup ▾			Minimum		Maximum		Average		Cell Power		
	EVM (%):		3.92		8.95		4.32		-104.00		
	Frequency Error (Hz):		-14.78		13.33		-0.25		dBm/3.84 MHz		
	Origin Offset (dB):		-30.89		-28.91		-29.93		Channel Type		
	Phase Error (°):		1.68		4.15		1.86		12.2k RMC		
	Mag Error (%):		2.55		5.25		2.85				
	Time Error (chips):		0.79		0.93		0.90		Paging Service		
		Max PCDE: -35.21 dB at Cch.64.16:0							RB Test Mode		
		50 / 50							Single		
Calibrate Measurements		Thermal Power									
		Thermal Power									
Swap Window Positions		23.39 dBm									
		Single									
		Active Cell Connected				Sys Type: UTRA FDD					
1 of 2				IntRef		Offset		R T		1 of 3	



Agilent

R T

Freq/Channel

Base Ch Freq 836.6 MHz Trig Free
Occupied Bandwidth #3GPP W-CDMA

Center Freq
836.600000 MHz

Start Freq
831.600000 MHz

Stop Freq
841.600000 MHz

CF Step
1.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

FCC ID:A3LSGHT746 0BW Ch.4408

Ref 25 dBm Atten 30 dB

#Samp

Log

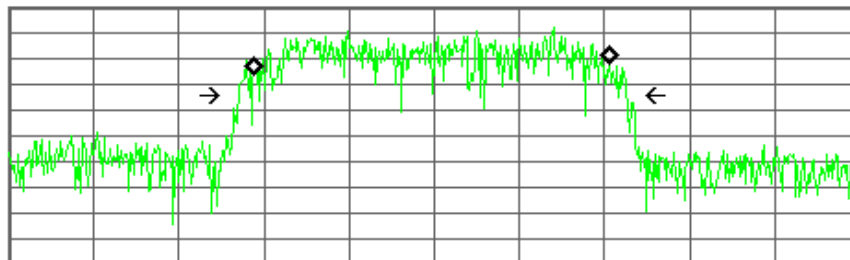
10

dB/

Offst

7.83

dB



Center 836.60 MHz

Span 10 MHz

#Res BW 100 kHz

#VBW 1 MHz

Sweep 2.92 ms (601 pts)

Occupied Bandwidth

4.1828 MHz

Occ BW % Pwr 99.00 %

x dB -26.00 dB

Transmit Freq Error -32.007 kHz

x dB Bandwidth 4.571 MHz*

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

Agilent

R T

Freq/Channel

Base Ch Freq 846.6 MHz Trig Free
Occupied Bandwidth #3GPP W-CDMA

Center Freq
846.600000 MHz

Start Freq
841.600000 MHz

Stop Freq
851.600000 MHz

CF Step
1.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

FCC ID:A3LSGHT746 0BW Ch.4458

Ref 25 dBm Atten 30 dB

#Samp

Log

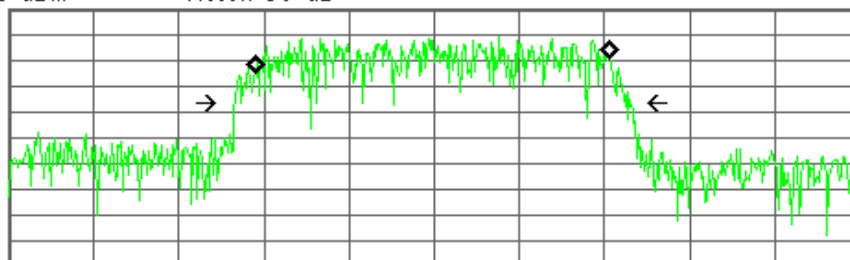
10

dB/

Offst

7.83

dB



Center 846.60 MHz

Span 10 MHz

#Res BW 100 kHz

#VBW 1 MHz

Sweep 2.92 ms (601 pts)

Occupied Bandwidth

4.1730 MHz

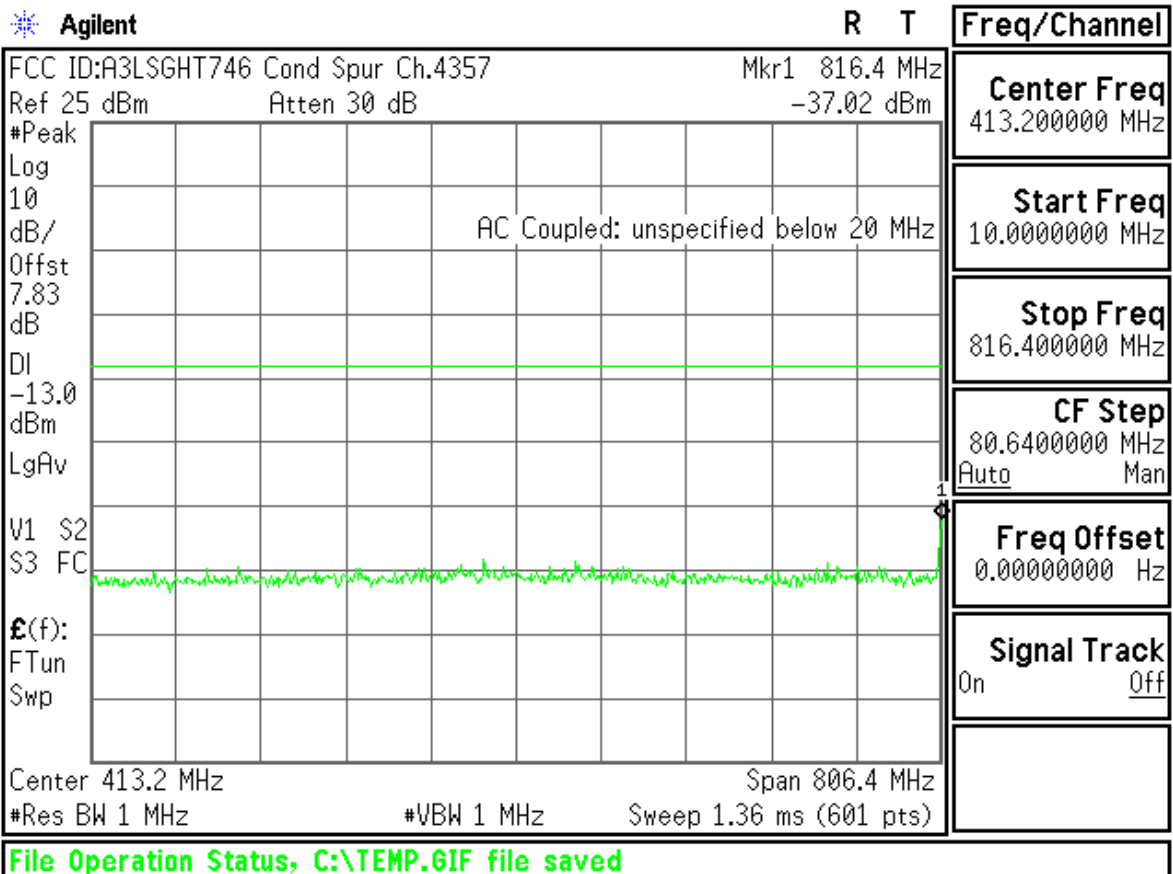
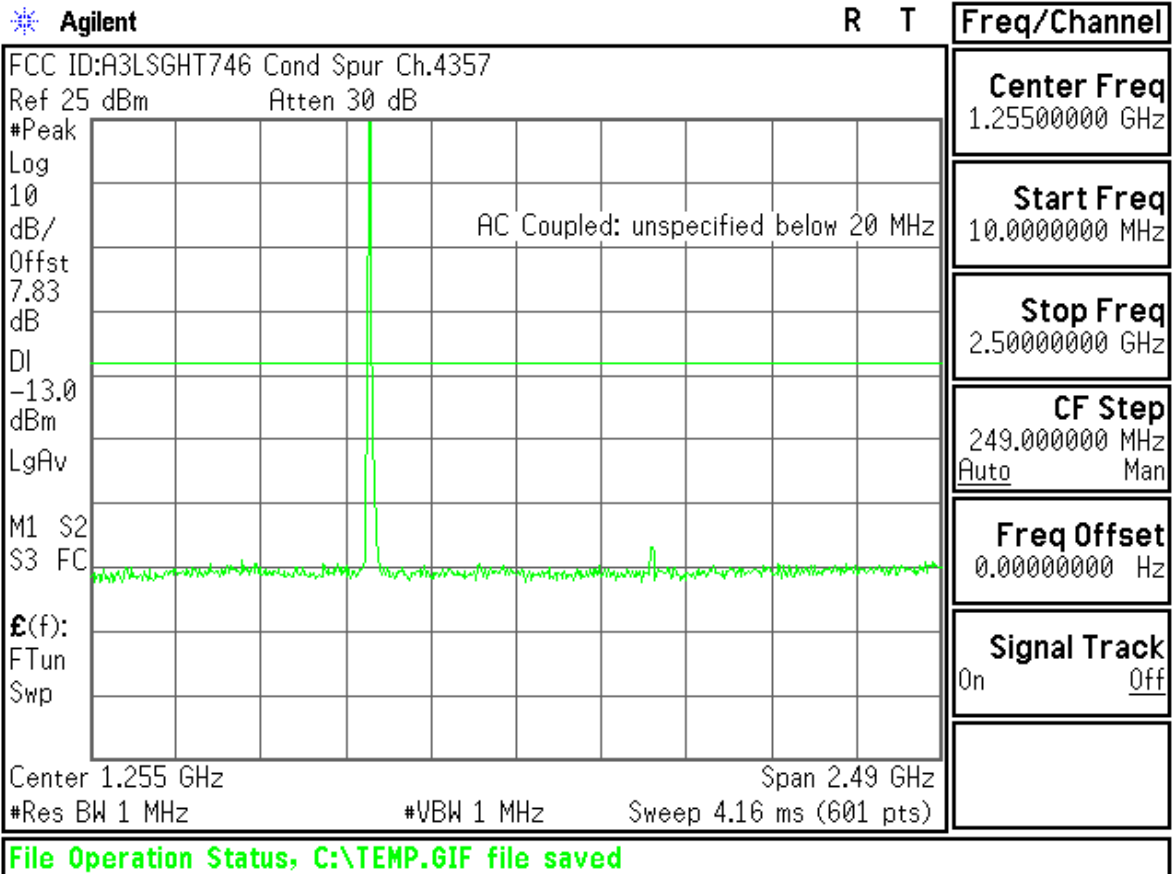
Occ BW % Pwr 99.00 %

