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IT R&D Center
416 Maetan3-Dong,
Yeongtong-gu, Suwon city,
Gyeonggi-Do, Korea 443-742

FCC CFR47 PART 22 & 24 SUBPART CERTIFICATION REPORT

Model Tested: GT-B6520L
FCC ID (Requested): A3LGTB6520L
Report No: FH-154-R2
Job No: FH-154
Date issued: July 19, 2010

- 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: A3LGTB6520L
- Model: GT-B6520L
- Quantity: Quantity production is planned
- Emission Designators: 4M27F9W(Cellular WCDMA),4M25F9W(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: 0.051 W Cellular WCDMA (17.09 dBm)
0.280 W PCS WCDMA(24.47 dBm)
- FCC Classification(s): PCS Licensed Portable Tx Held to Ear (PCE)
- Equipment (EUT) Type: 850/1900 GSM/GPRS and WCDMA Phone with Bluetooth, EDGE Rx
Only and WLAN
- Modulation(s): WCDMA
- Frequency Tolerance: $\pm 0.00025\%$ (2.5ppm)
- FCC Rule Part(s): §24(E), §22(H), §2.
- Dates of Test: July 12-13, 2010
- Place of Test: SAMSUNG Lab,
- Test Report S/N: FH-154-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.

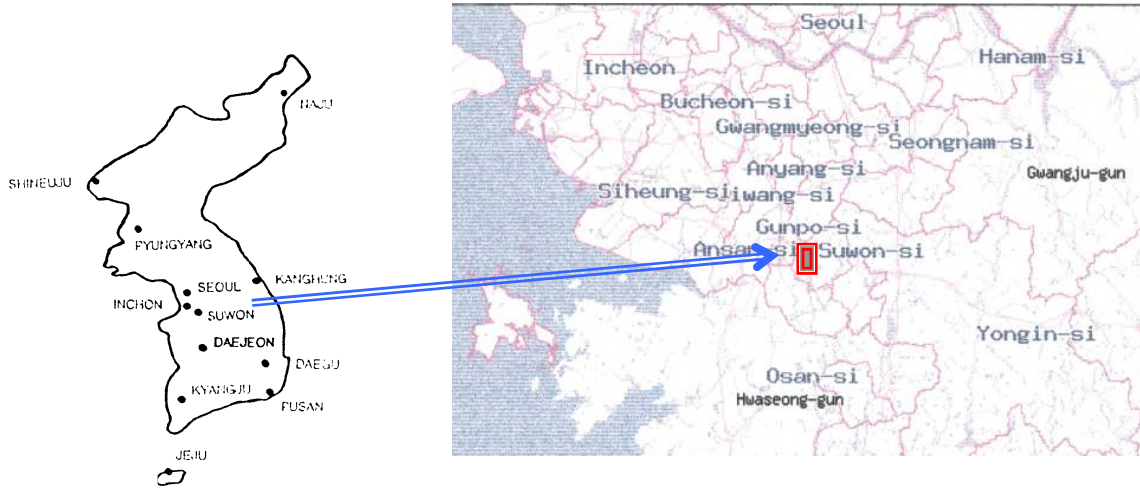


Figure1. Map of the Suwon City area.

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.

- End of page -

4. TEST EQUIPMENT LIST

Name Of Equipment	Model	Serial No.	Due Date
Spectrum Analyzer	ESI26	836119/010	2010-10-20
	E4440A(3Hz~26.5GHz)	MY46187454	2011-03-08
	E4440A(3Hz~26.5GHz)	MY41000236	2011-04-13
Network Analyzer	8753E	JP38160590	2011-06-18
Pre-Amplifier	8449B	3008A00691	2010-12-15
Communication test set	8960	MY47510060	2011-03-08
	8960	GB42230535	2010-12-18
Controller	CO2000	CO2000/424	Not Required
Turn Unit	CT0800	CT0800/057	Not Required
Rotating Device	DE3600-RH-PR	DE3600-RH-PR/050	Not Required
Antenna Master	MA4000	MA4000/204	Not Required
Horn Antenna	HF906	100134	2011-09-23
Dipole Antenna	UHA 9105	9105-2412	2011-10-06
	3121C-DB4	9007-587	2011-04-15
Receive Antenna	HL040	353255/019	2011-10-26
Power Supply	E3640A	MY40003594	2011-06-17
	E3640A	MY40003595	2011-05-17
	E3632A	MY40022438	2011-03-05
Divider	11636B	51946	2011-06-25
	11636B	51942	2011-07-09
	11636B	56918	2011-08-31
High Pass Filter	WHK/3.0/18G-10SS	492	Not Required
	WHK/3.5/18G-10SS	4	Not Required
Environmental Chamber	SH-241	92000549	2010-11-11
	SH-241	92000548	2010-11-11
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.

Table 1
3GPP TS 34.121 Nominal Maximum Output Power

Operating Band	Power Class 3		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	22.12	22.14	21.39
	4175	22.22	22.09	21.39
	4233	22.33	22.24	21.41
PCS WCDMA	9262	21.64	21.56	20.88
	9400	22.08	22.01	21.35
	9538	22.31	22.10	21.50

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

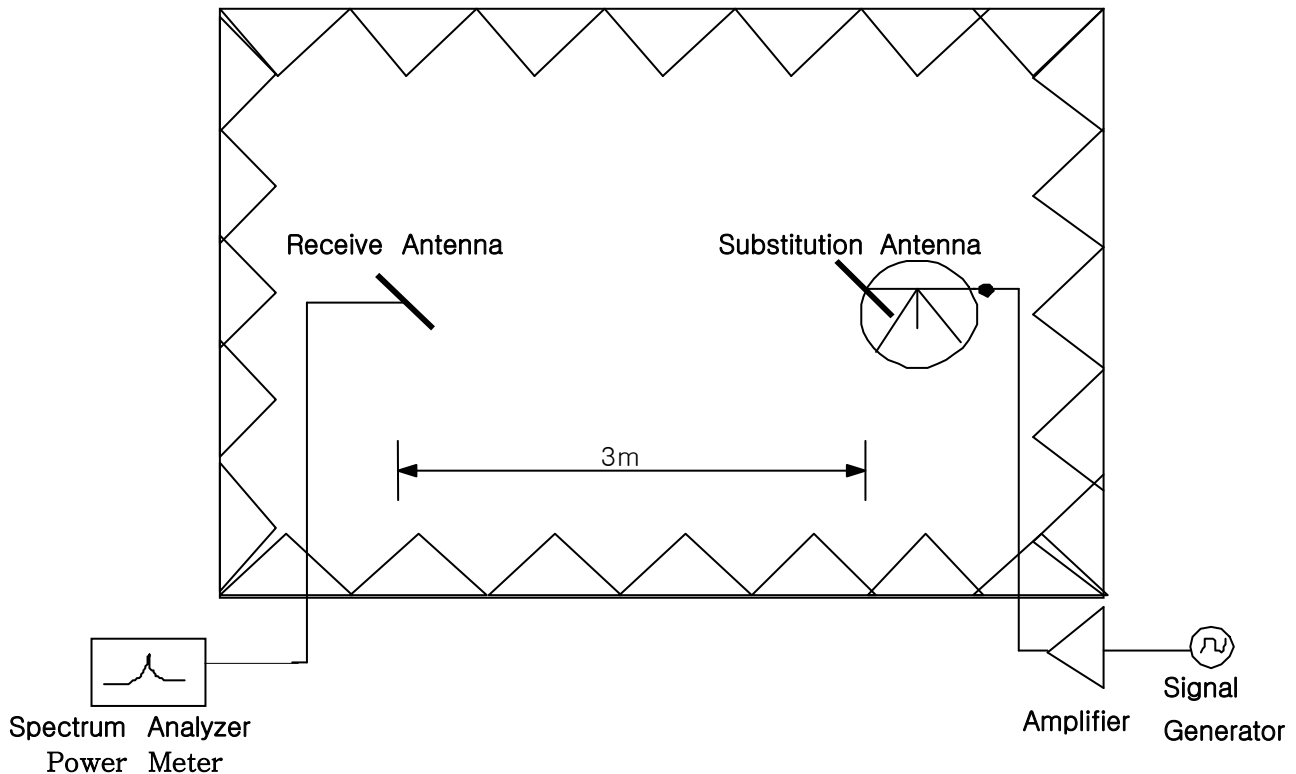


Figure 3. Diagram of ERP/EIRP test Set-up

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=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

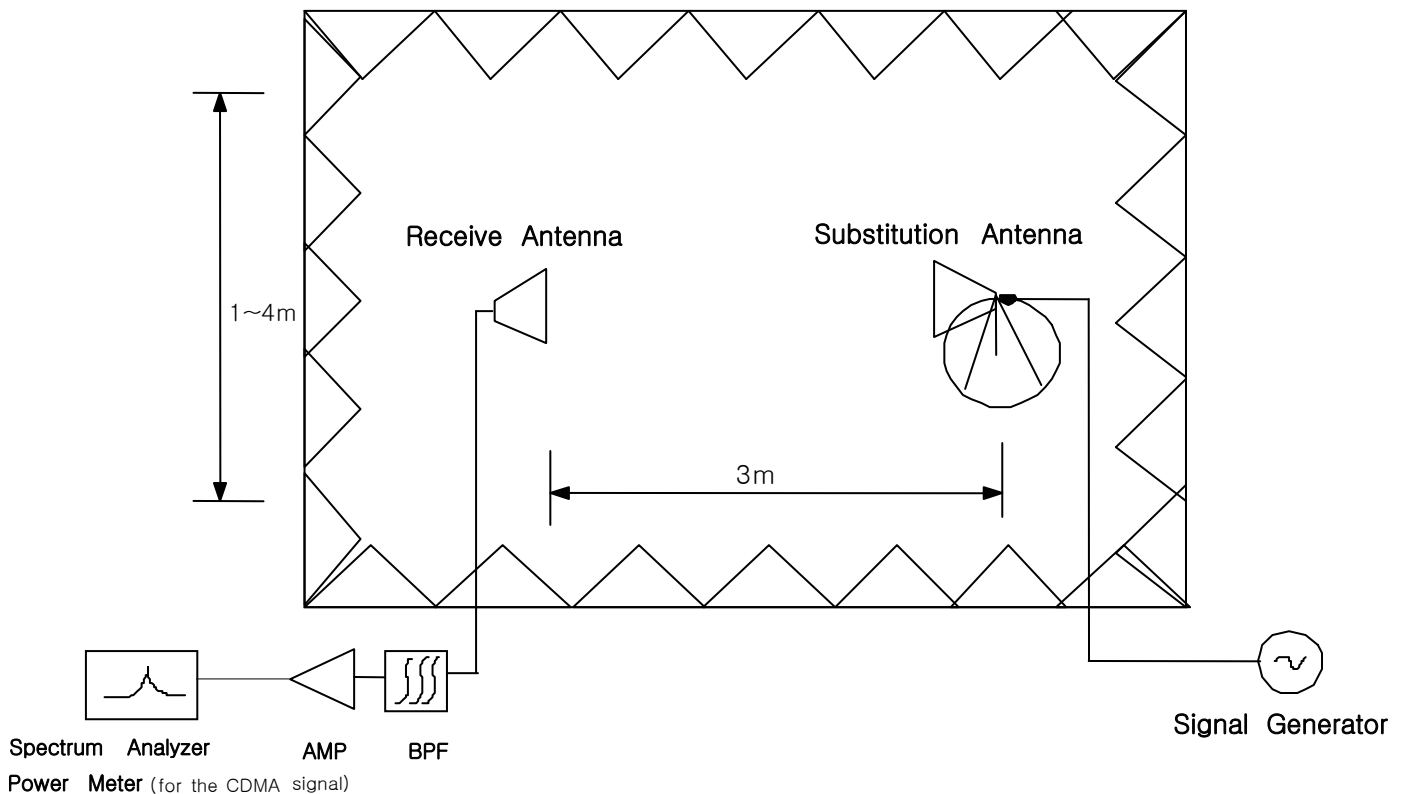


Figure 4. Diagram of Radiated Spurious & Harmonic test Set-up

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 $25.5\text{dBm} - (-24.8) = 50.3\text{dBc}$.

- End of page -

5.3 Occupied Bandwidth

Test Procedure

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

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

5.4 Spurious and Harmonic Emissions at Antenna Terminal

5.4.1 Occupied Bandwidth Emission Limits

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

- 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

BLOCK	Freq. Range (MHz) Transmitter (Tx)	Freq. Range (MHz) Receiver (Rx)
A	1710 – 1720	2110 – 2120
B	1720 – 1730	2120 – 2130
C	1730 – 1735	2130 – 2135
D	1735 – 1740	2135 – 2140
E	1740 – 1745	2140 – 2145
F	1745 – 1755	2145 – 2155

Table 3. Broadband AWS Service Frequency Blocks

5.4.2 Conducted Spurious Emission

Minimum standard:

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

$$43 + 10\log (0.333 \text{ W}) = 38.22\text{dB}$$
$$25.22 \text{ dBm} - 38.22 \text{ dB} = -13 \text{ dBm}$$

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.

5.5 Frequency Stability / Temperature Variation

The frequency stability of the transmitter is measured by:

- a.) Temperature: The temperature is carried from -30°C to $+60^{\circ}\text{C}$ 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 ($\pm 2.5\text{ppm}$) of the center frequency.

Time Period and Procedure:

1. The carrier frequency of the transmitter and the individual oscillators is measured at room temperature (25°C to 27°C to provide a reference).
2. The equipment is subjected to an overnight "soak" at -30°C without any power applied.
3. After the overnight "soak" at -30°C (Usually 14~16 hours), the equipment is turned on in a "standby" condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter and the individual oscillators is made within a three minute interval after applying to the transmitter.
4. Frequency measurements are made at 10°C interval up to room temperature. At least a period of one and one half-hour is provided to allow stabilization of the equipment at each temperature level.
5. Again the transmitter carrier frequency and the individual oscillators is measured at room temperature to begin measurement of the upper temperature levels.
6. Frequency measurements are at 10 intervals starting at -30°C up to $+60^{\circ}\text{C}$ 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 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	15.00	H	-21.52	-0.67	-20.85
		V	-22.39	-0.67	-21.72
836.6	17.00	H	-20.04	-0.73	-19.31
		V	-20.30	-0.73	-19.57
846.6	17.00	H	-22.24	-0.79	-21.45
		V	-21.32	-0.79	-20.53

■ Result

Frequency (MHz)	From EUT Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	ERP (dBm)	ERP (W)	Battery
826.4	-20.92	H	287/110	14.97	0.031	Standard
836.6	-19.44	H	290/100	16.87	0.049	Standard
846.6	-21.36	H	287/100	17.09	0.051	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 WCDMA

■ Reference level

Frequency (MHz)	Output (dBm)	Polarization	P/M (dBm)	Ant gain (dBi)	Ref level (dBm)
1852.4	23.00	H	-16.31	9.60	-25.91
		V	-15.91	9.60	-25.51
1880.0	23.00	H	-15.98	9.60	-25.58
		V	-16.33	9.60	-25.93
1907.6	24.00	H	-15.45	9.60	-25.05
		V	-15.19	9.60	-24.79

■ Result

Frequency (MHz)	From EUT Tested level (dBm)	Polarization (H/V)	Azimuth (angle)	EIRP (dBm)	EIRP (W)	Battery
1852.4	-25.90	V	211/90	22.61	0.182	Standard
1880.0	-25.62	V	219/90	23.31	0.214	Standard
1907.6	-24.32	V	213/90	24.47	0.280	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 Cellular WCDMA Radiated Spurious & Harmonic measurement

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

Measured Output Power : 17.09 dBm = 0.051 W

Modulation Signal : CDMA

Limit : $43 + 10\log_{10}(P) = 30.09\text{dBc}$

Result

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	POL (H/V)	Result (dBc)
4132	2	1652.80	-61.44	V	66.42
	3	2479.20	-66.33	H	66.06
	4	3305.60	-66.02	H	62.24
	5	4132.00	-	-	-
	6	4958.40	-	-	-
	7	5784.80	-	-	-
4175	2	1672.80	-59.55	H	63.67
	3	2509.20	-65.70	V	65.64
	4	3345.60	-65.58	H	61.53
	5	4182.00	-	-	-
	6	5018.40	-	-	-
	7	5854.80	-	-	-
4233	2	1693.20	-60.07	H	63.10
	3	2539.80	-65.87	H	65.44
	4	3386.40	-66.83	V	63.01
	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