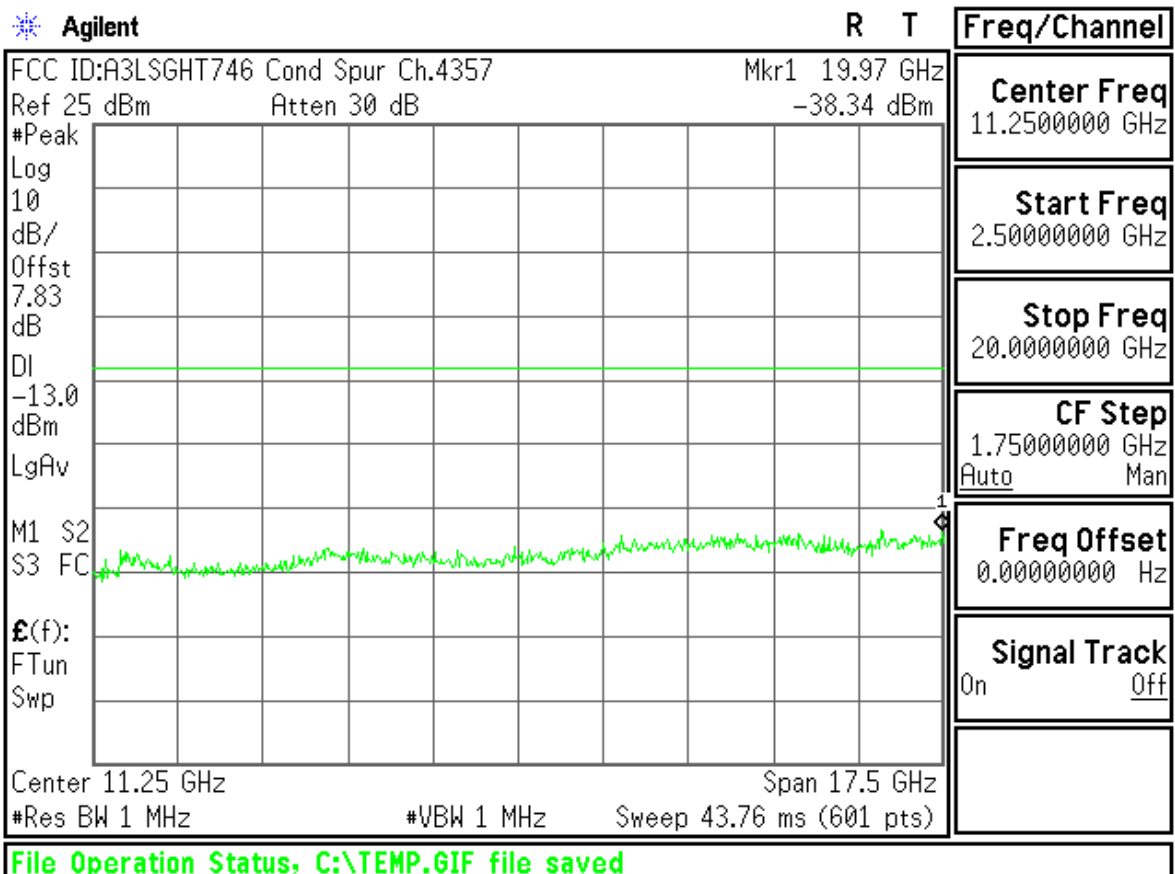
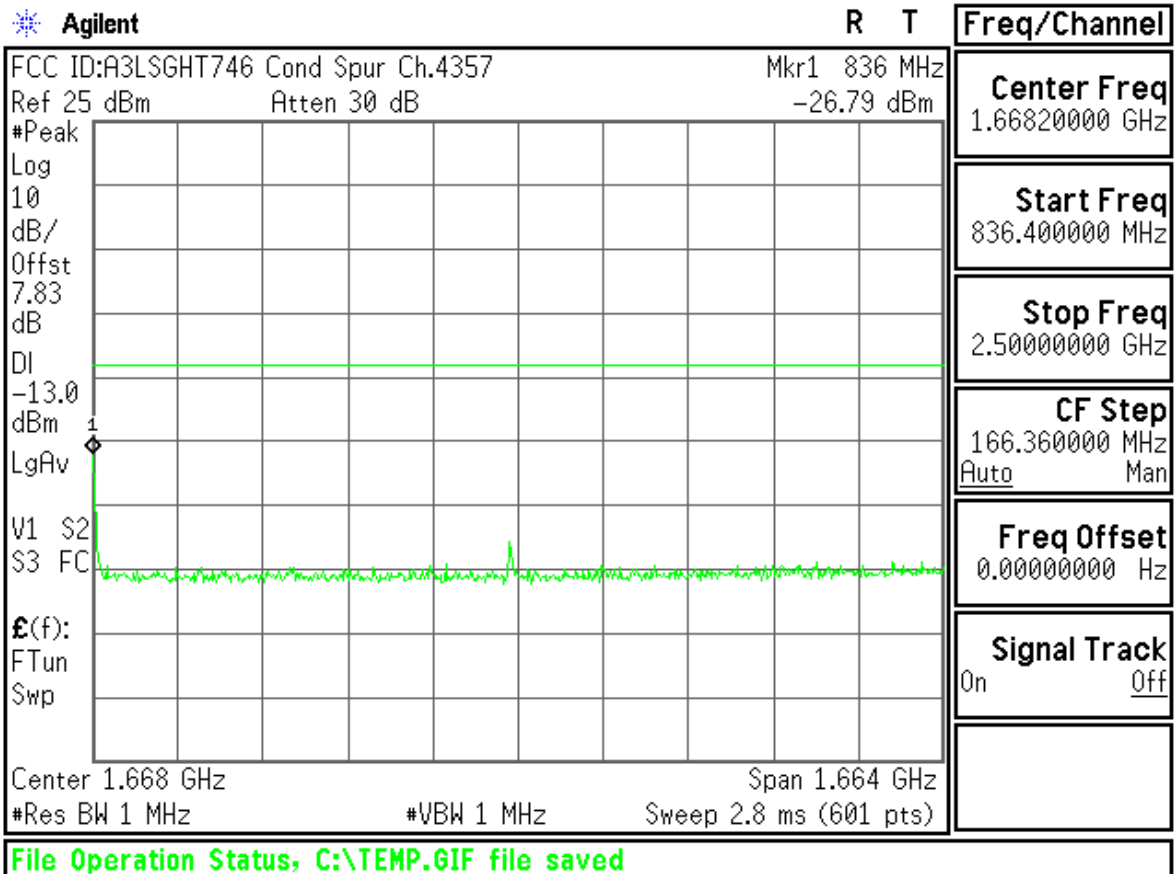
x dB -26.00 dB

Transmit Freq Error -15.138 kHz

x dB Bandwidth 4.643 MHz*

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





Agilent

R T

Freq/Channel

FCC ID:A3LSGHT746 Cond Spur Ch.4408

Ref 25 dBm

Atten 30 dB

#Peak

Log

10

dB/

Offst

7.83

dB

DI

-13.0

dBm

LgAv

M1 S2

S3 FC

E(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:A3LSGHT746 Cond Spur Ch.4408

Mkr1 826.6 MHz

Ref 25 dBm

Atten 30 dB

-25.38 dBm

#Peak

Log

10

dB/

Offst

7.83

dB

DI

-13.0

dBm

LgAv

V1 S2

S3 FC

E(f):

FTun

Swp

AC Coupled: unspecified below 20 MHz

Center 418.3 MHz

Span 816.6 MHz

#Res BW 1 MHz

#VBW 1 MHz

Sweep 1.4 ms (601 pts)

Center Freq
418.300000 MHz

Start Freq
10.0000000 MHz

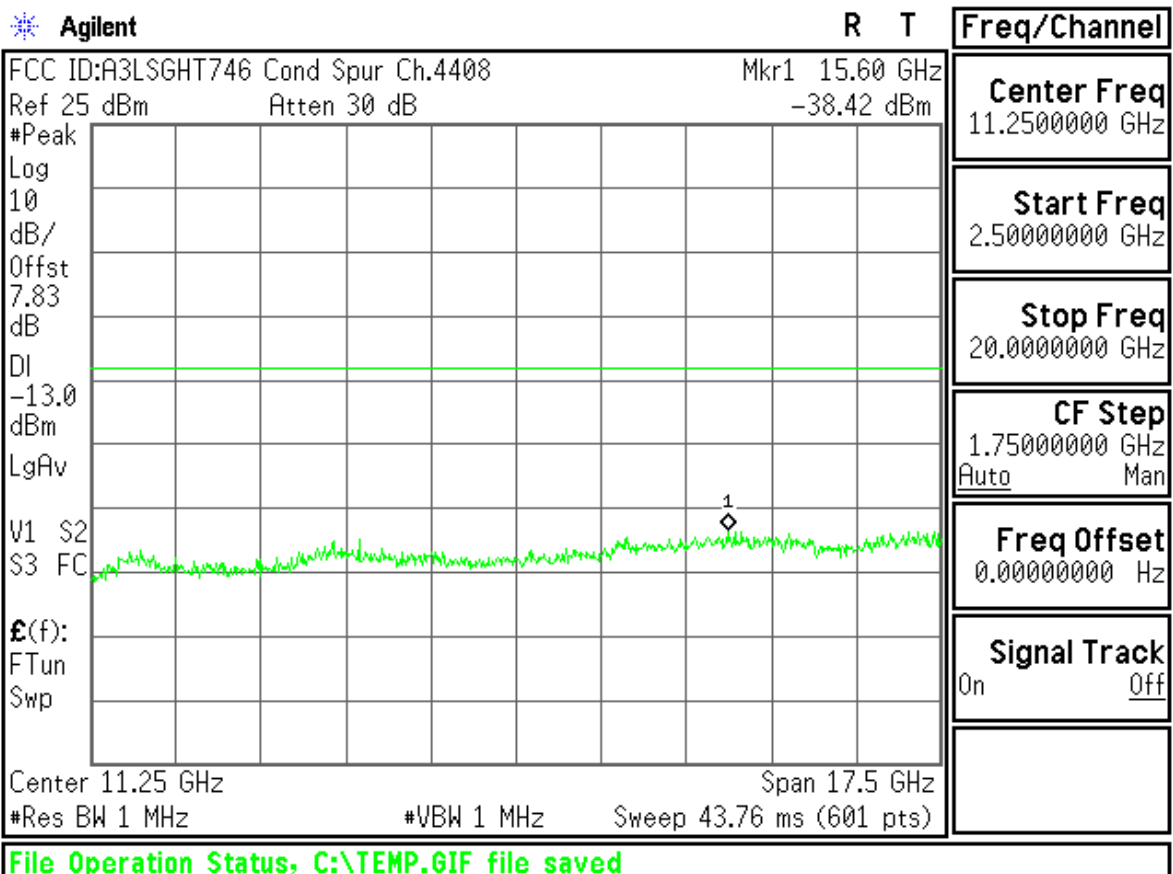
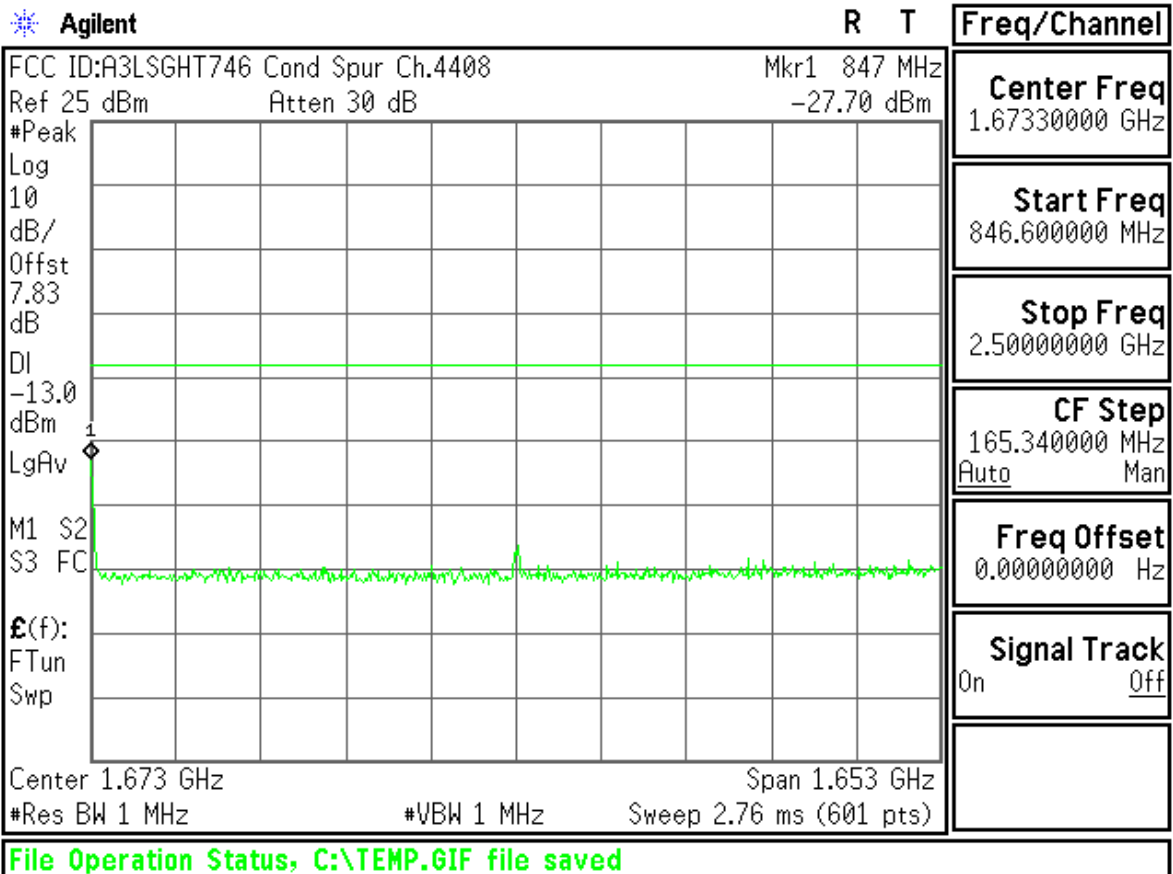
Stop Freq
826.600000 MHz

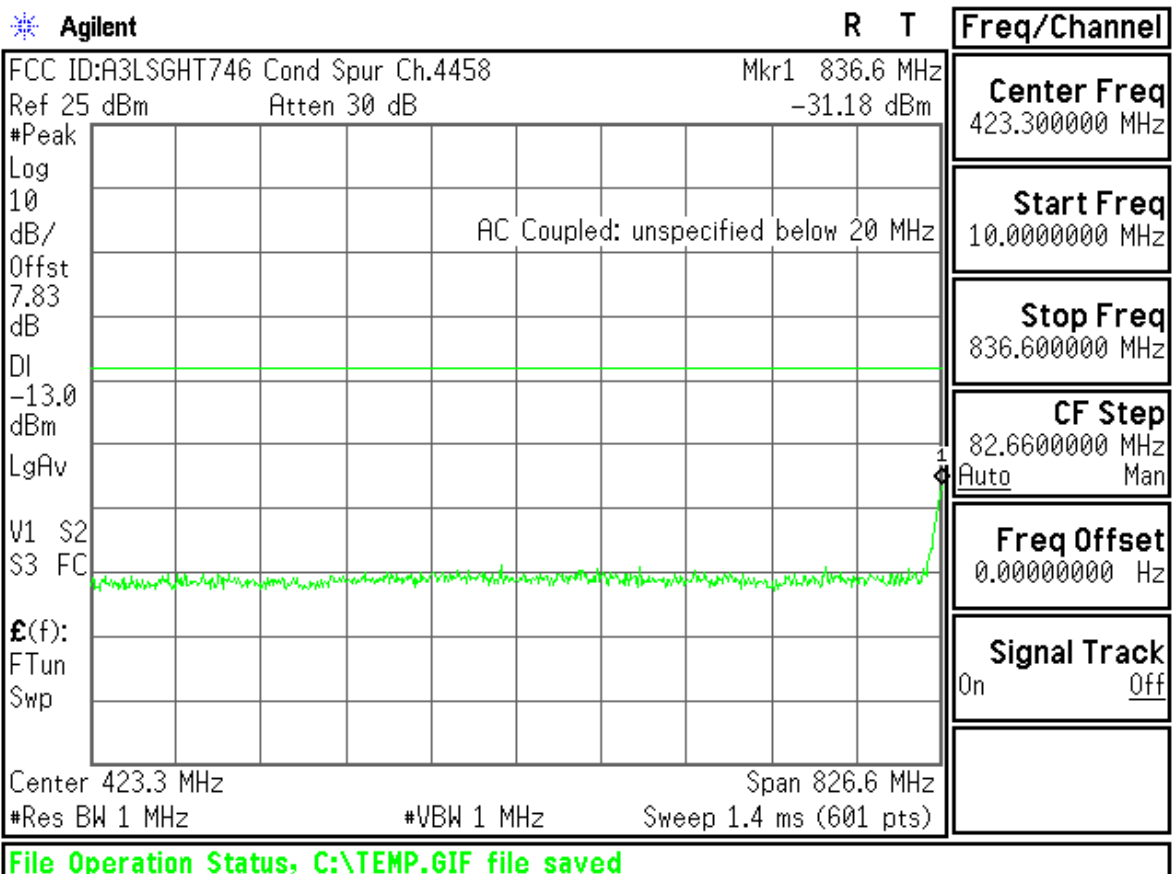
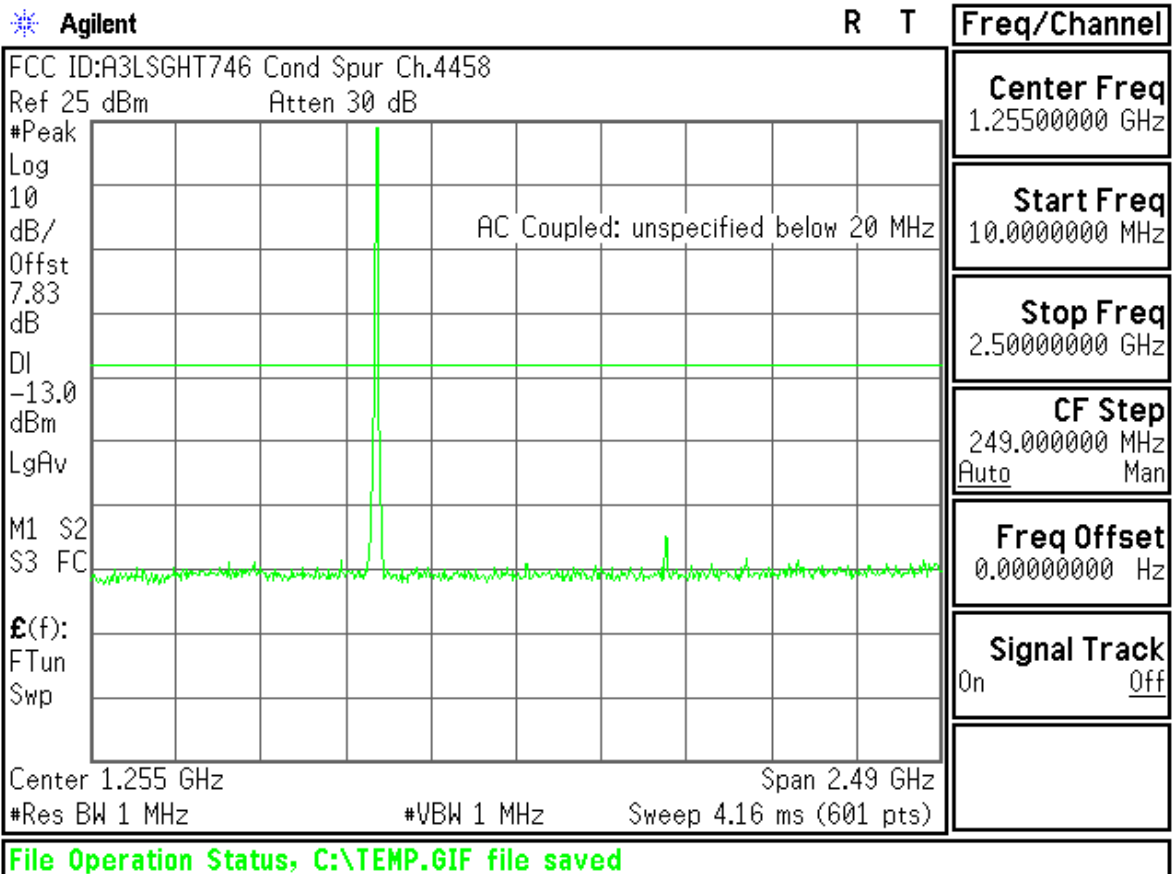
CF Step
81.6600000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