6.4 PCS WCDMA Radiated Spurious & Harmonic measurement

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

Measured Output Power : 24.47 dBm = 0.280 W

Modulation Signal : PCS

$$\text{Limit : } 43 + 10\log_{10}(P) = 37.47\text{dBc}$$

■ Result

Channel	Harmonic	Frequency (MHz)	From EUT Tested level (dBm)	POL (H/V)	Result (dBc)
9262	2	3704.80	-67.54	V	67.67
	3	5557.20	-66.15	H	61.19
	4	7409.60	-68.86	H	58.63
	5	9262.00	-	-	-
	6	11114.40	-	-	-
	7	12966.80	-	-	-
9400	2	3760.00	-67.10	V	66.68
	3	5640.00	-66.70	H	61.59
	4	7520.00	-68.06	H	58.34
	5	9400.00	-	-	-
	6	11280.00	-	-	-
	7	13160.00	-	-	-
9538	2	3815.20	-67.18	H	66.41
	3	5722.80	-66.95	V	61.53
	4	7630.40	-68.83	H	58.84
	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

6.5 Cellular WCDMA Radiated Spurious & Harmonic Conversion Table

Date : July 13, 2010

Test Engineer : KJ KWON

- ① Tx Cable loss
- ② Tx Horn Ant Gain
- ③ Tx Level to radiate -13dBm
- ④ ESI Level received from Tx with-13dBm
- ⑤ Tested Level from EUT
- ⑥ = ERP+2.15 - (-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	-9.34	-17.01	-13.20	-27.60	-27.25	-62.80	-61.44	67.43	66.42
	3	2479.20	-11.66	-19.09	-12.00	-32.50	-32.00	-66.33	-67.62	66.06	67.85
	4	3305.60	-13.53	-20.58	-11.80	-36.01	-35.61	-66.02	-66.39	62.24	63.01
	5	4132.00	-15.09	-22.01	-10.40	-38.76	-38.44	-	-	-	-
	6	4958.40	-16.89	-23.86	-8.80	-41.87	-40.99	-	-	-	-
	7	5784.80	-18.42	-24.75	-7.50	-43.37	-43.42	-	-	-	-
4408	2	1673.20	-9.39	-16.90	-13.10	-28.11	-28.27	-59.55	-60.49	63.67	64.45
	3	2509.80	-11.68	-19.05	-12.00	-32.67	-32.25	-66.08	-65.70	65.64	65.68
	4	3346.40	-13.62	-20.55	-11.70	-36.28	-36.70	-65.58	-66.30	61.53	61.83
	5	4183.00	-15.33	-22.23	-10.20	-38.60	-38.48	-	-	-	-
	6	5019.60	-17.17	-24.43	-8.50	-42.15	-41.72	-	-	-	-
	7	5856.20	-18.51	-25.08	-7.40	-44.68	-44.47	-	-	-	-
4458	2	1693.20	-9.42	-16.80	-13.10	-29.20	-28.39	-60.07	-60.26	63.10	64.10
	3	2539.80	-11.69	-19.03	-12.00	-32.66	-32.59	-65.87	-66.84	65.44	66.48
	4	3386.40	-13.58	-20.61	-11.70	-36.31	-35.95	-67.09	-66.83	63.01	63.11
	5	4233.00	-15.43	-22.26	-10.10	-39.14	-39.12	-	-	-	-
	6	5079.60	-17.20	-24.27	-8.50	-42.76	-42.76	-	-	-	-
	7	5926.20	-18.66	-25.13	-7.20	-44.34	-44.02	-	-	-	-



6.6 PCS WCDMA Radiated Spurious & Harmonic Conversion Table

Date : July 13, 2010.

Test Engineer : KJ KWON

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

CH	Har	Frequency (MHz)	① Tx C/L dB	②Tx Horn Gain dBi	③Tx Level dBm	④ ESI Level : H dBm	④ ESI Level : V dBm	⑤Tested EUT Level : H dBm	⑤Tested EUT Level : V dBm	⑥ Result EUT : H (dBc)	⑥ Result EUT : V (dBc)
9262	2	3704.80	-14.27	-20.87	-11.10	-37.42	-37.29	-67.62	-67.54	67.67	67.72
	3	5557.20	-17.89	-23.72	-8.00	-42.43	-42.51	-66.15	-66.65	61.19	61.61
	4	7409.60	-20.68	-26.05	-2.80	-47.70	-47.31	-68.86	-68.94	58.63	59.10
	5	9262.00	-24.00	-29.49	-0.20	-51.55	-50.34	-	-	-	-
	6	11114.40	-27.10	-32.99	2.50	-55.14	-55.44	-	-	-	-
	7	12966.80	-29.17	-36.16	3.30	-58.61	-58.58	-	-	-	-
9400	2	3760.00	-14.42	-20.87	-11.00	-37.93	-37.89	-67.60	-67.10	67.14	66.68
	3	5640.00	-18.03	-24.00	-7.90	-42.58	-42.73	-66.70	-66.89	61.59	61.63
	4	7520.00	-20.87	-26.29	-2.70	-47.19	-47.22	-68.06	-68.54	58.34	58.79
	5	9400.00	-23.58	-28.99	-1.00	-51.70	-51.98	-	-	-	-
	6	11280.00	-26.58	-32.85	1.50	-55.95	-56.35	-	-	-	-
	7	13160.00	-28.58	-35.86	2.80	-58.92	-59.14	-	-	-	-
9538	2	3815.20	-14.46	-21.10	-10.90	-38.24	-38.04	-67.18	-67.52	66.41	66.95
	3	5722.80	-18.26	-24.16	-7.70	-43.05	-42.89	-67.47	-66.95	61.89	61.53
	4	7630.40	-21.26	-26.71	-2.90	-47.42	-47.53	-68.83	-68.90	58.88	58.84
	5	9538.00	-23.84	-29.81	-0.90	-52.67	-51.88	-	-	-	-
	6	11445.60	-27.12	-33.46	2.40	-56.20	-55.97	-	-	-	-
	7	13353.20	-28.83	-36.19	3.50	-60.16	-59.86	-	-	-	-

6.7 Frequency Stability

6.7.1 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)	28.10	836,600,028	0.000003	0.036
100%		-30	9.80	836,600,010	0.000001	-0.041
100%		-20	5.00	836,600,005	0.000001	0.008
100%		-10	36.70	836,600,037	0.000004	-0.026
100%		0	13.20	836,600,013	0.000002	-0.027
100%		+10	-12.60	836,599,987	-0.000002	0.027
100%		+20	28.10	836,600,028	0.000003	0.036
100%		+30	-29.60	836,599,970	-0.000004	-0.017
100%		+40	14.40	836,600,014	0.000002	0.025
100%		+50	25.40	836,600,025	0.000003	0.044
100%		+60	-18.20	836,599,982	-0.000002	0.030
85%		3.35	+20	-16.20	836,599,984	-0.000002
115%	4.26	+20	-5.90	836,599,994	-0.000001	0.012
Batt. Endpoint	3.35	+20	-16.20	836,599,984	-0.000002	0.030

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

The EUT is tested down to the battery end point

6.7.2 PCS WCDMA Frequency Stability Table

Operating Frequency : 1,880,000,000 Hz

Channel : 9400

Reference Voltage : 3.7VDC

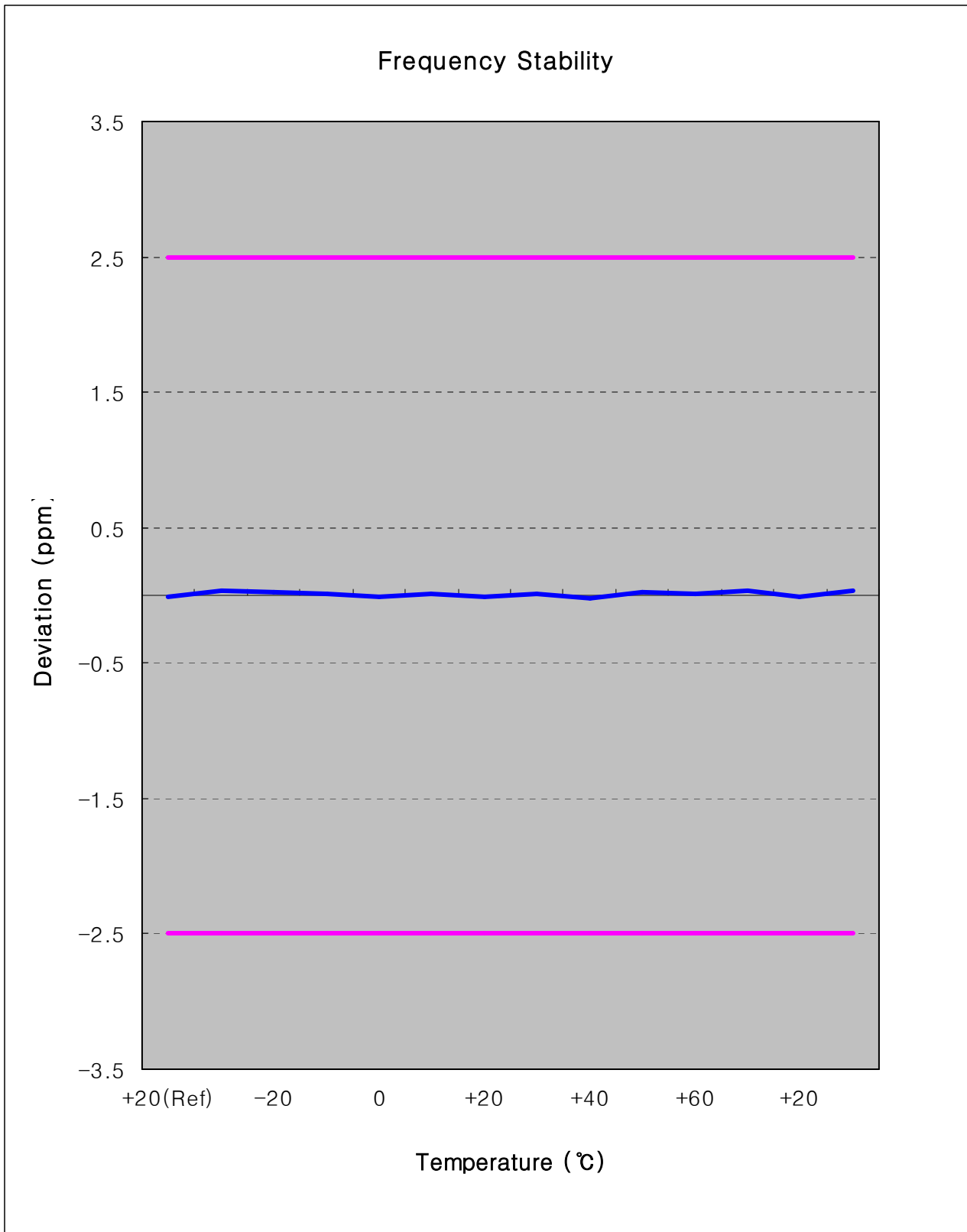
Deviation Limit : ± 0.00025 % or 2.5ppm

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency Error (Hz)	Frequency (Hz)	Deviation (%)	ppm
100%	3.70	+20(Ref)	26.40	1,880,000,026	0.000001	-0.017
100%		-30	-23.80	1,879,999,976	-0.000001	0.020
100%		-20	3.30	1,880,000,003	0.000000	-0.004
100%		-10	21.10	1,880,000,021	0.000001	-0.021
100%		0	-25.30	1,879,999,975	-0.000001	0.014
100%		+10	-17.60	1,879,999,982	-0.000001	0.013
100%		+20	26.40	1,880,000,026	0.000001	-0.017
100%		+30	-29.00	1,879,999,971	-0.000002	-0.002
100%		+40	-5.90	1,879,999,994	0.000000	0.015
100%		+50	-9.60	1,879,999,990	-0.000001	-0.014
100%		+60	0.70	1,880,000,001	0.000000	-0.010
85%	3.35	+20	34.40	1,880,000,034	0.000002	0.019
115%	4.26	+20	-34.00	1,879,999,966	-0.000002	-0.001
Batt. Endpoint	3.35	+20	34.40	1,880,000,034	0.000002	0.019

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

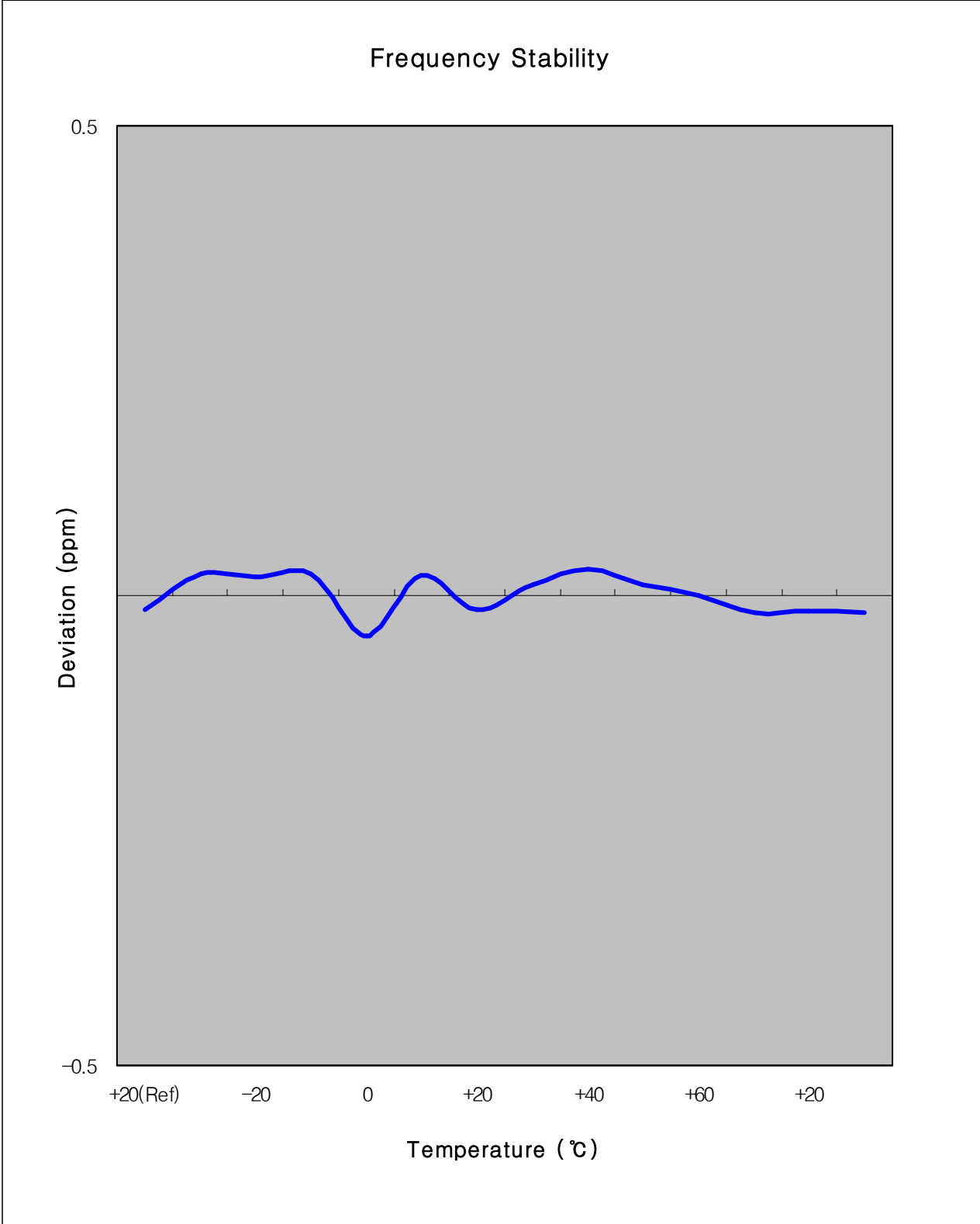
The EUT is tested down to the battery end point