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





Agilent

R T

Freq/Channel

FCC ID:A3LSGHT746 Cond Spur Ch.4458

Mkr1 857 MHz

Ref 25 dBm

Atten 30 dB

-31.93 dBm

#Peak

Log

10

dB/

Offst

7.83

dB

DI

-13.0

dBm

LgAv

M1 S2

S3 FC

£(f):

FTun

Swp

Center 1.678 GHz

Span 1.643 GHz

#Res BW 1 MHz

#VBW 1 MHz

Sweep 2.76 ms (601 pts)

Center Freq
1.67830000 GHz

Start Freq
856.600000 MHz

Stop Freq
2.50000000 GHz

CF Step
164.340000 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:A3LSGHT746 Cond Spur Ch.4458

Mkr1 15.68 GHz

Ref 25 dBm

Atten 30 dB

-38.66 dBm

#Peak

Log

10

dB/

Offst

7.83

dB

DI

-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
11.25000000 GHz

Start Freq
2.50000000 GHz

Stop Freq
20.00000000 GHz

CF Step
1.75000000 GHz
Auto Man

Freq Offset
0.00000000 Hz

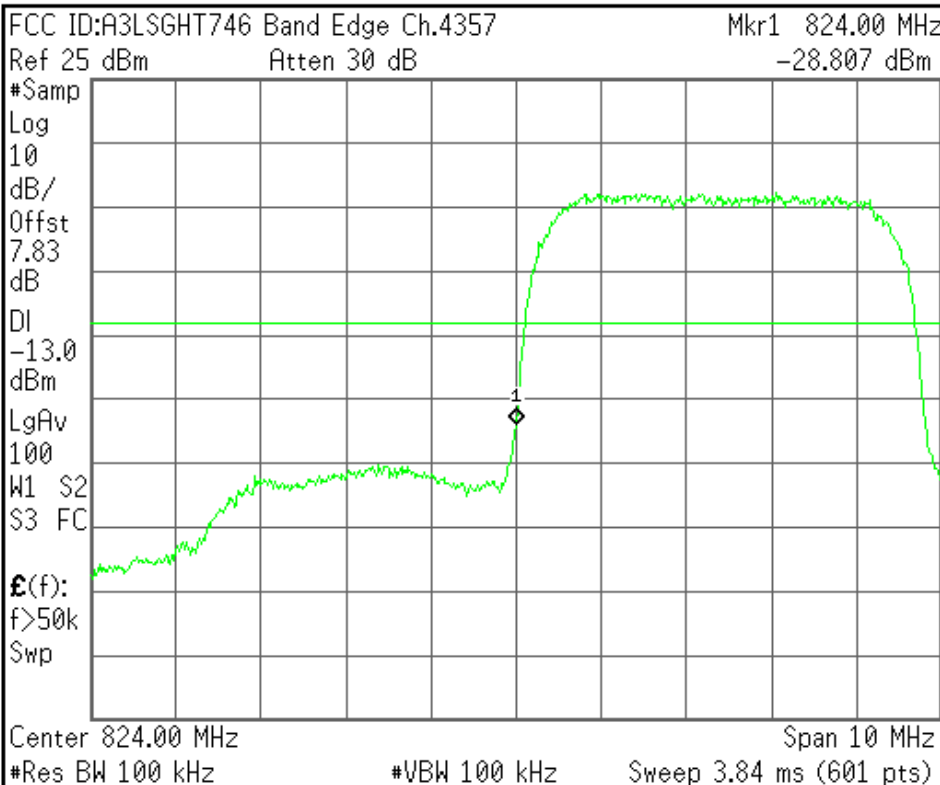
Signal Track
On Off

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

Agilent

R T

Freq/Channel



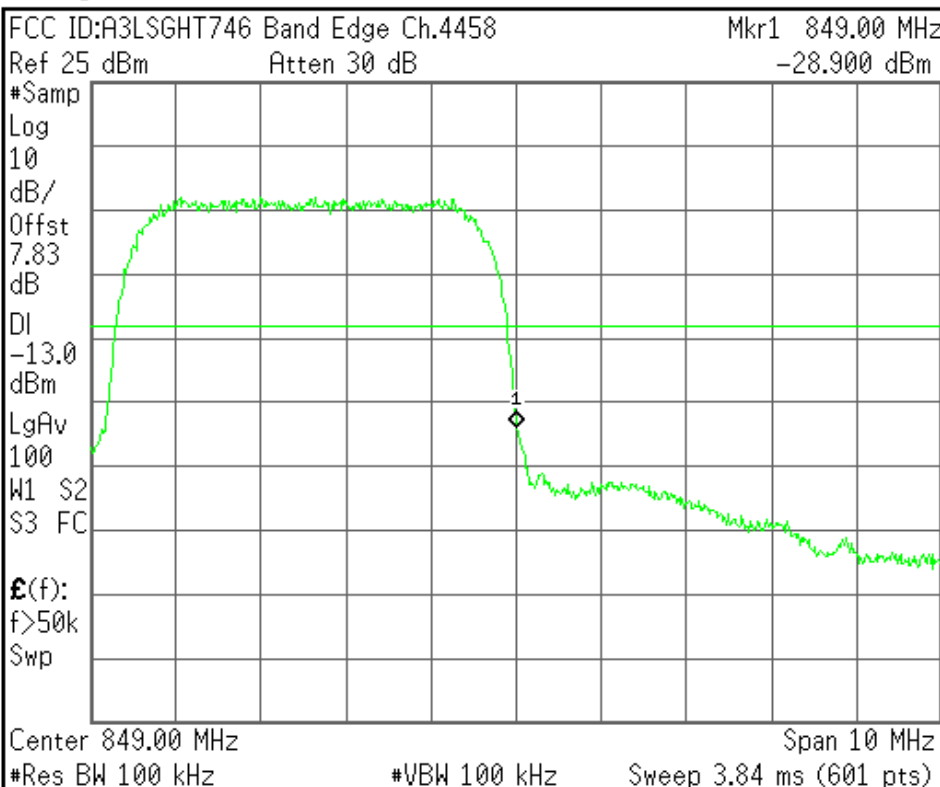
Center Freq 824.000000 MHz
Start Freq 819.000000 MHz
Stop Freq 829.000000 MHz
CF Step 1.00000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



Center Freq 849.000000 MHz
Start Freq 844.000000 MHz
Stop Freq 854.000000 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:A3LSGHT746 4MHz Span Ch.4357

Mkr1 822.993 MHz

Ref 25 dBm

Atten 30 dB

-18.735 dBm

#Samp

Log

10

dB/

Offst

7.83

dB

DI

-13.0

dBm

LgAv

100

W1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp

Center 821.000 MHz

Span 4 MHz

#Res BW 1 MHz

#VBW 1 MHz

Sweep 1 ms (601 pts)

Center Freq
821.000000 MHz

Start Freq
819.000000 MHz

Stop Freq
823.000000 MHz

CF Step
400.000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

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

Agilent

R T

Freq/Channel

FCC ID:A3LSGHT746 4MHz Span Ch.4458

Mkr1 850.000 MHz

Ref 25 dBm

Atten 30 dB

-18.124 dBm

#Samp

Log

10

dB/

Offst

7.83

dB

DI

-13.0

dBm

LgAv

100

W1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp

Center 852.000 MHz

Span 4 MHz

#Res BW 1 MHz

#VBW 1 MHz

Sweep 1 ms (601 pts)

Center Freq
852.000000 MHz

Start Freq
850.000000 MHz

Stop Freq
854.000000 MHz

CF Step
400.000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

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

A3LSGHT746 BAND 2

Measurement/Instrument Screen												
Control		Thermal Power								Call Parms		
Thermal Power Setup ▾		Thermal Power 22.52 dBm <										

Measurement/Instrument Screen													
Control		Thermal Power								Call Params			
Thermal Power Setup ▾		Thermal Power 22.25 dBm								Cell Power			
										-104.00			
										dBm/3.84 MHz			
										Channel Type			
										12.2k RNC			
										Paging Service			
										RB Test Mode			
										HSDPA Parameters			
										34.121 Preset Call Configs ▾			
										Channel (UARFCN) Params			
				Active Cell Connected				Sys Type: UTRA FDD					
1 of 2						IntRef		Offset		R T		1 of 3	

Measurement/Instrument Screen									
Control		Thermal Power					Call Params		
Thermal Power Setup ▾		Thermal Power 21.60 dBm Single					Cell Power		
							-104.00		
							dBm/3.84 MHz		
							Channel Type		
							12.2k RMC		
							Paging Service		
							RB Test Mode		
							HSDPA Parameters		
							34.121 Preset Call Configs ▾		
							Channel (UARFCN) Params		
		Active Cell Connected					Sys Type: UTRA FDD		
1 of 2							1 of 3		
		IntRef Offset R T							

Agilent		R T		Freq/Channel	
Base Ch Freq 1.8524 GHz Trig Free Occupied Bandwidth *3GPP W-CDMA					
FCC ID:A3LSGHT746 0BW Ch.9662 Ref 25 dBm Atten 30 dB #Samp Log 10 dB/ Offset 8.89 dB					
Center 1.852 40 GHz Span 10 MHz #Res BW 100 kHz #VBW 1 MHz Sweep 2.92 ms (601 pts)					
Occupied Bandwidth 4.1679 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB					
Transmit Freq Error -13.964 kHz x dB Bandwidth 4.590 MHz*					
File Operation Status, C:\TEMP.GIF file saved					
Center Freq 1.85240000 GHz Start Freq 1.84740000 GHz Stop Freq 1.85740000 GHz CF Step 1.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off					

Agilent

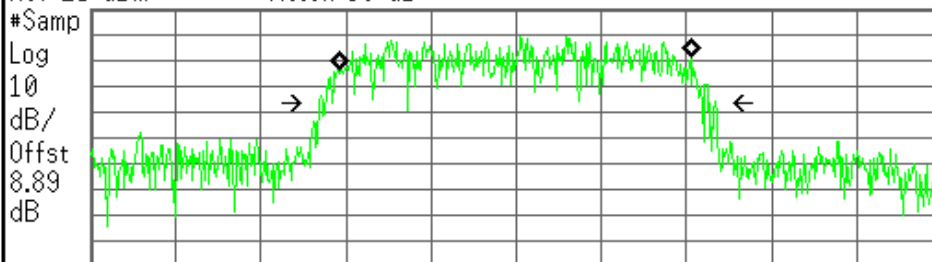
R T

Freq/Channel

Base Ch Freq 1.88 GHz Trig Free
Occupied Bandwidth #3GPP W-CDMA

FCC ID:A3LSGHT746 0BW Ch.9800

Ref 25 dBm Atten 30 dB



Center 1.880 00 GHz Span 10 MHz

#Res BW 100 kHz #VBW 1 MHz Sweep 2.92 ms (601 pts)

Occupied Bandwidth 4.1411 MHz Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error -19.940 kHz
x dB Bandwidth 4.659 MHz*

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

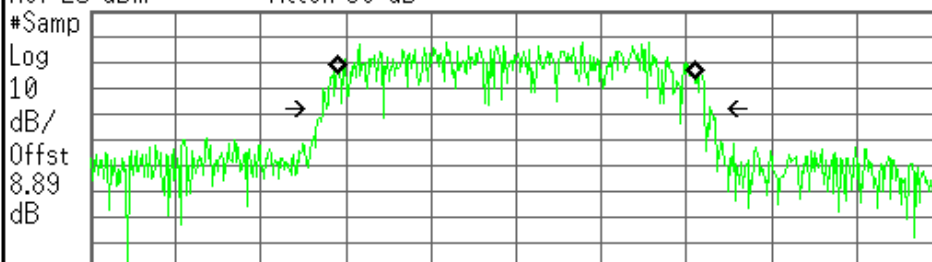
R T

Freq/Channel

Base Ch Freq 1.9076 GHz Trig Free
Occupied Bandwidth #3GPP W-CDMA

FCC ID:A3LSGHT746 0BW Ch.9938

Ref 25 dBm Atten 30 dB



Center 1.907 60 GHz Span 10 MHz

#Res BW 100 kHz #VBW 1 MHz Sweep 2.92 ms (601 pts)

Occupied Bandwidth 4.2141 MHz Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error -557.248 Hz
x dB Bandwidth 4.570 MHz*

Center Freq
1.90760000 GHz

Start Freq
1.90260000 GHz

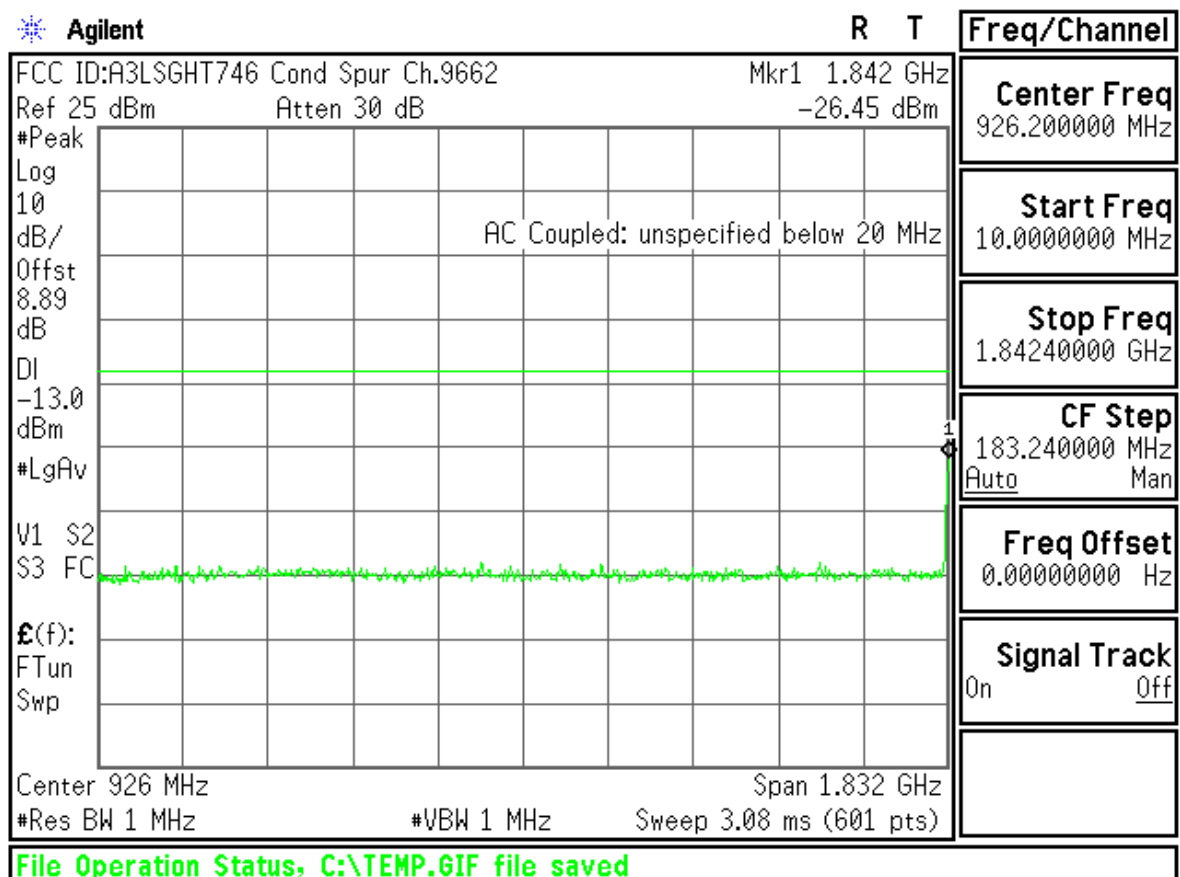
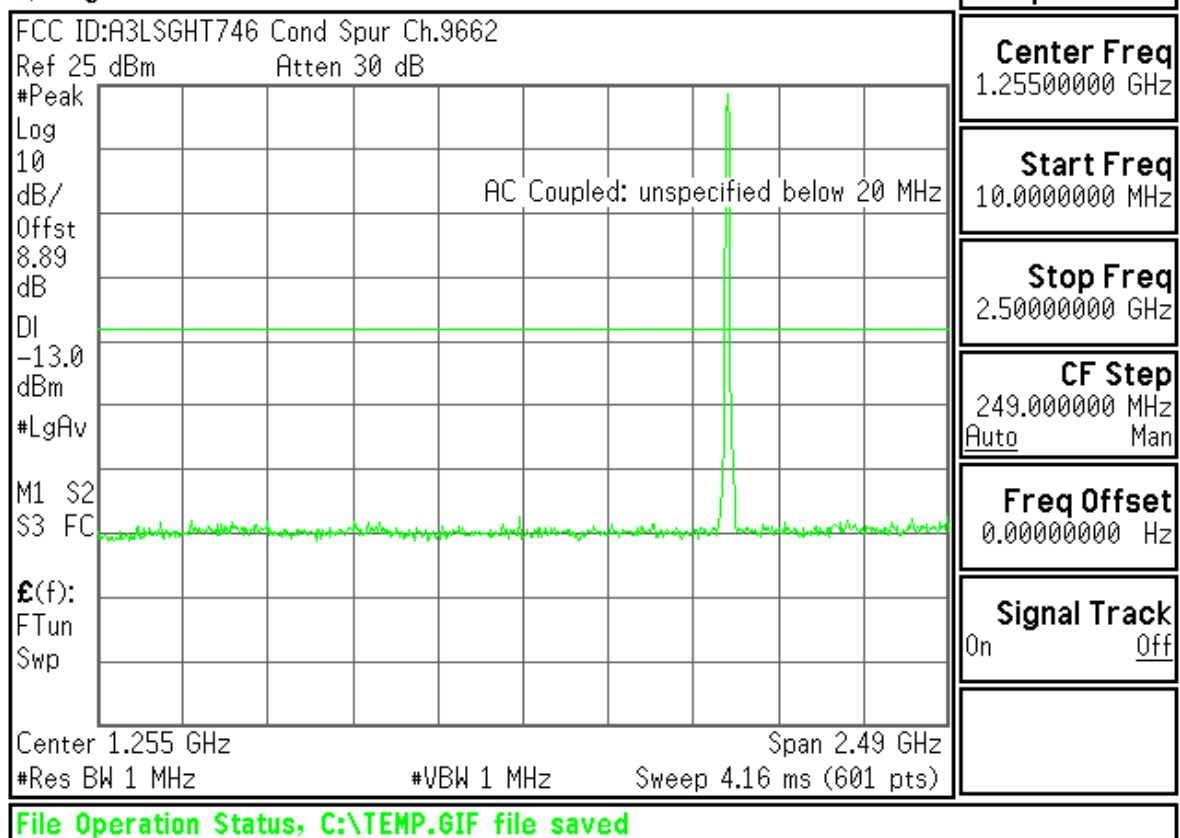
Stop Freq
1.91260000 GHz