6.7.3 Cellular WCDMA Frequency Stability Graph



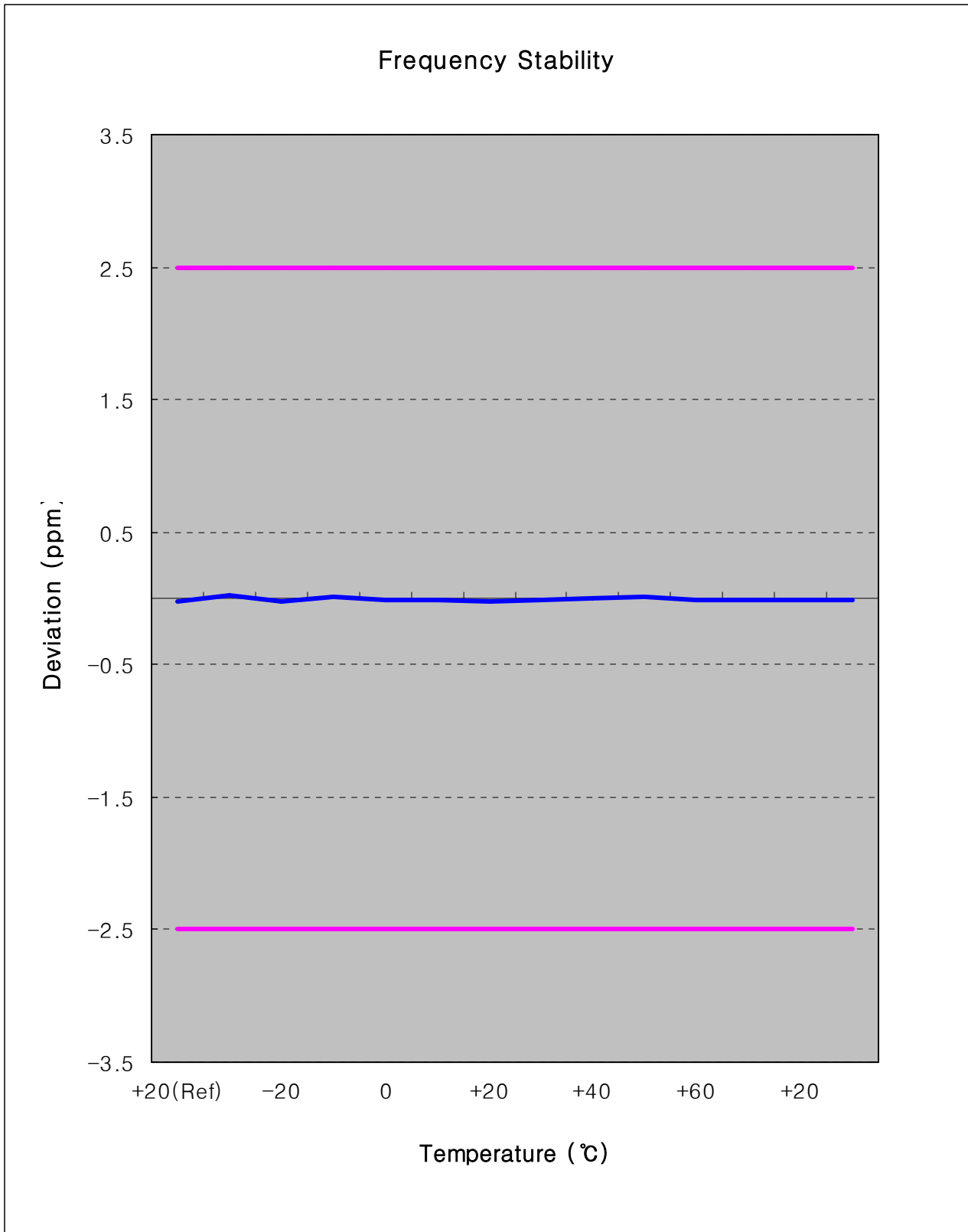
- End of page -

Zoom In



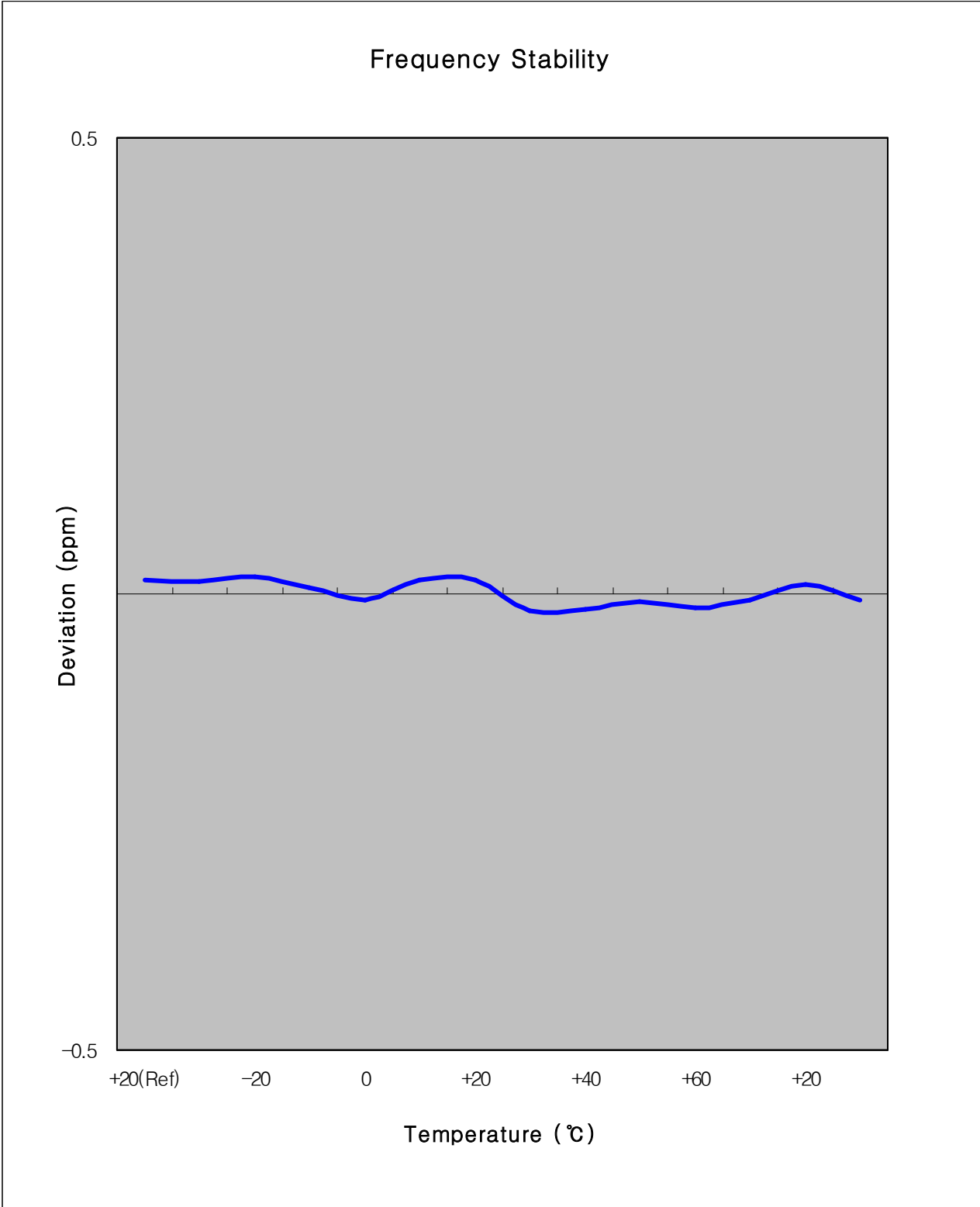
- End of page -

6.7.4 PCS WCDMA Frequency Stability Graph



- End of page -

Zoom In



- End of page -

7. SAMPLE CALCULATION

7.1 Emission Designator

Emission Designator = 4M19F9W

WCDMA 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/GPRS and WCDMA Phone with Bluetooth, EDGE Rx Only and WLAN FCC ID : A3LGTB6520L complies with all the requirements of Parts 2, 22, 24 of the FCC Rules.

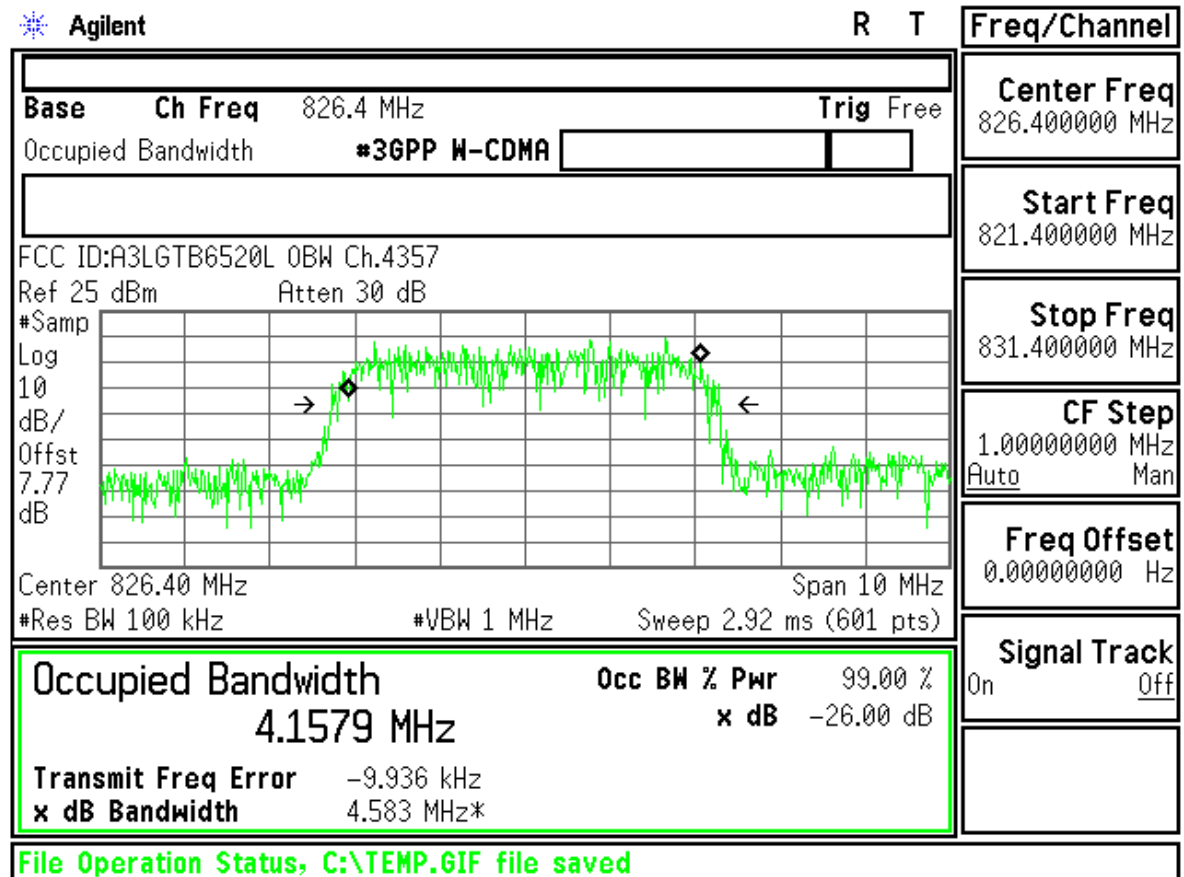
- End of page -

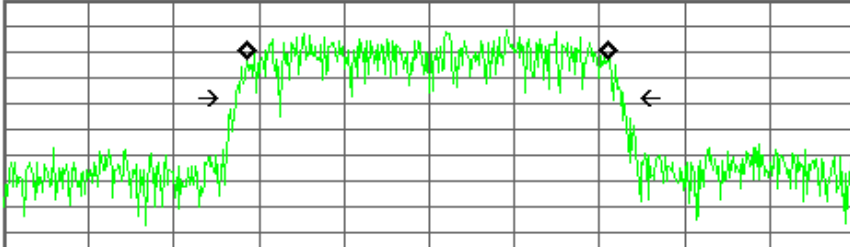
9. TEST PLOT

Control	Waveform Quality							Call Parms		
Waveform Quality Setup ▾				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	Cell Power			
	EVM (%):			4.33	5.22	4.87	-104.00			
	Frequency Error (Hz):			-25.92	5.31	-10.23	dBm/3.84 MHz			
	Origin Offset (dB):			-30.59	-29.27	-29.96	Channel Type			
	Phase Error (°):			1.96	2.51	2.29	12.2k RMC			
	Mag Error (%):			2.64	2.92	2.77	Paging Service			
	Time Error (chips):			1.10	1.12	1.11	RB Test Node			
Max PCDE: -33.09 dB at Cch,256,64:0										
50 /5C						Single				
Thermal Power										
Thermal Power 22.11 dBm										
Continuous										
Calibrate Measurements	Active Cell Connected							Sys Type: UTRA FDD		
Swap Window Positions										
1 of 2			IntRef	Offset	R	T	1 of 3			

Control	Waveform Quality							Call Parms		
Waveform Quality Setup ▾				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	Cell Power			
	EVM (%):			4.10	5.18	4.69	-104.00			
	Frequency Error (Hz):			-36.51	12.38	-13.72	dBm/3.84 MHz			
	Origin Offset (dB):			-30.84	-29.04	-29.95	Channel Type			
	Phase Error (°):			1.89	2.57	2.26	12.2k RMC			
	Mag Error (%):			2.32	2.69	2.53	Paging Service			
	Time Error (chips):			1.01	1.15	1.03	RB Test Node			
Max PCDE: -33.49 dB at Cch,256,64:0										
50 /5C						Single				
Thermal Power										
Thermal Power 22.20 dBm										
Continuous										
Calibrate Measurements	Active Cell Connected							Sys Type: UTRA FDD		
Swap Window Positions										
1 of 2			IntRef	Offset	R	T	1 of 3			

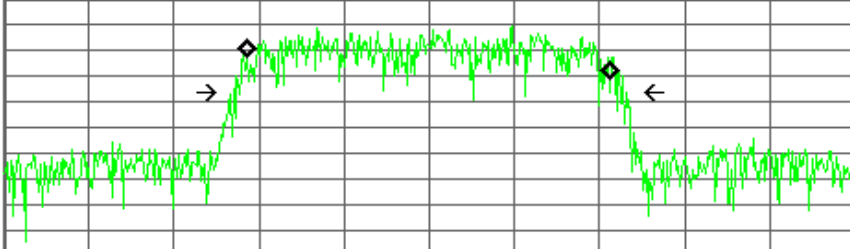
Control	Waveform Quality			Call Parms
Waveform Quality Setup ▾		Minimum	Maximum	Average
	EVM (%):	4.56	5.56	5.09
	Frequency Error (Hz):	-20.17	7.74	-8.42
	Origin Offset (dB):	-31.35	-29.42	-30.28
	Phase Error (°):	1.91	2.62	2.30
	Mag Error (%):	2.88	3.26	3.13
	Time Error (chips):	1.02	1.17	1.06
	Max PCDE: -33.35 dB at Cch.256.64:0			
	50 /5C			Single
Calibrate Measurements	Thermal Power			
	Thermal Power 22.32 dBm			
Swap Window Positions	Continuous			
	Active Cell Connected		Sys Type: UTRA FDD	
1 of 2				1 of 3



Base	Ch Freq 836.6 MHz	Trig Free
Occupied Bandwidth		*3GPP W-CDMA
FCC ID:A3LGTB6520L 0BW Ch.4408		
Ref 25 dBm		Atten 30 dB
#Samp		
Log	Center 836.60 MHz	
10	Span 10 MHz	
dB/	#Res BW 100 kHz	
Offst	#VBW 1 MHz	
7.77	Sweep 2.92 ms (601 pts)	
dB		
Occupied Bandwidth		Occ BW % Pwr 99.00 %
4.2329 MHz		x dB -26.00 dB
Transmit Freq Error		-15.658 kHz
x dB Bandwidth		4.565 MHz*

Freq/Channel
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

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

Base	Ch Freq 846.6 MHz	Trig Free
Occupied Bandwidth		*3GPP W-CDMA
FCC ID:A3LGTB6520L 0BW Ch.4458		
Ref 25 dBm		Atten 30 dB
#Samp		
Log	Center 846.60 MHz	
10	Span 10 MHz	
dB/	#Res BW 100 kHz	
Offst	#VBW 1 MHz	
7.77	Sweep 2.92 ms (601 pts)	
dB		
Occupied Bandwidth		Occ BW % Pwr 99.00 %
4.2703 MHz		x dB -26.00 dB
Transmit Freq Error		-12.549 kHz
x dB Bandwidth		4.624 MHz*