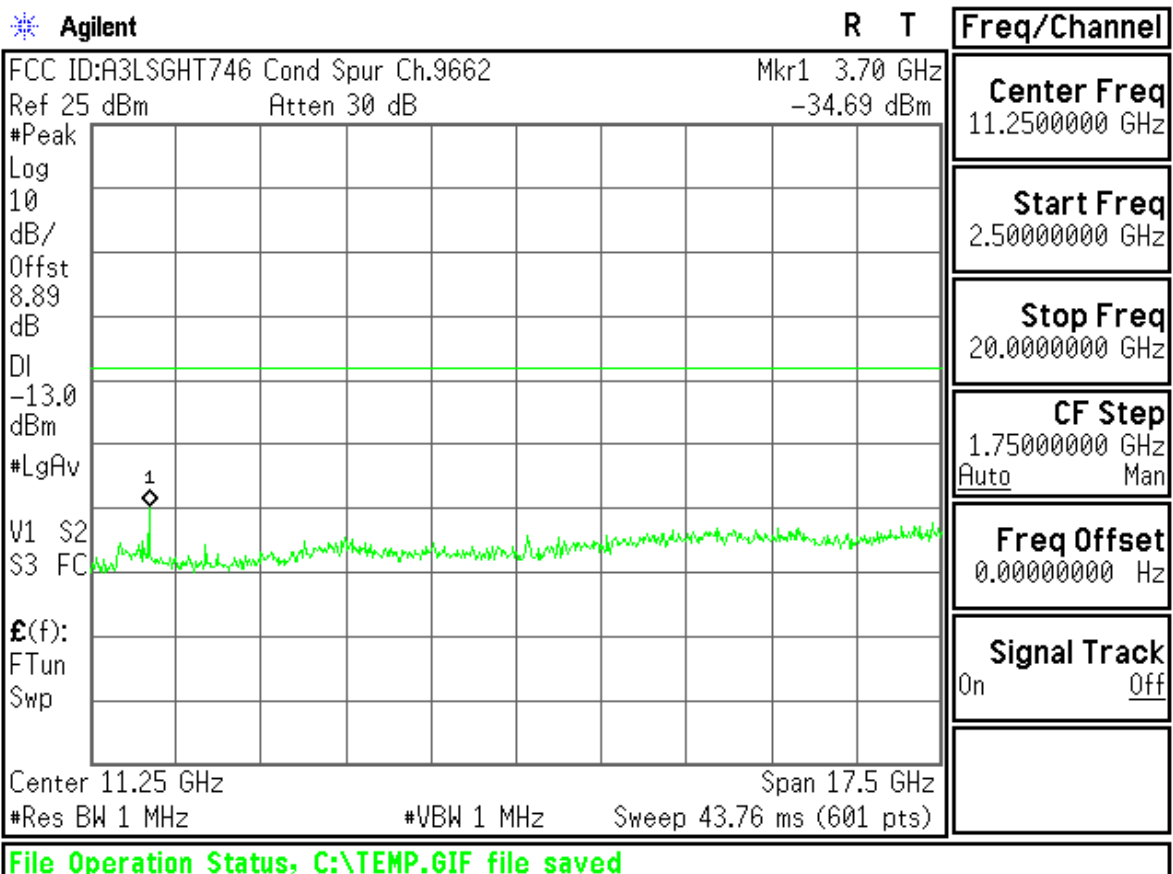
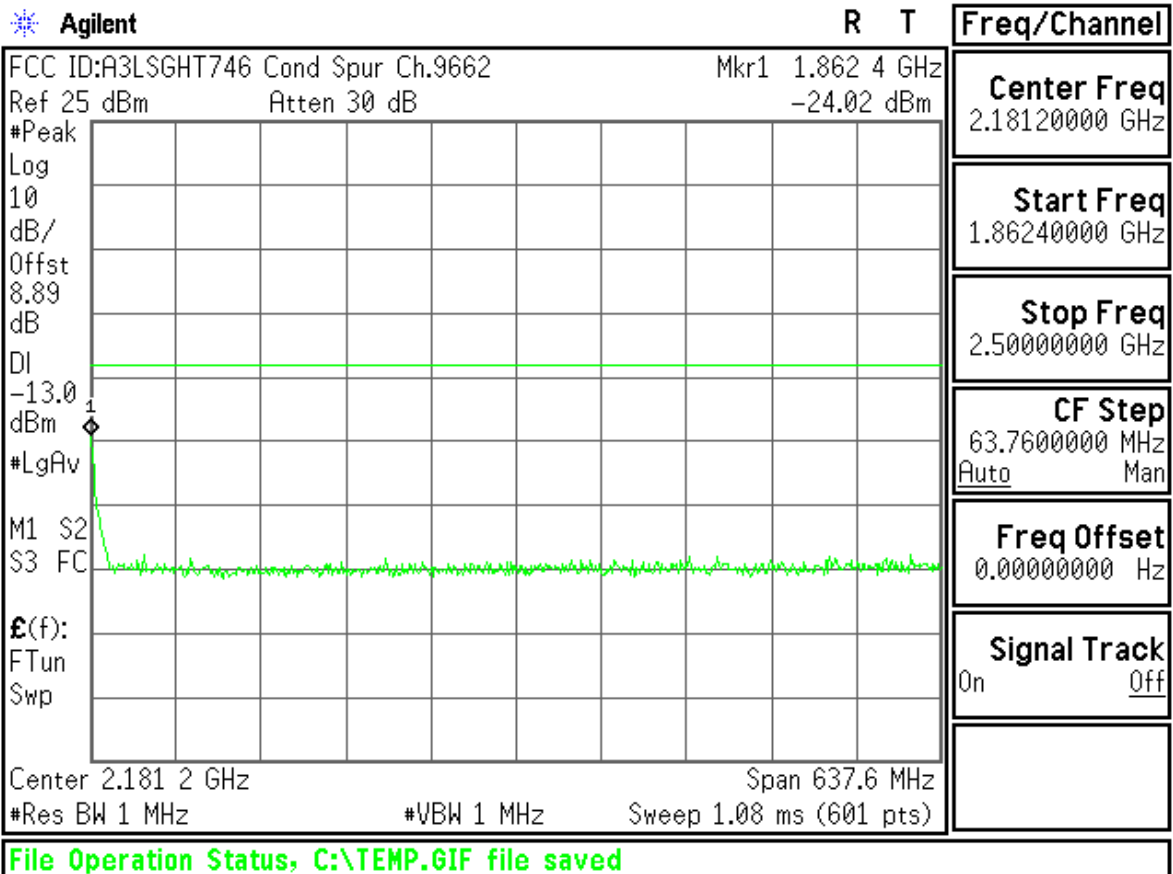
CF Step
1.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

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





Agilent

R T

Freq/Channel

FCC ID:A3LSGHT746 Cond Spur Ch.9800

Ref 25 dBm

Atten 30 dB

#Peak

Log

10

dB/

Offst

8.89

dB

DI

-13.0

dBm

#LgAv

M1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp

AC Coupled: unspecified below 20 MHz

Center 1.255 GHz

#Res BW 1 MHz

#VBW 1 MHz

Span 2.49 GHz

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:A3LSGHT746 Cond Spur Ch.9800

Ref 25 dBm

Atten 30 dB

Mkr1 1.870 GHz

-25.47 dBm

#Peak

Log

10

dB/

Offst

8.89

dB

DI

-13.0

dBm

#LgAv

V1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp

AC Coupled: unspecified below 20 MHz

Center 940 MHz

#Res BW 1 MHz

#VBW 1 MHz

Span 1.86 GHz

Sweep 3.12 ms (601 pts)

Center Freq
940.000000 MHz

Start Freq
10.0000000 MHz

Stop Freq
1.87000000 GHz

CF Step
186.000000 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:A3LSGHT746 Cond Spur Ch.9800

Mkr1 1.890 0 GHz

Ref 25 dBm

Atten 30 dB

-26.48 dBm

#Peak

Log

10

dB/

Offst

8.89

dB

DI

-13.0

dBm

#LgAv

V1 S2

S3 FC

£(f):

FTun

Swp

Center 2.195 0 GHz

Span 610 MHz

#Res BW 1 MHz

#VBW 1 MHz

Sweep 1.04 ms (601 pts)

Center Freq
2.19500000 GHz

Start Freq
1.89000000 GHz

Stop Freq
2.50000000 GHz

CF Step
61.0000000 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

FCC ID:A3LSGHT746 Cond Spur Ch.9800

Mkr1 3.75 GHz

Ref 25 dBm

Atten 30 dB

-32.68 dBm

#Peak

Log

10

dB/

Offst

8.89

dB

DI

-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
20.00000000 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:A3LSGHT746 Cond Spur Ch.9938

Ref 25 dBm

Atten 30 dB

#Peak

Log

10

dB/

Offst

8.89

dB

DI

-13.0

dBm

#LgAv

M1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp

AC Coupled: unspecified below 20 MHz

Center 1.255 GHz

#Res BW 1 MHz

#VBW 1 MHz

Span 2.49 GHz

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:A3LSGHT746 Cond Spur Ch.9938

Ref 25 dBm

Atten 30 dB

Mkr1 1.898 GHz

-26.47 dBm

#Peak

Log

10

dB/

Offst

8.89

dB

DI

-13.0

dBm

#LgAv

M1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp

AC Coupled: unspecified below 20 MHz

Center 954 MHz

#Res BW 1 MHz

#VBW 1 MHz

Span 1.888 GHz

Sweep 3.16 ms (601 pts)

Center Freq
953.800000 MHz

Start Freq
10.0000000 MHz

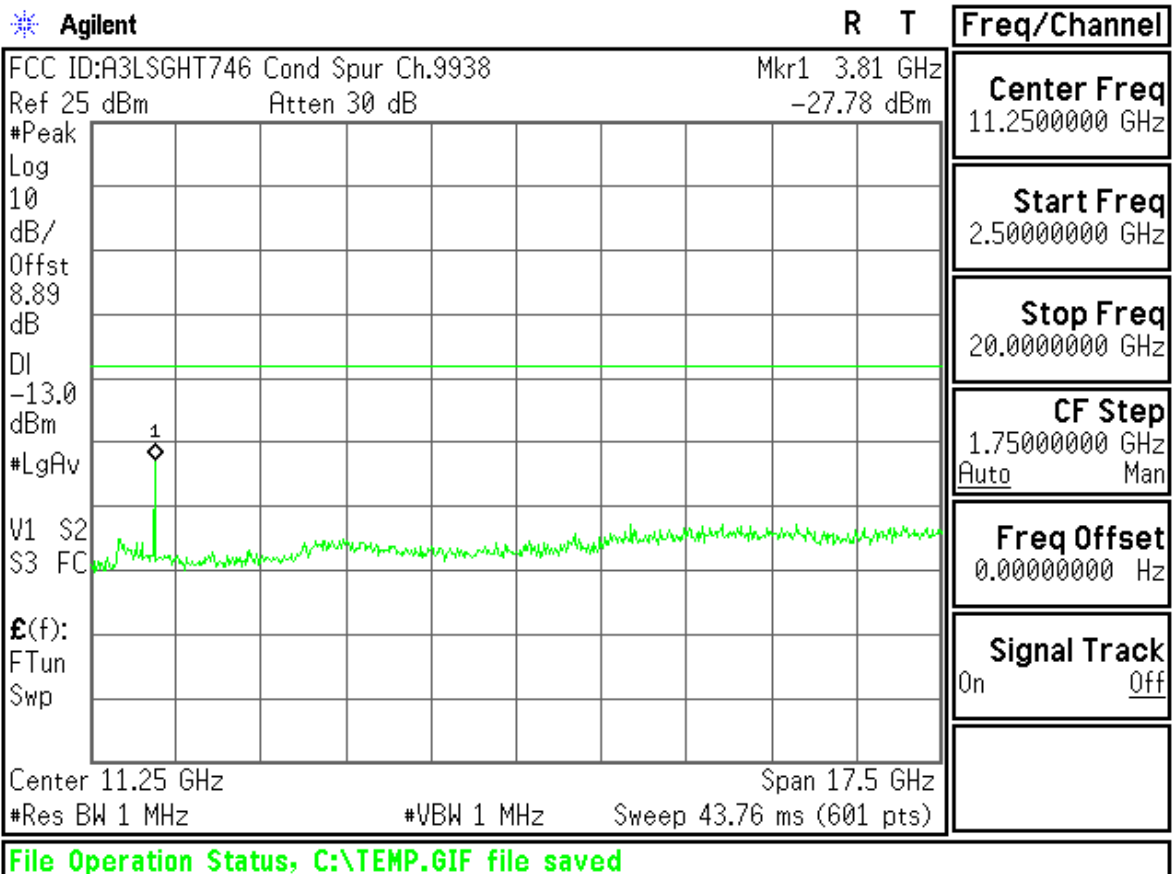
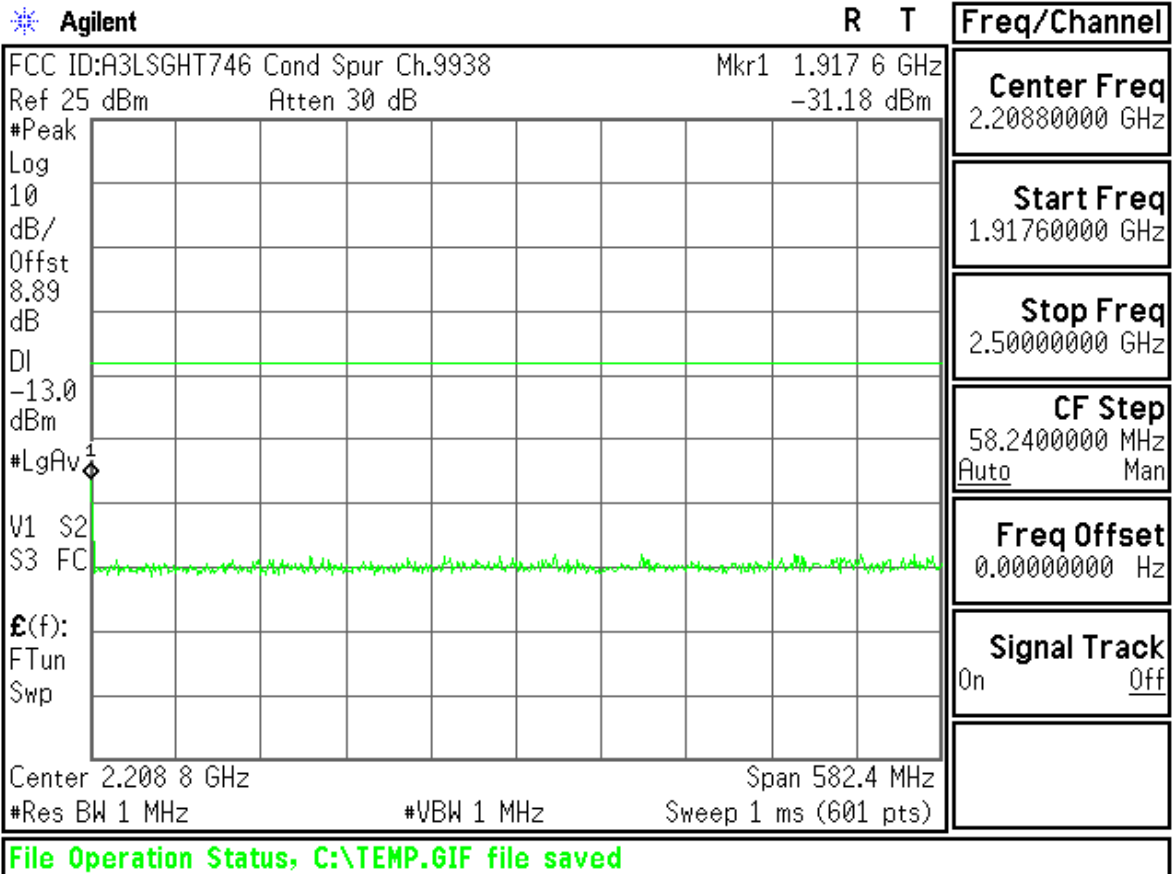
Stop Freq
1.89760000 GHz

CF Step
188.760000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

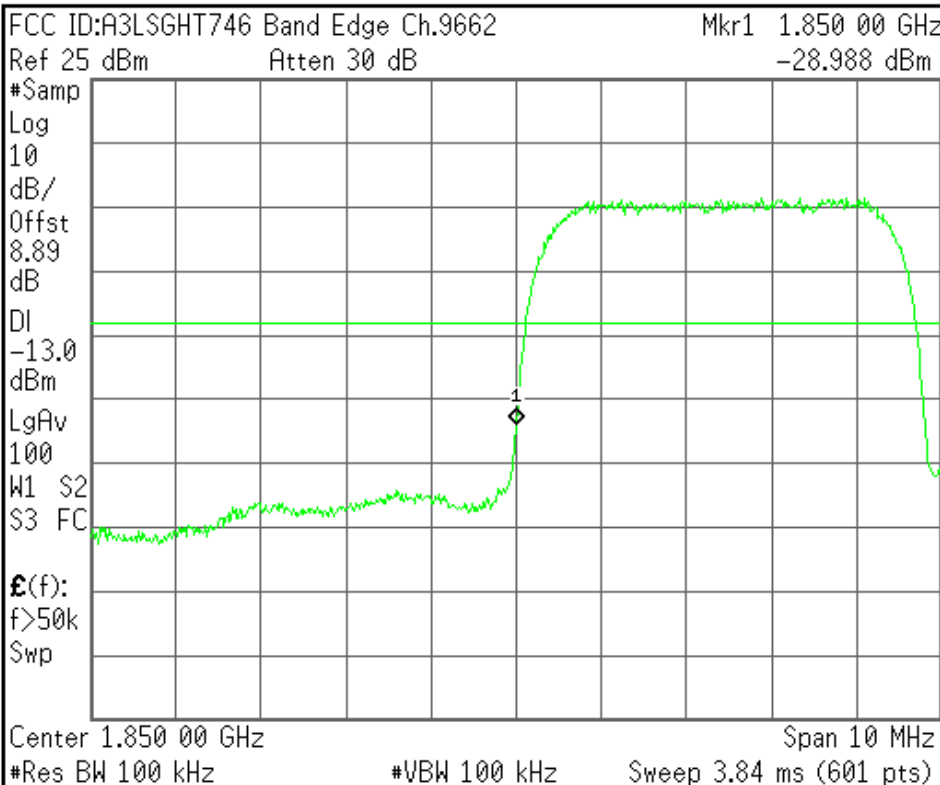
File Operation Status, C:\TEMP.GIF file saved