Freq/Channel
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

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

Agilent

R L

Freq/Channel

FCC ID:A3LGTB6520L Cond Spur Ch.4357

Ref 25 dBm

Atten 30 dB

#Peak

Log

10

dB/

Offst

7.77

dB

DI

-13.0

dBm

LgAv

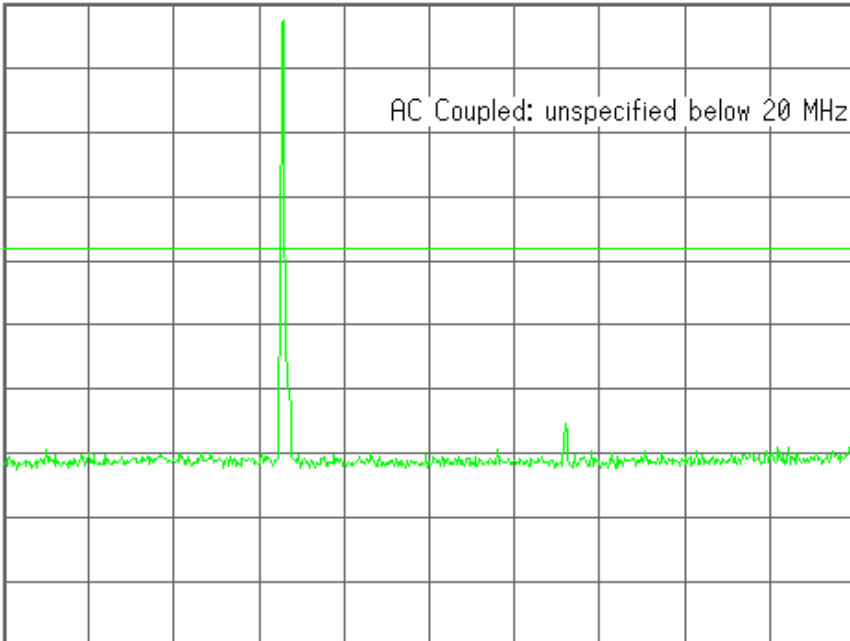
M1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp



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
10.00000000 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 L

Freq/Channel

FCC ID:A3LGTB6520L Cond Spur Ch.4357

Mkr1 816.4 MHz

Ref 25 dBm

Atten 30 dB

-36.09 dBm

#Peak

Log

10

dB/

Offst

7.77

dB

DI

-13.0

dBm

LgAv

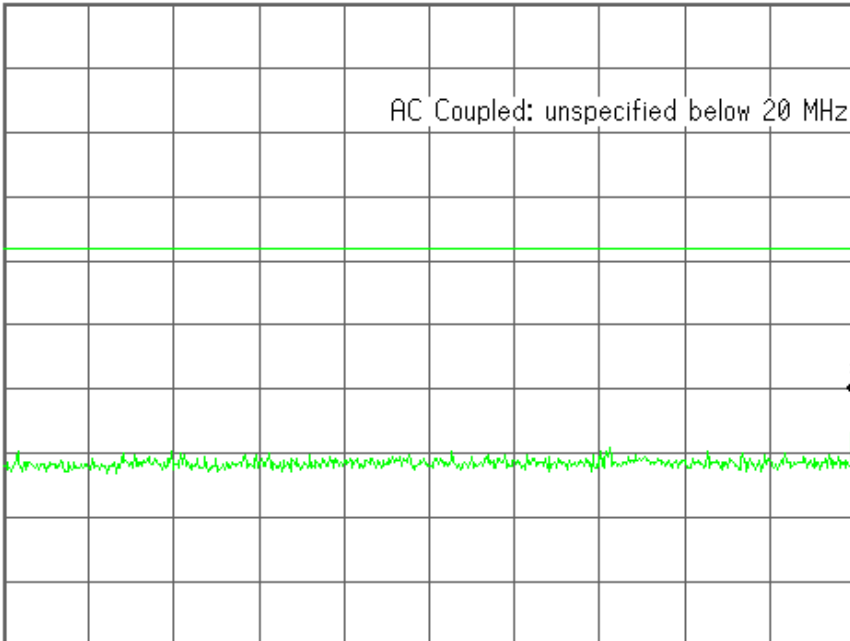
V1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp



Center 413.2 MHz

Span 806.4 MHz

#Res BW 1 MHz

#VBW 1 MHz

Sweep 1.36 ms (601 pts)

Center Freq
413.200000 MHz

Start Freq
10.00000000 MHz

Stop Freq
816.400000 MHz

CF Step
80.6400000 MHz
Auto Man

Freq Offset
0.00000000 Hz

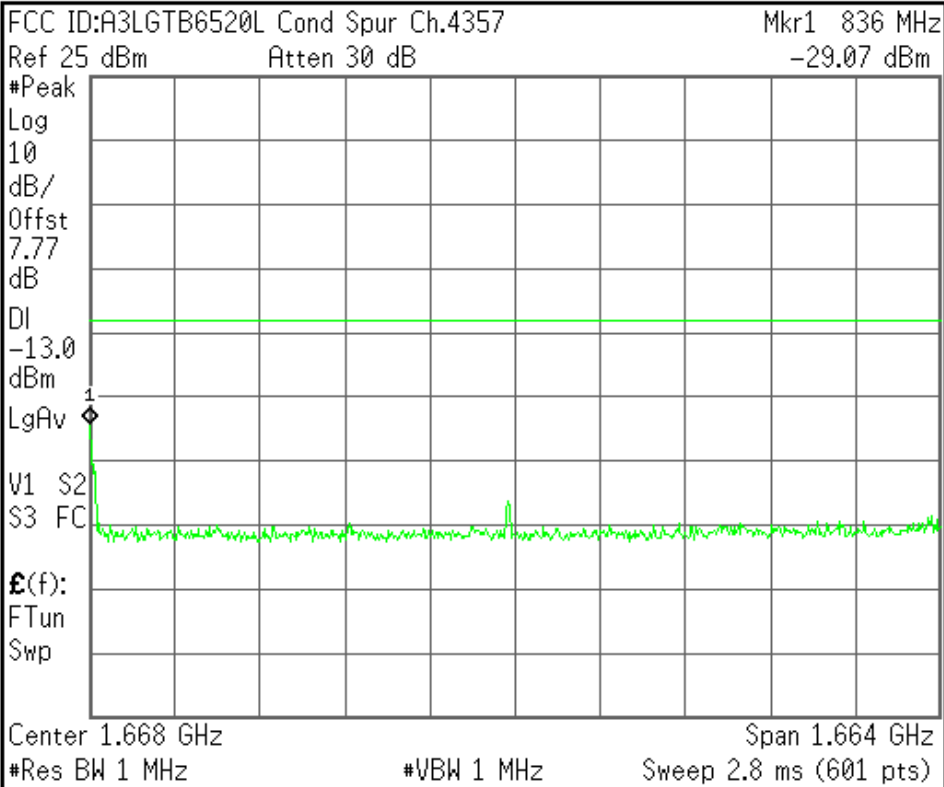
Signal Track
On Off

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

Agilent

R L

Freq/Channel



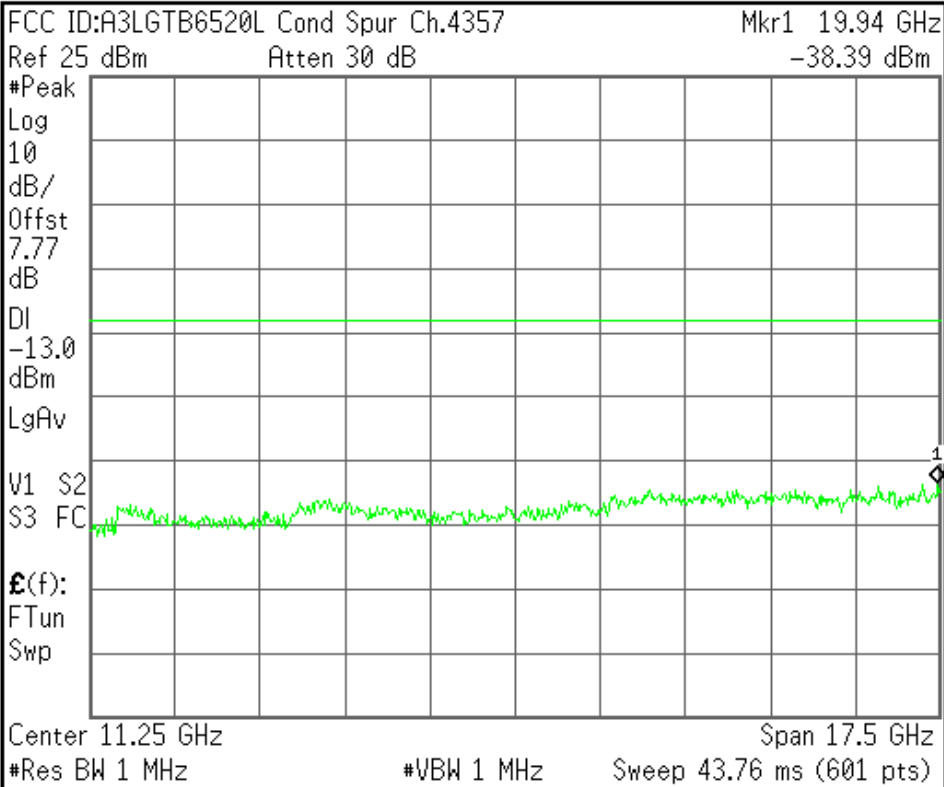
Center Freq 1.66820000 GHz
Start Freq 836.400000 MHz
Stop Freq 2.50000000 GHz
CF Step 166.360000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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 20.00000000 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 L

Freq/Channel

FCC ID:A3LGTB6520L Cond Spur Ch.4408

Ref 25 dBm

Atten 30 dB

#Peak

Log

10

dB/

Offst

7.77

dB

DI

-13.0

dBm

LgAv

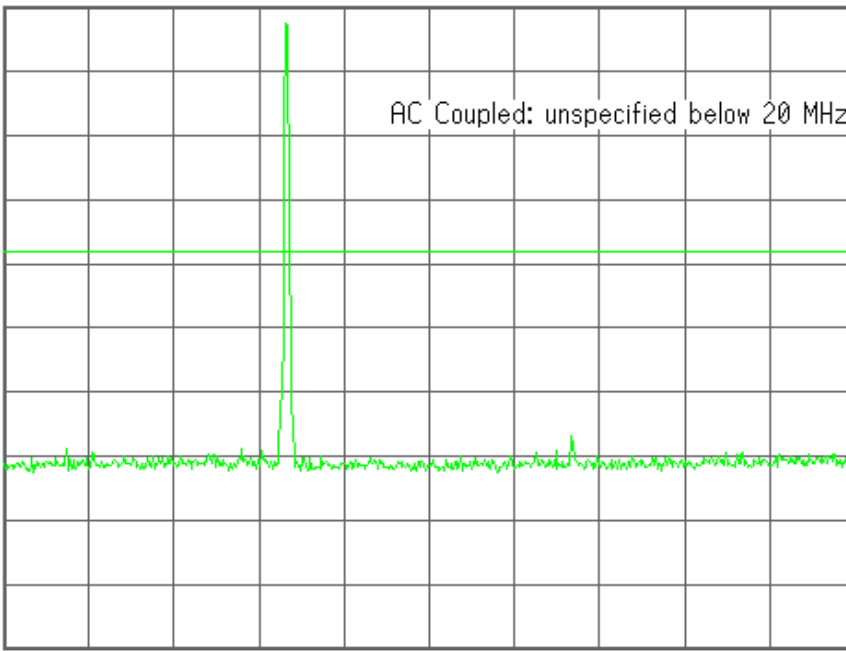
M1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp



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
10.00000000 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 L

Freq/Channel

FCC ID:A3LGTB6520L Cond Spur Ch.4408

Mkr1 826.6 MHz

Ref 25 dBm

Atten 30 dB

-29.76 dBm

#Peak

Log

10

dB/

Offst

7.77

dB

DI

-13.0

dBm

LgAv

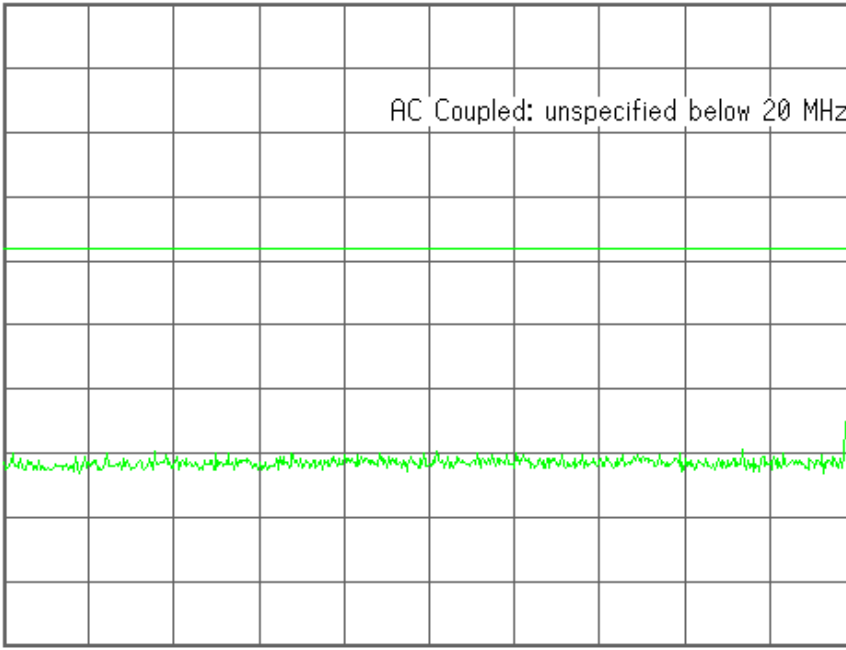
M1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp



Center 418.3 MHz

Span 816.6 MHz

#Res BW 1 MHz

#VBW 1 MHz

Sweep 1.4 ms (601 pts)

Center Freq
418.3000000 MHz

Start Freq
10.00000000 MHz

Stop Freq
826.6000000 MHz

CF Step
81.66000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

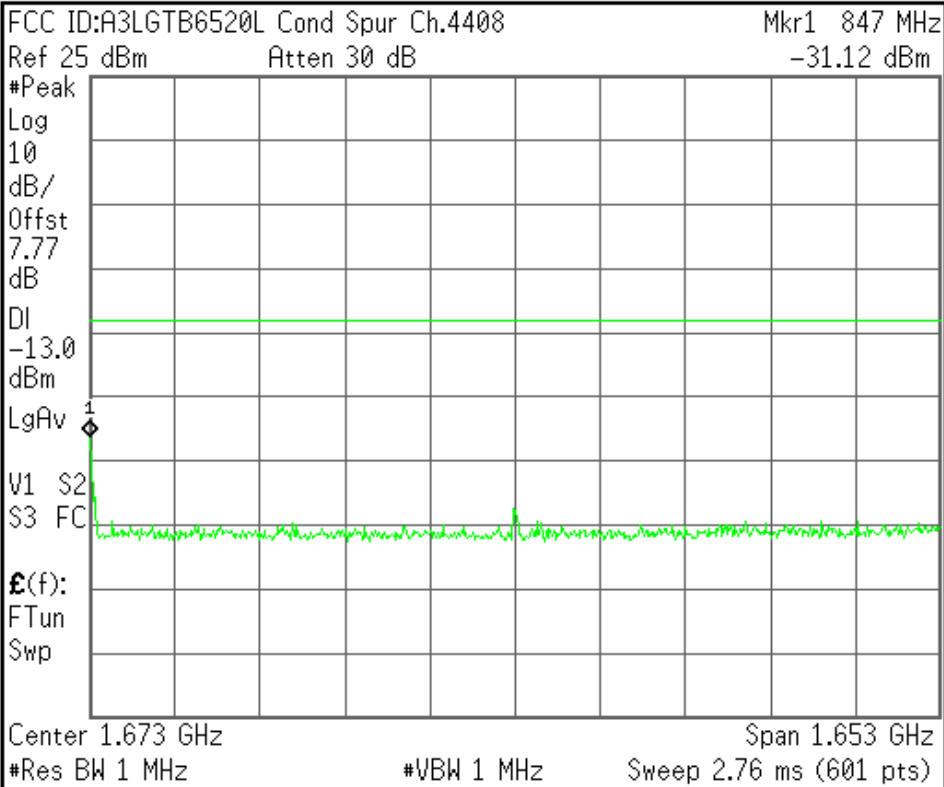
Signal Track
On Off

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

Agilent

R L

Freq/Channel



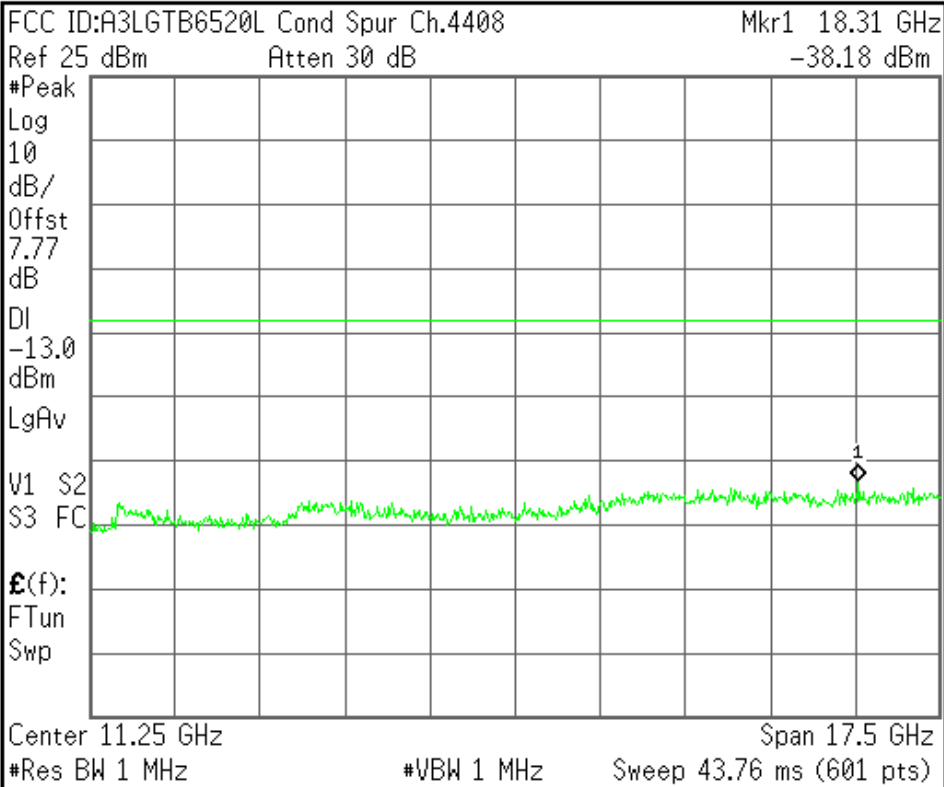
Center Freq 1.67330000 GHz
Start Freq 846.600000 MHz
Stop Freq 2.50000000 GHz
CF Step 165.340000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



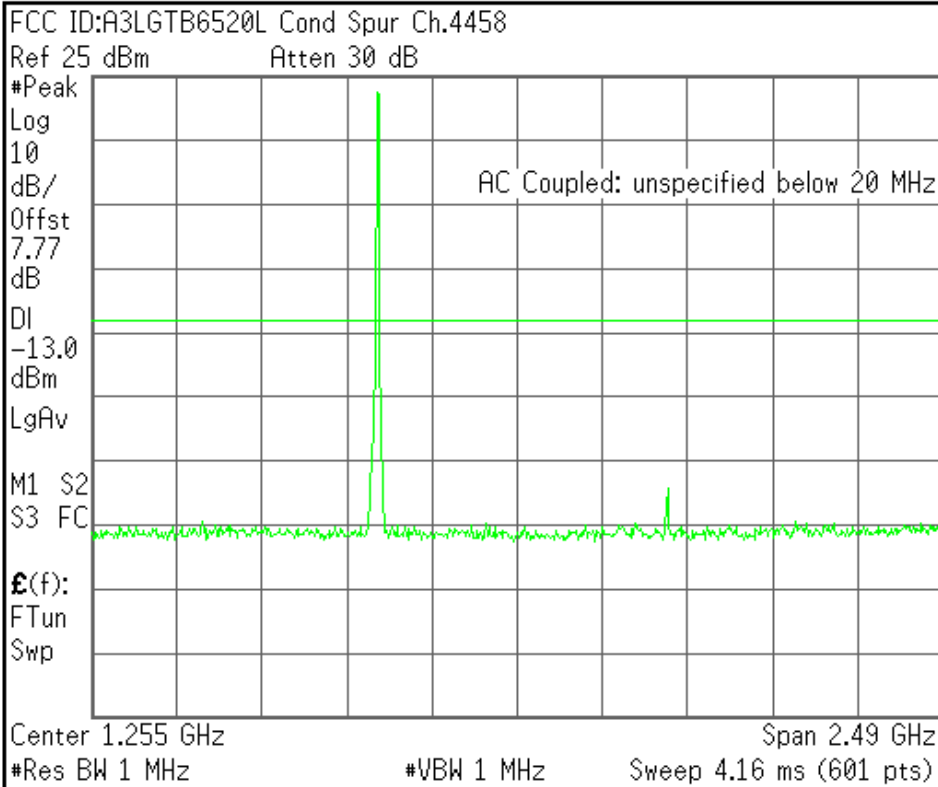
Center Freq 11.2500000 GHz
Start Freq 2.50000000 GHz
Stop Freq 20.0000000 GHz
CF Step 1.75000000 GHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R L

Freq/Channel



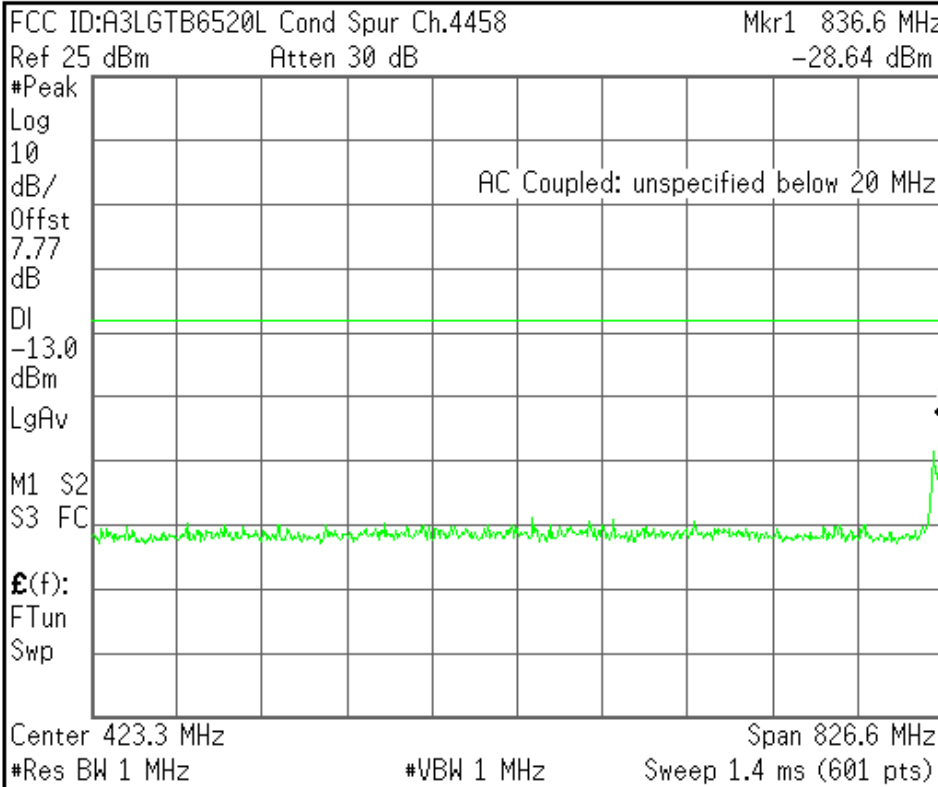
Center Freq 1.25500000 GHz
Start Freq 10.00000000 MHz
Stop Freq 2.50000000 GHz
CF Step 249.0000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R L

Freq/Channel



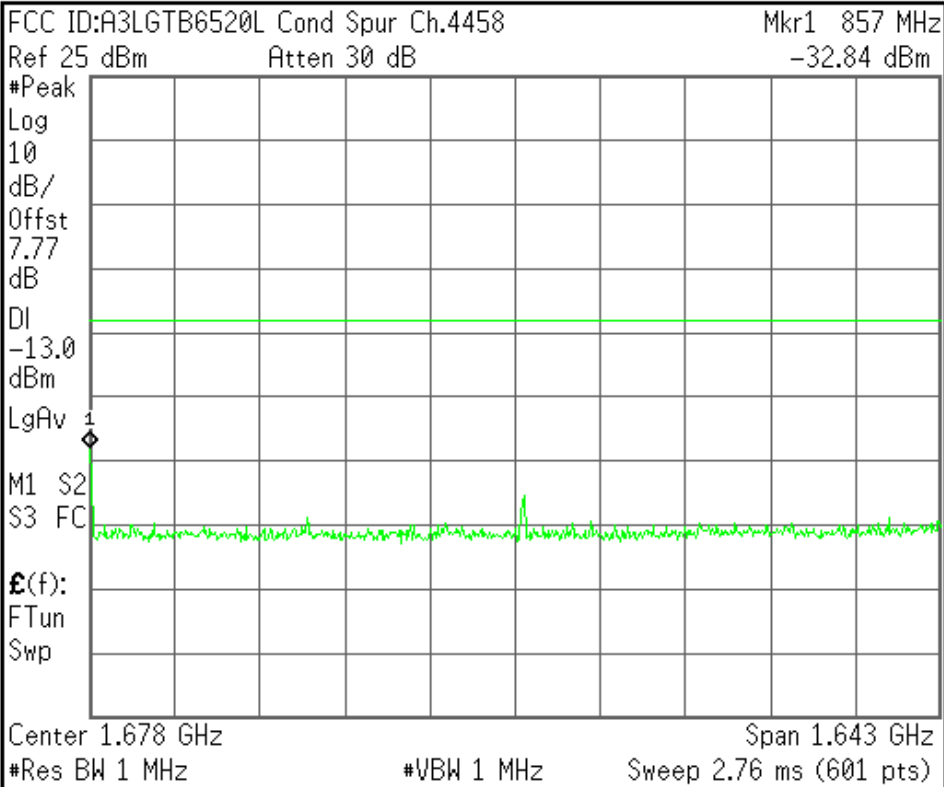
Center Freq 423.300000 MHz
Start Freq 10.00000000 MHz
Stop Freq 836.600000 MHz
CF Step 82.66000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R L

Freq/Channel



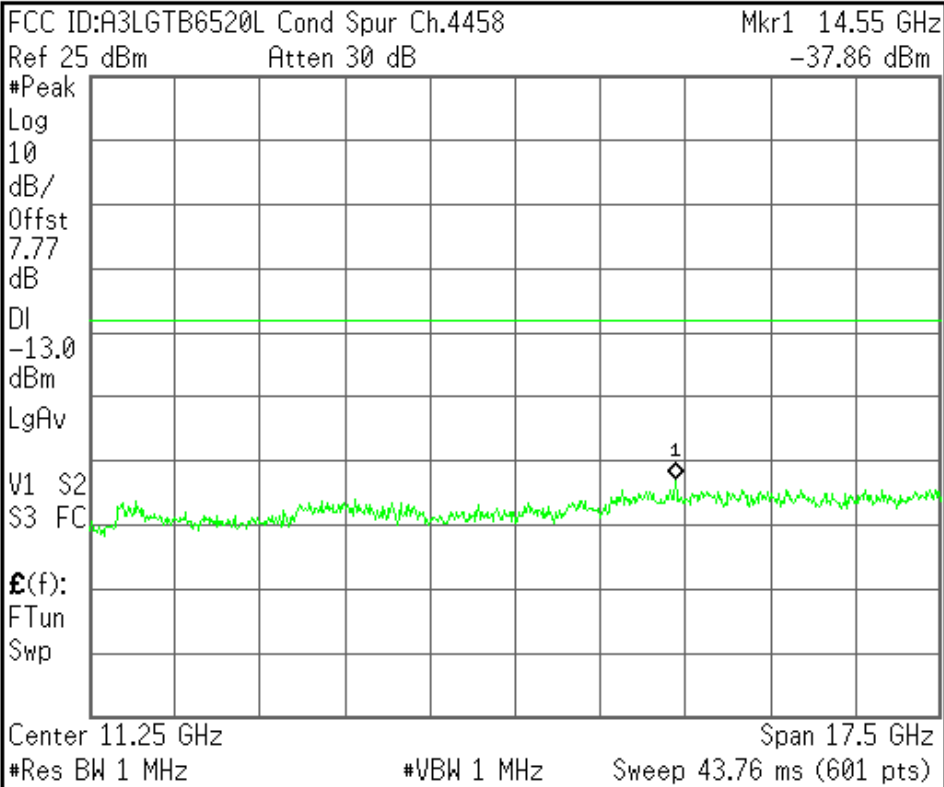
Center Freq 1.67830000 GHz
Start Freq 856.600000 MHz
Stop Freq 2.50000000 GHz
CF Step 164.340000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



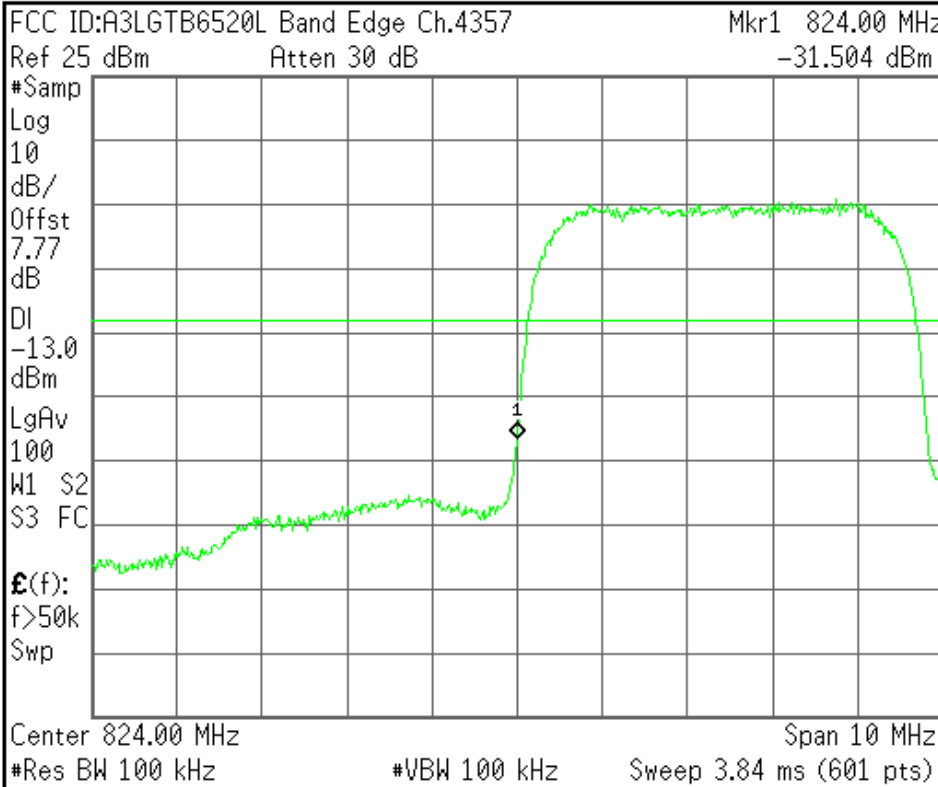
Center Freq 11.2500000 GHz
Start Freq 2.50000000 GHz
Stop Freq 20.0000000 GHz
CF Step 1.75000000 GHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