Agilent

R T

Freq/Channel



Center Freq
 1.85000000 GHz

Start Freq
 1.84500000 GHz

Stop Freq
 1.85500000 GHz

CF Step
 1.00000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

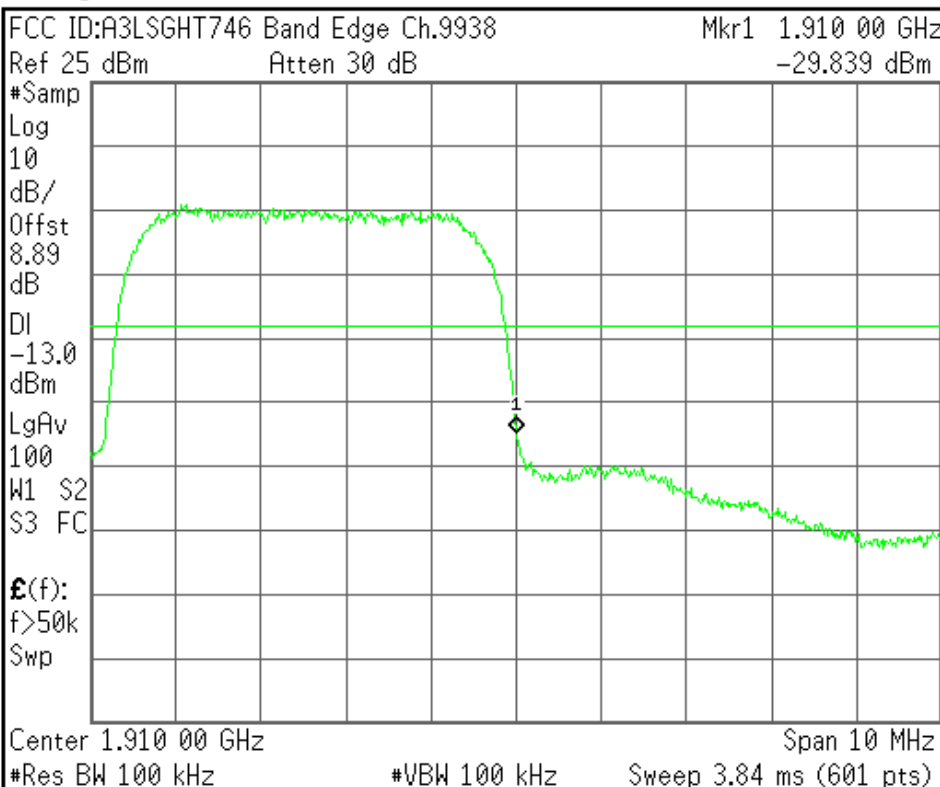
Signal Track
 On Off

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

Agilent

R T

Freq/Channel



Center Freq
 1.91000000 GHz

Start Freq
 1.90500000 GHz

Stop Freq
 1.91500000 GHz

CF Step
 1.00000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

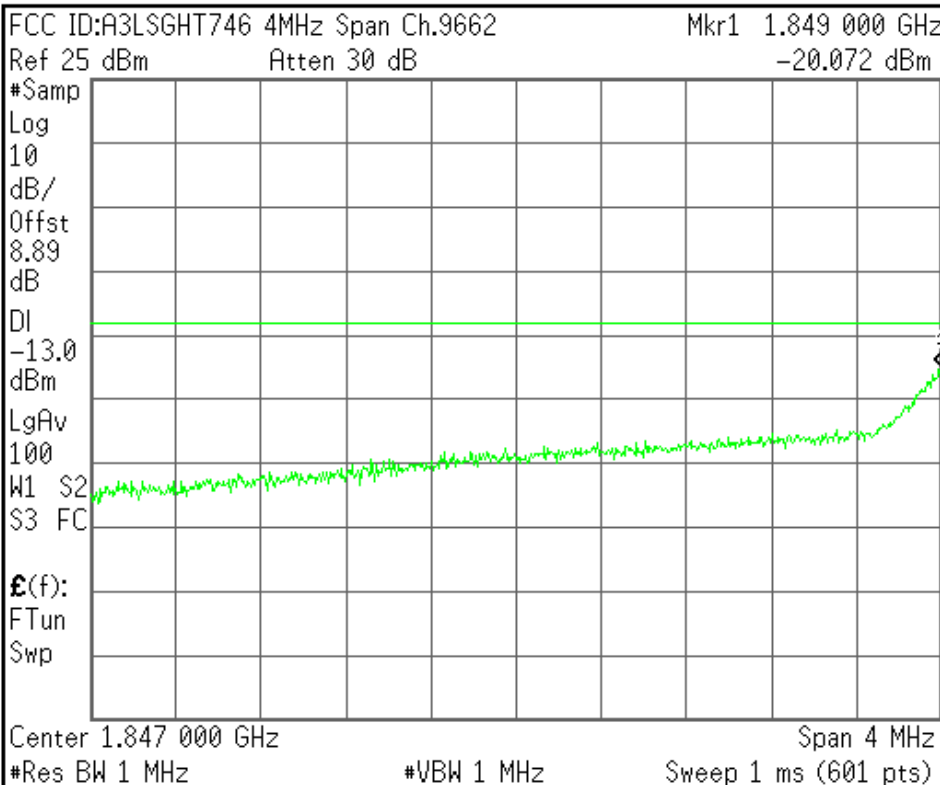
Signal Track
 On Off

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

Agilent

R T

Freq/Channel



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

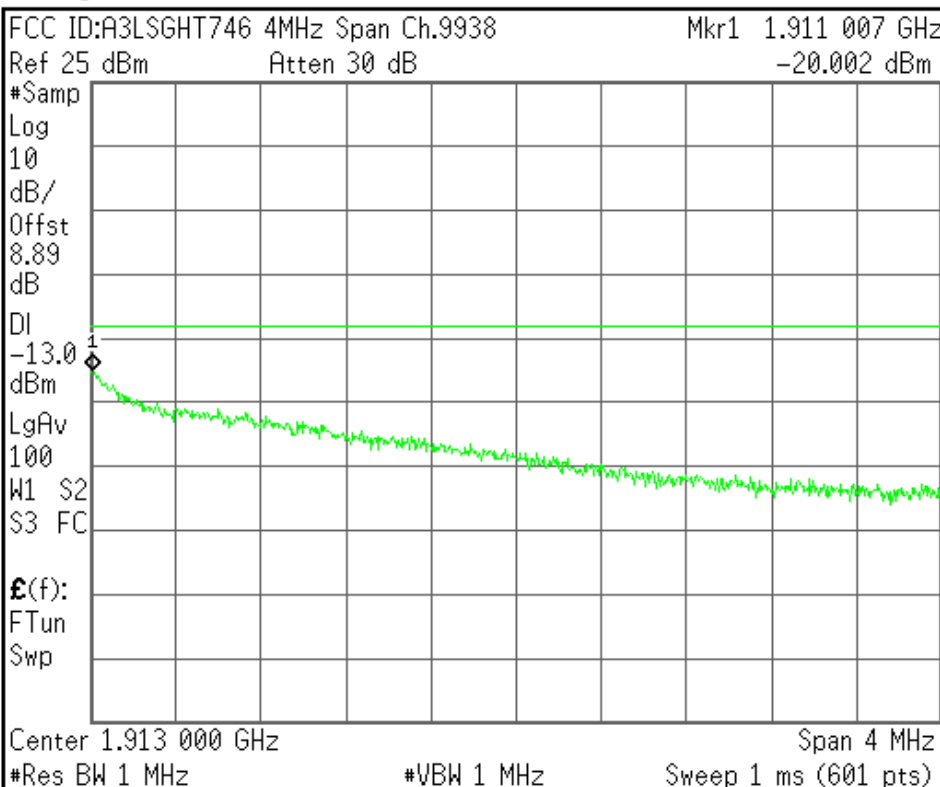
Signal Track
 On Off

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

Agilent

R T

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

FCC ID:A3LSGHT746 P.A.R Ch.9800

▲ Mkr1 0 Hz

Ref 30 dBm

Atten 40 dB

-3.54 dB

#Avg

Log

10

dB/

Offst

8.89

dB

#LgAv

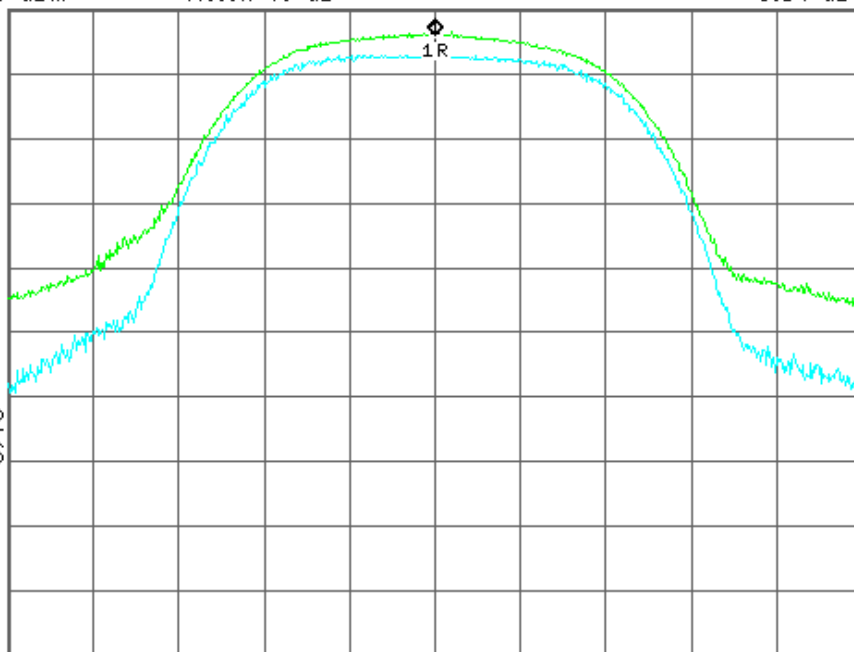
V1 V2

S3 FS

£(f):

FTun

Swp



Center 1.880 00 GHz

Span 20 MHz

#Res BW 5 MHz

#VBW 5 MHz

Sweep 1 ms (601 pts)

Center Freq
1.88000000 GHz

Start Freq
1.87000000 GHz

Stop Freq
1.89000000 GHz

CF Step
2.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

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