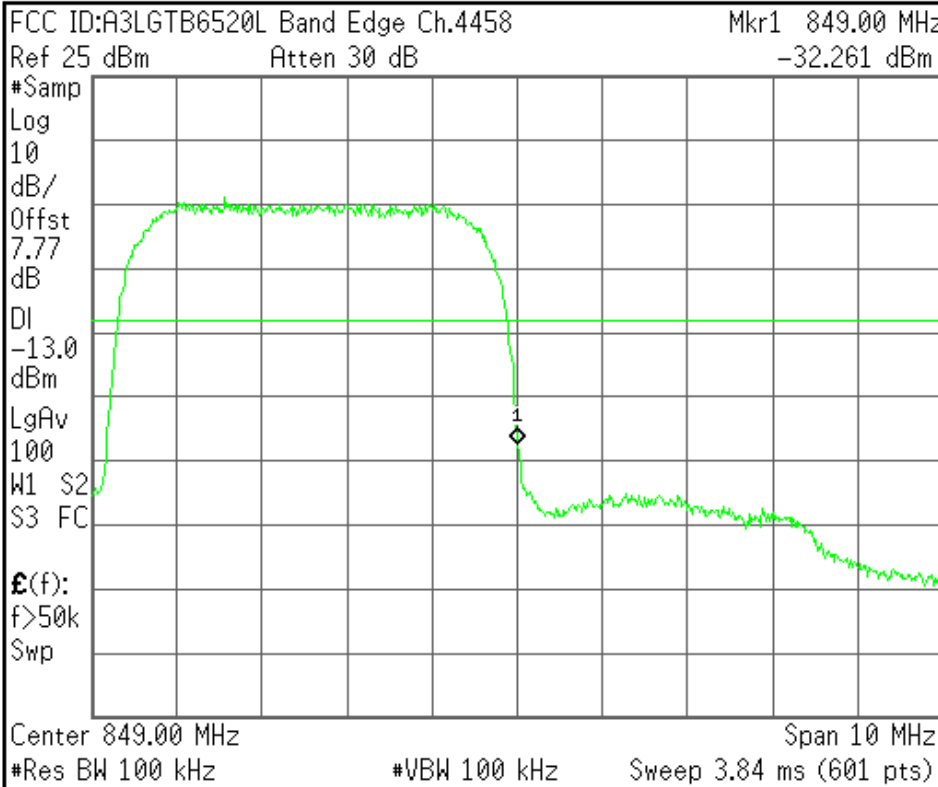
Center Freq 824.000000 MHz
Start Freq 819.000000 MHz
Stop Freq 829.000000 MHz
CF Step 1.00000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



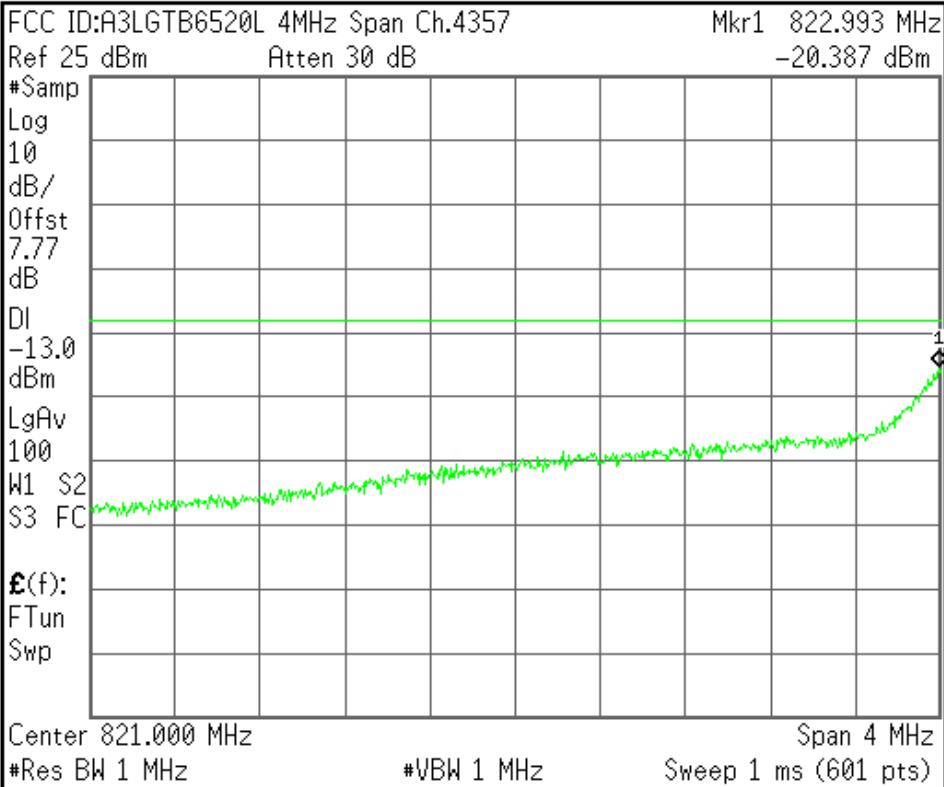
Center Freq 849.000000 MHz
Start Freq 844.000000 MHz
Stop Freq 854.000000 MHz
CF Step 1.00000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



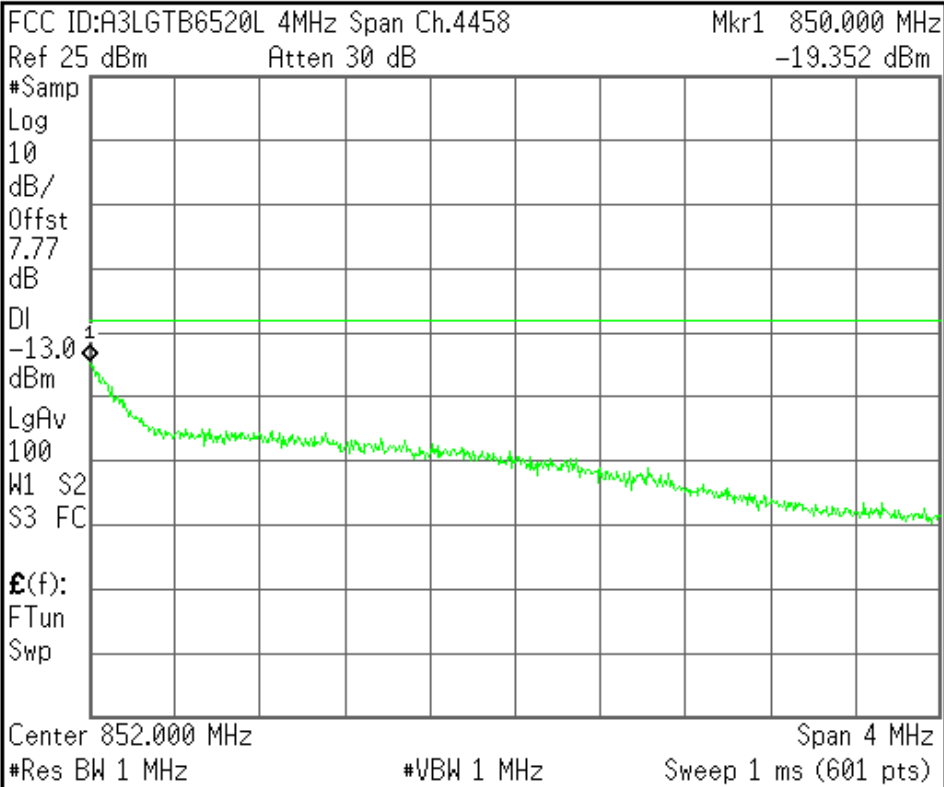
Center Freq 821.000000 MHz
Start Freq 819.000000 MHz
Stop Freq 823.000000 MHz
CF Step 400.000000 kHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



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

Agilent

R T

Freq/Channel

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

Center Freq
1.88000000 GHz

Start Freq
1.87500000 GHz

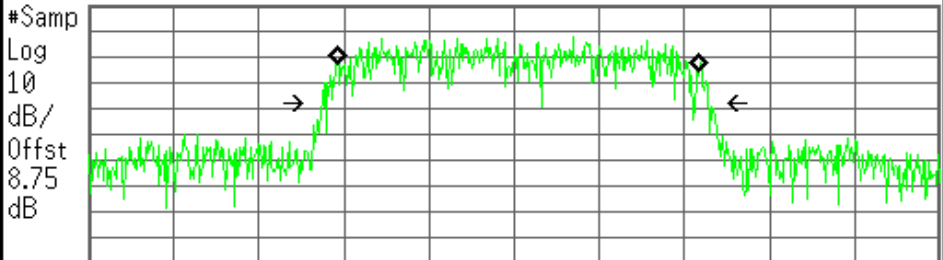
Stop Freq
1.88500000 GHz

CF Step
1.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

FCC ID:A3LGTB6520L 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	Occ BW % Pwr	99.00 %
4.2493 MHz	x dB	-26.00 dB
Transmit Freq Error	45.804 kHz	
x dB Bandwidth	4.557 MHz*	

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		

Center Freq
1.90760000 GHz

Start Freq
1.90260000 GHz

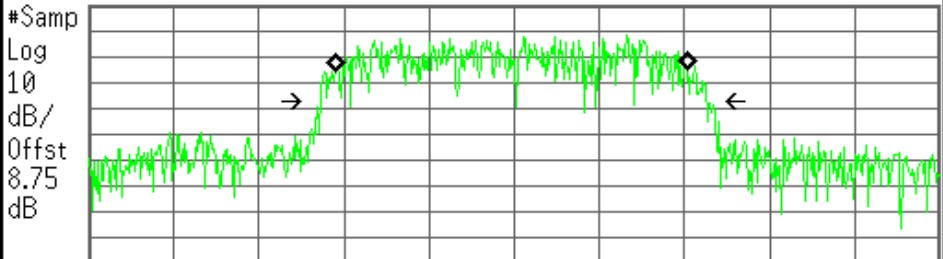
Stop Freq
1.91260000 GHz

CF Step
1.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

FCC ID:A3LGTB6520L 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	Occ BW % Pwr	99.00 %
4.1379 MHz	x dB	-26.00 dB
Transmit Freq Error	-36.584 kHz	
x dB Bandwidth	4.557 MHz*	

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

Agilent

R L

Freq/Channel

FCC ID:A3LGTB6520L Cond Spur Ch.9662

Ref 25 dBm

Atten 30 dB

#Peak

Log

10

dB/

Offst

8.75

dB

DI

-13.0

dBm

#LgAv

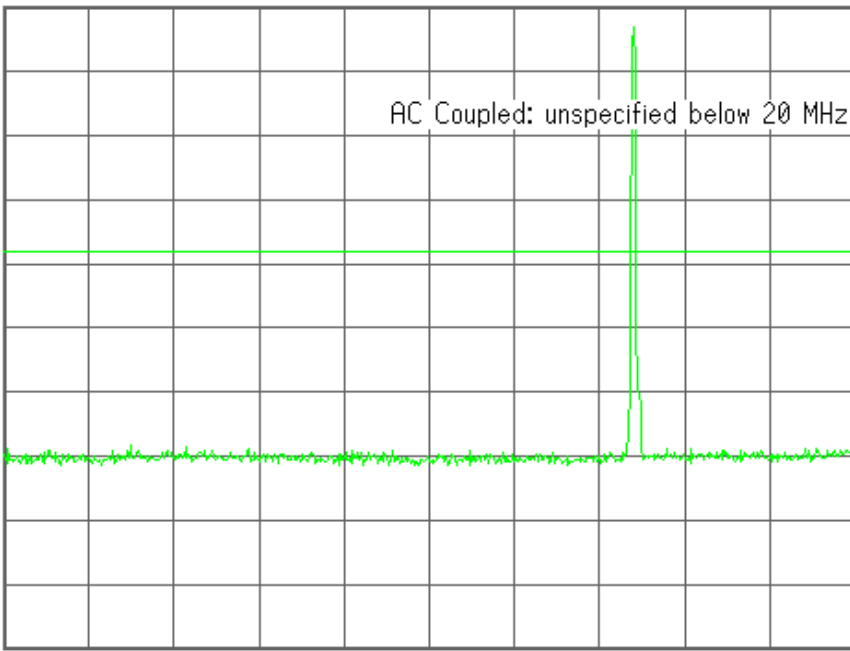
M1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp



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 L

Freq/Channel

FCC ID:A3LGTB6520L Cond Spur Ch.9662

Mkr1 1.842 GHz

Ref 25 dBm

Atten 30 dB

-28.32 dBm

#Peak

Log

10

dB/

Offst

8.75

dB

DI

-13.0

dBm

#LgAv

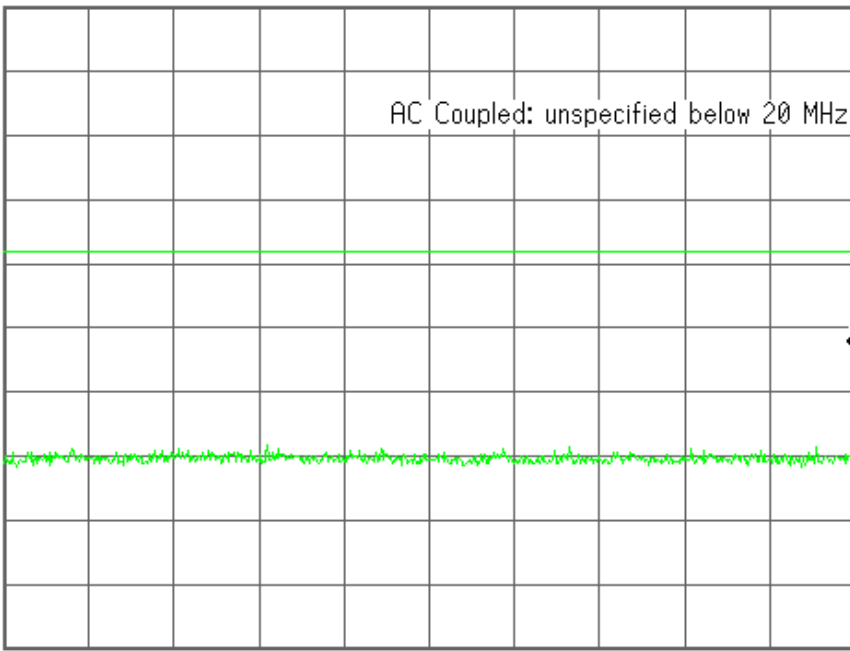
V1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp



Center 926 MHz

Span 1.832 GHz

#Res BW 1 MHz

#VBW 1 MHz

Sweep 3.08 ms (601 pts)

Center Freq
926.200000 MHz

Start Freq
10.0000000 MHz

Stop Freq
1.84240000 GHz

CF Step
183.240000 MHz
Auto Man

Freq Offset
0.00000000 Hz

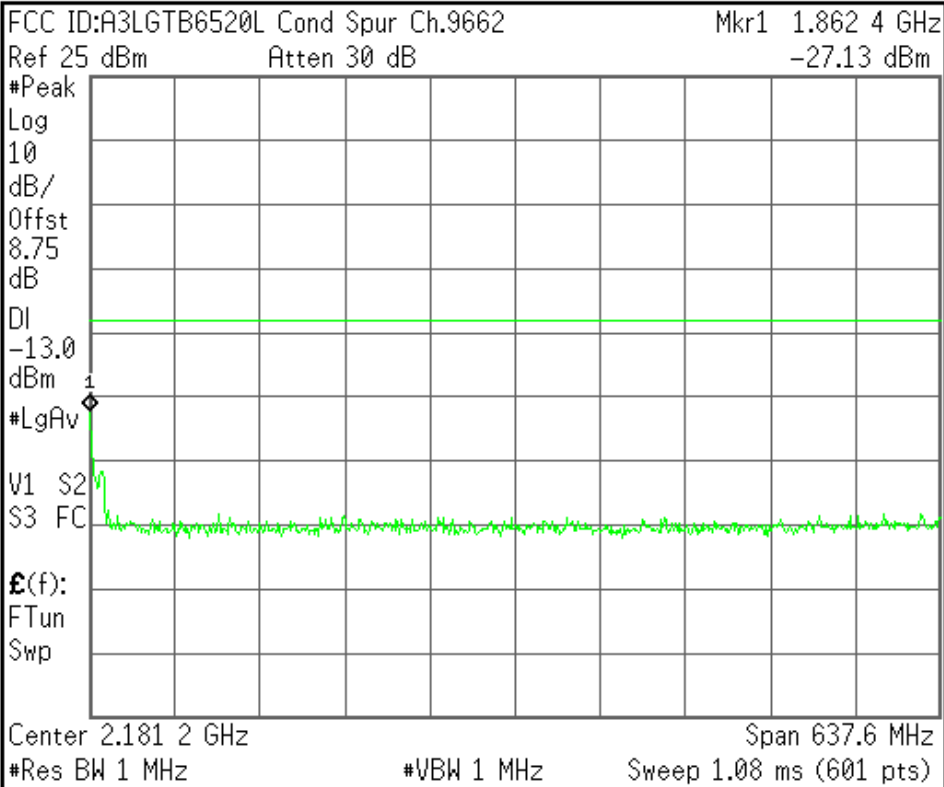
Signal Track
On Off

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

Agilent

R L

Freq/Channel



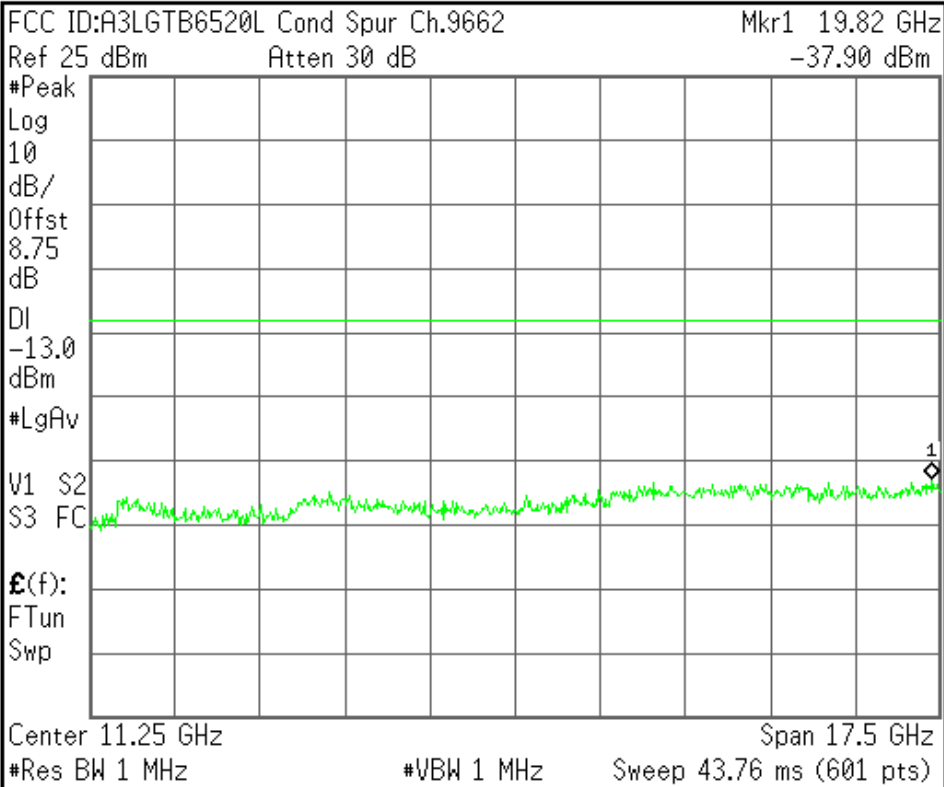
Center Freq 2.18120000 GHz
Start Freq 1.86240000 GHz
Stop Freq 2.50000000 GHz
CF Step 63.7600000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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 L

Freq/Channel

FCC ID:A3LGTB6520L Cond Spur Ch.9800

Ref 25 dBm

Atten 30 dB

#Peak

Log

10

dB/

Offst

8.75

dB

DI

-13.0

dBm

#LgAv

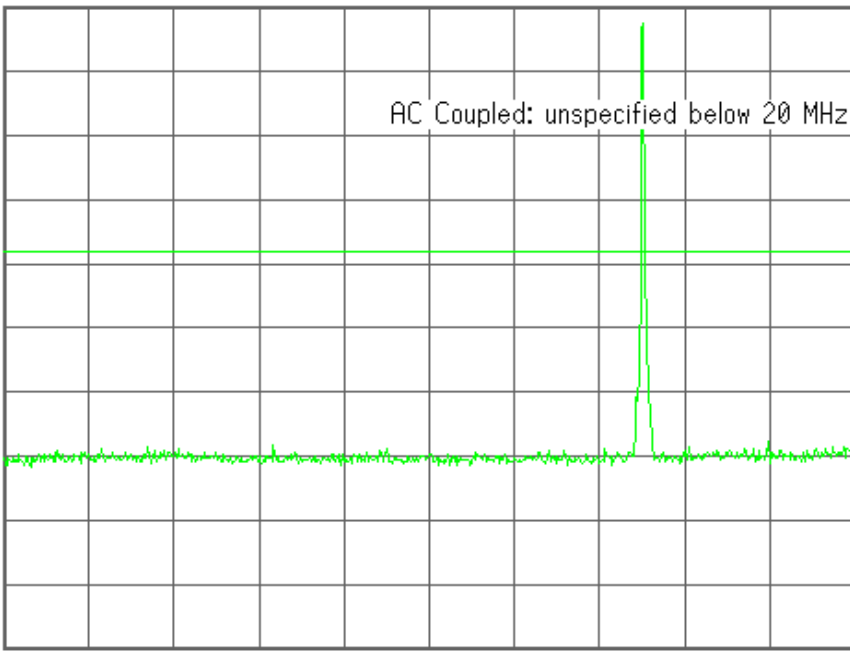
M1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp



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 L

Freq/Channel

FCC ID:A3LGTB6520L Cond Spur Ch.9800

Mkr1 1.870 GHz

Ref 25 dBm

Atten 30 dB

-32.17 dBm

#Peak

Log

10

dB/

Offst

8.75

dB

DI

-13.0

dBm

#LgAv

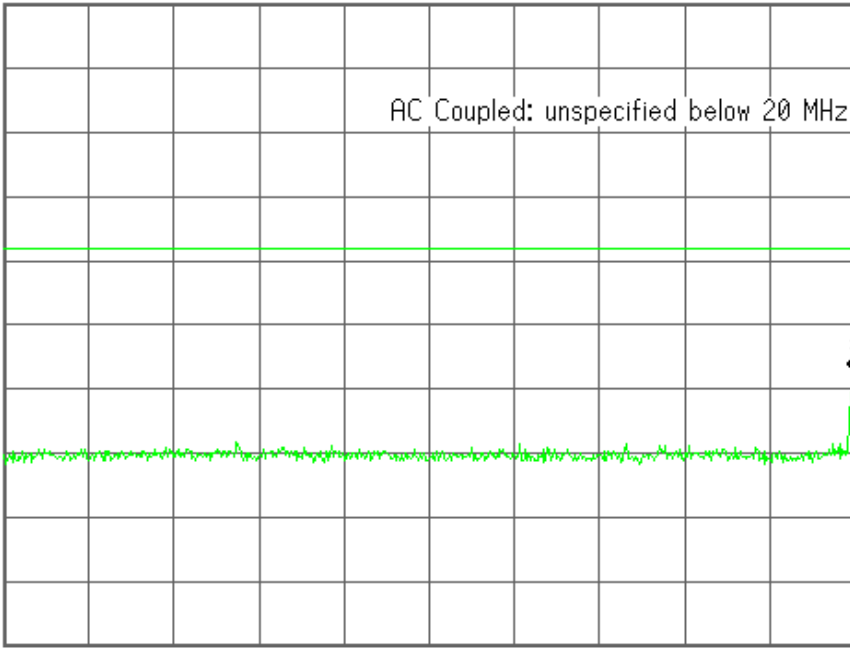
M1 S2

S3 FC

$\mathcal{E}(f)$:

FTun

Swp



Center 940 MHz

Span 1.86 GHz

#Res BW 1 MHz

#VBW 1 MHz

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

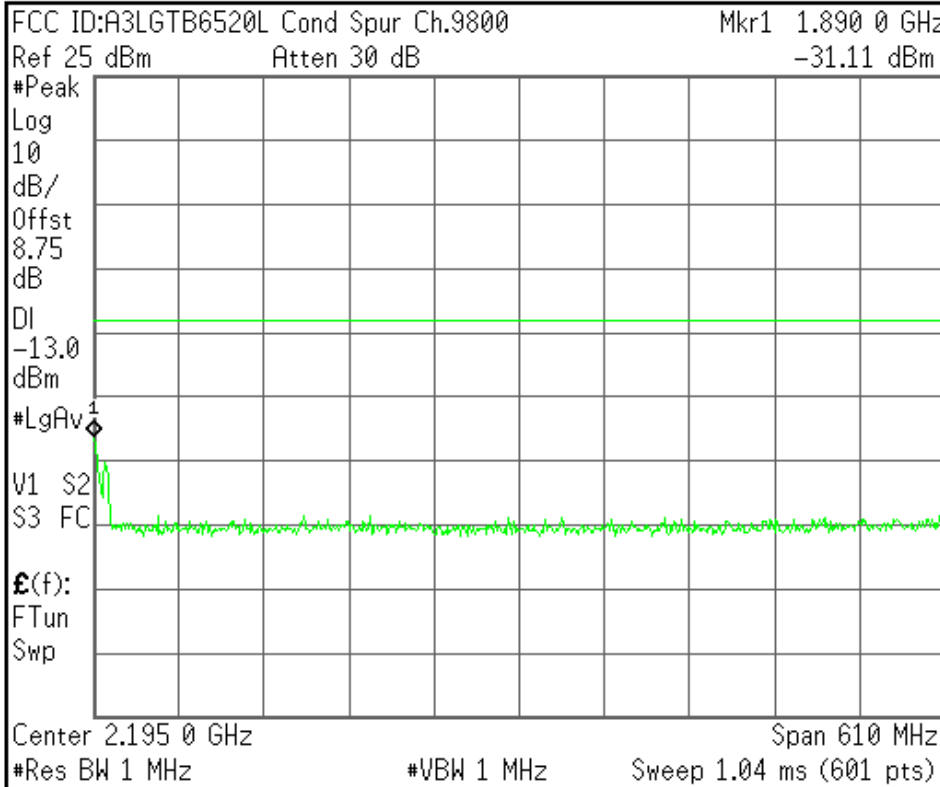
Signal Track
On Off

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

Agilent

R L

Freq/Channel



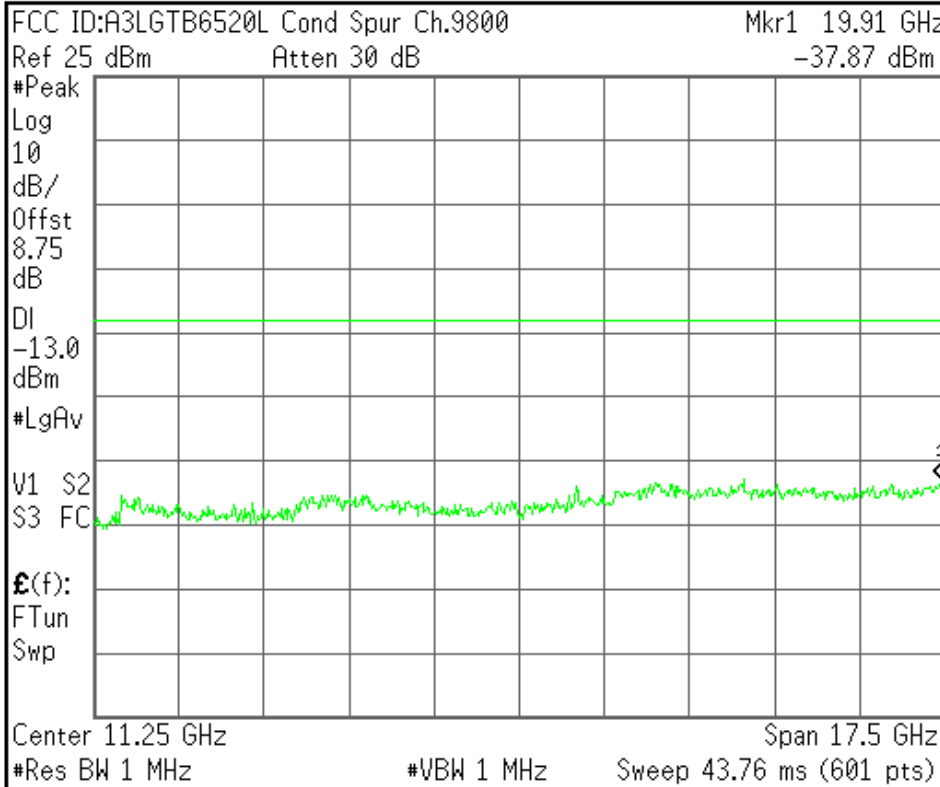
Center Freq 2.19500000 GHz
Start Freq 1.89000000 GHz
Stop Freq 2.50000000 GHz
CF Step 61.00000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



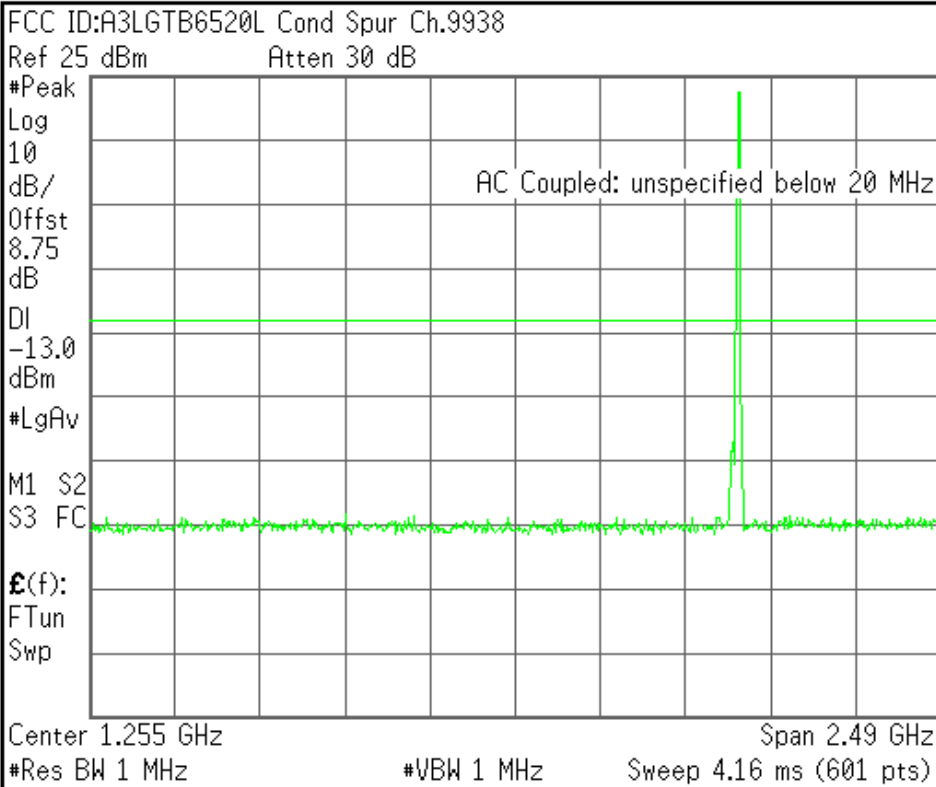
Center Freq 11.25000000 GHz
Start Freq 2.50000000 GHz
Stop Freq 20.00000000 GHz
CF Step 1.75000000 GHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R L

Freq/Channel



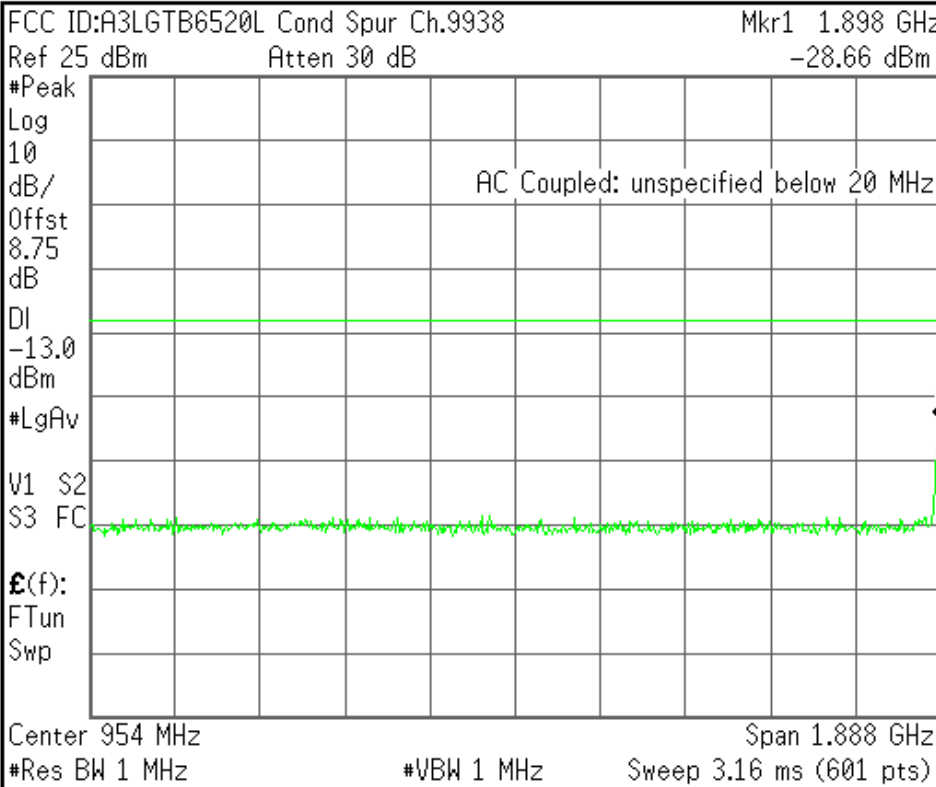
Center Freq	1.25500000 GHz
Start Freq	10.00000000 MHz
Stop Freq	2.50000000 GHz
CF Step	249.0000000 MHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

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

Agilent

R L

Freq/Channel



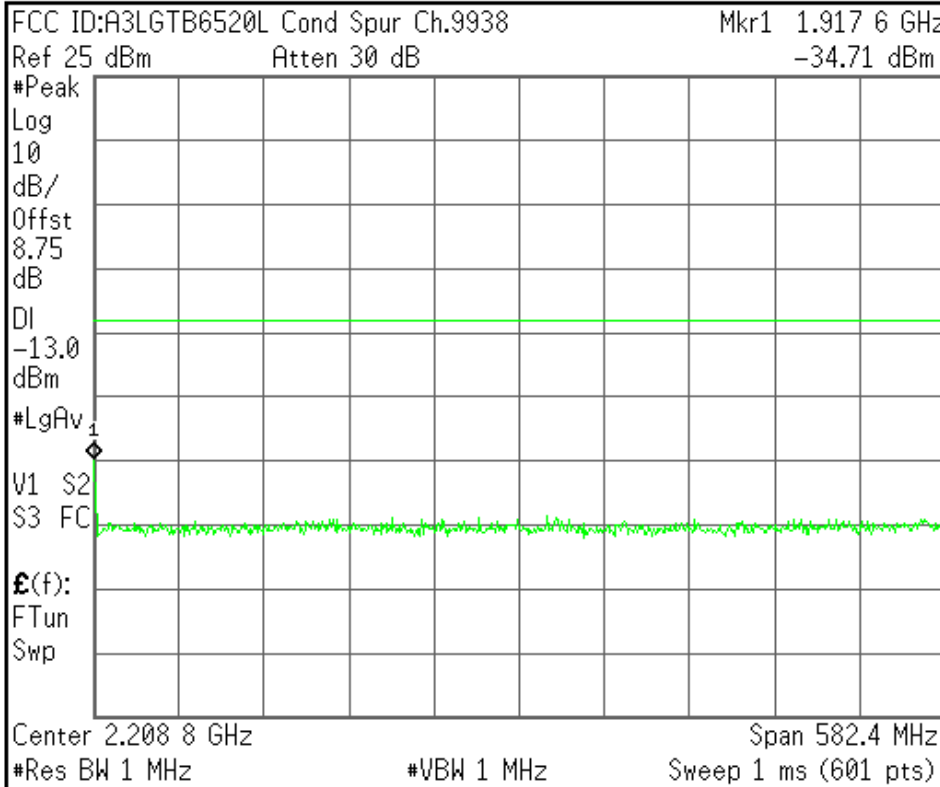
Center Freq	953.800000 MHz
Start Freq	10.00000000 MHz
Stop Freq	1.89760000 GHz
CF Step	188.7600000 MHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

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

Agilent

R L

Freq/Channel



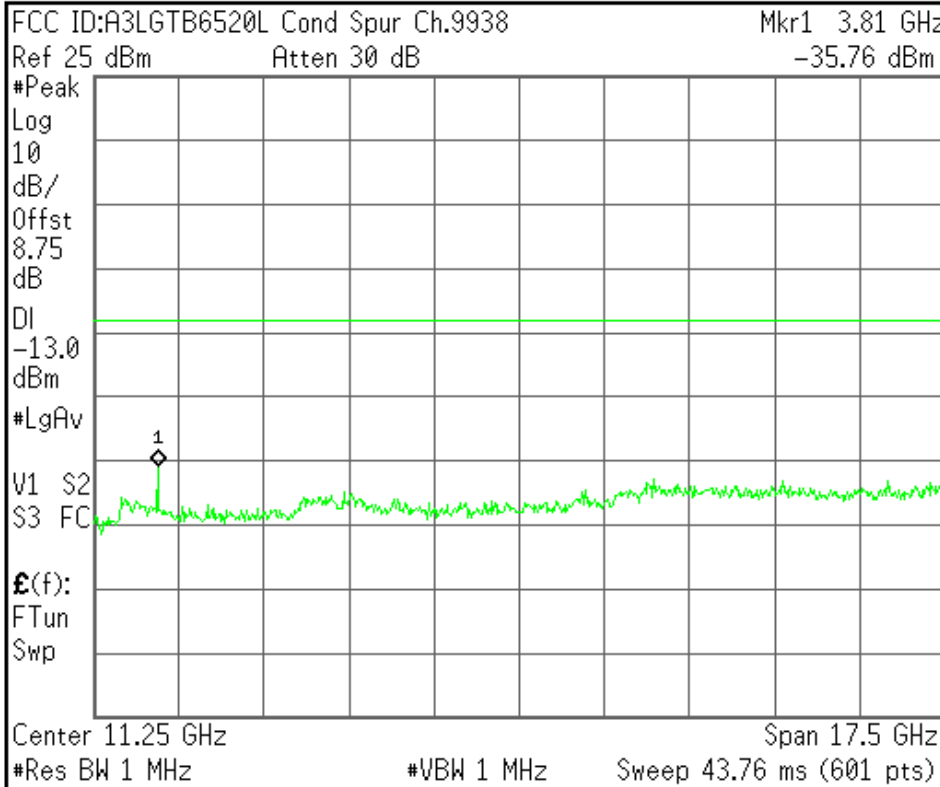
Center Freq 2.20880000 GHz
Start Freq 1.91760000 GHz
Stop Freq 2.50000000 GHz
CF Step 58.2400000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



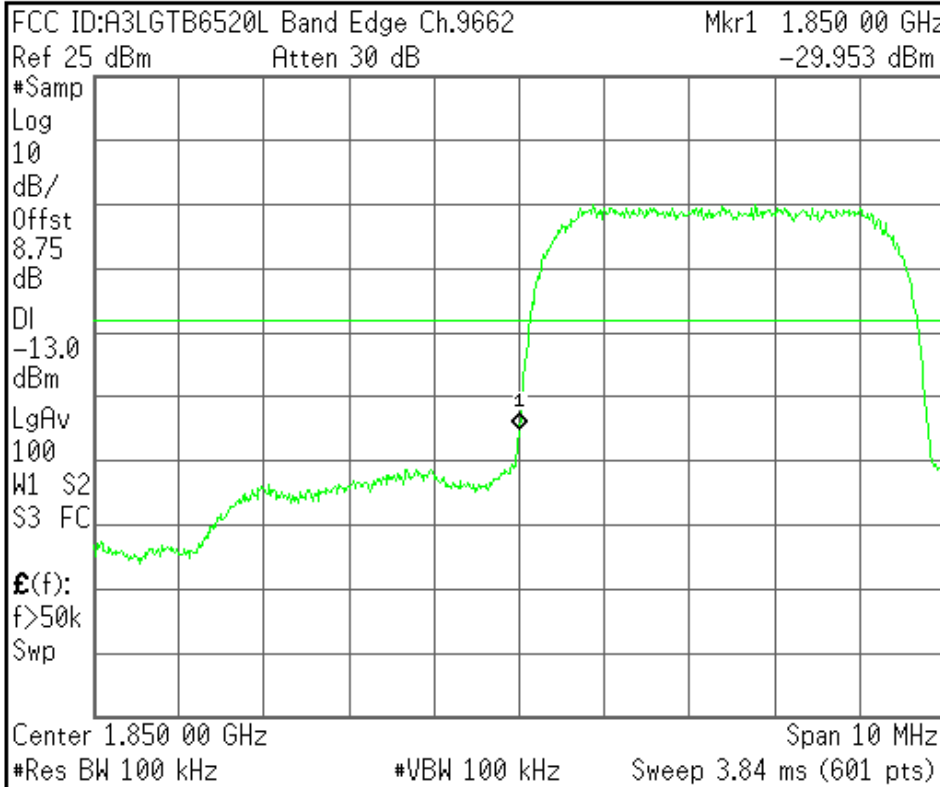
Center Freq 11.2500000 GHz
Start Freq 2.50000000 GHz
Stop Freq 20.0000000 GHz
CF Step 1.75000000 GHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



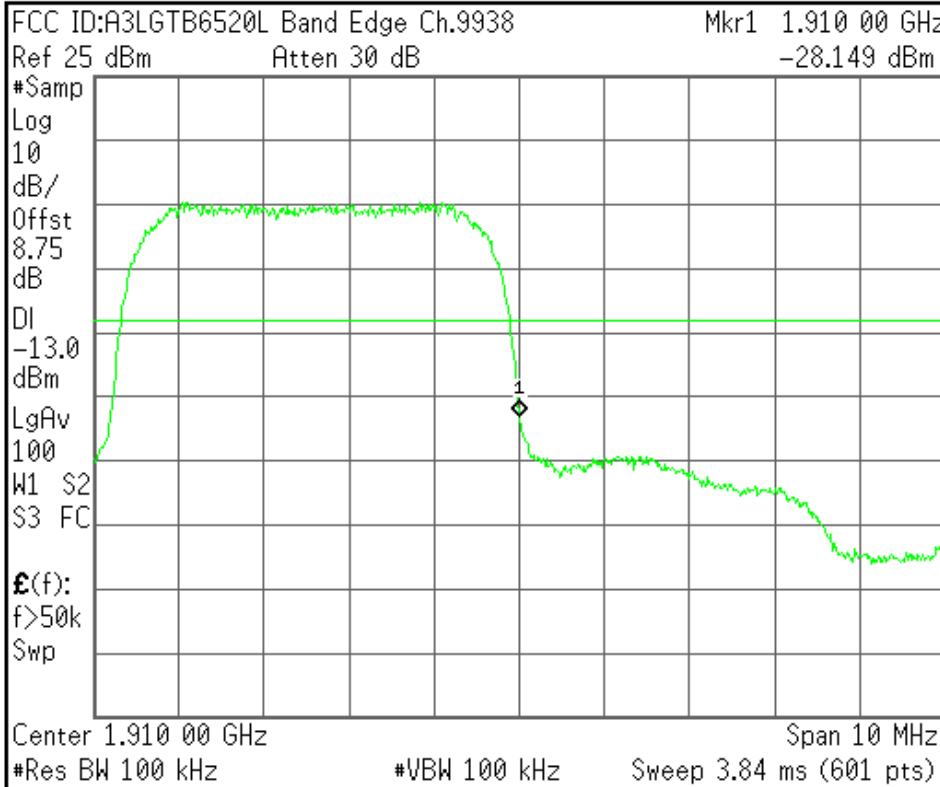
Center Freq 1.85000000 GHz
Start Freq 1.84500000 GHz
Stop Freq 1.85500000 GHz
CF Step 1.00000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



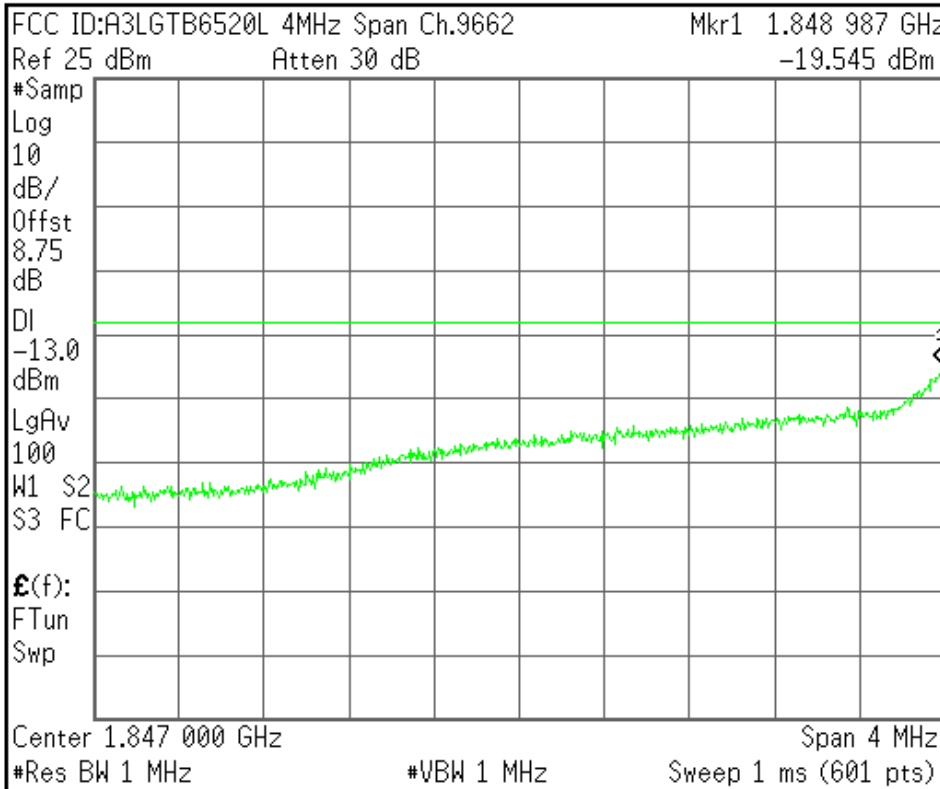
Center Freq 1.91000000 GHz
Start Freq 1.90500000 GHz
Stop Freq 1.91500000 GHz
CF Step 1.00000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

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

Agilent

R T

Freq/Channel



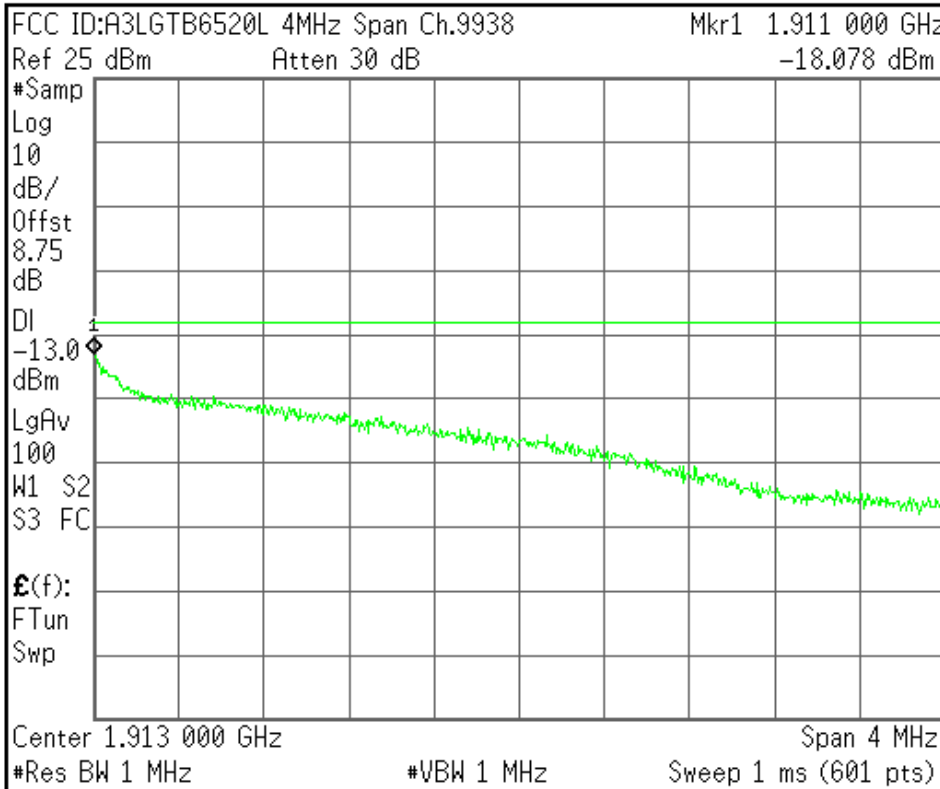
Center Freq	1.84700000 GHz
Start Freq	1.84500000 GHz
Stop Freq	1.84900000 GHz
CF Step	400.000000 kHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

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

Agilent

R L

Freq/Channel

FCC ID:A3LGTB6520L P.A.R Ch.9800

Mkr1 0 Hz

Ref 35 dBm

Atten 40 dB

-3.18 dB

#Peak

Log

10

dB/

Offst

8.75

dB

#LgAv

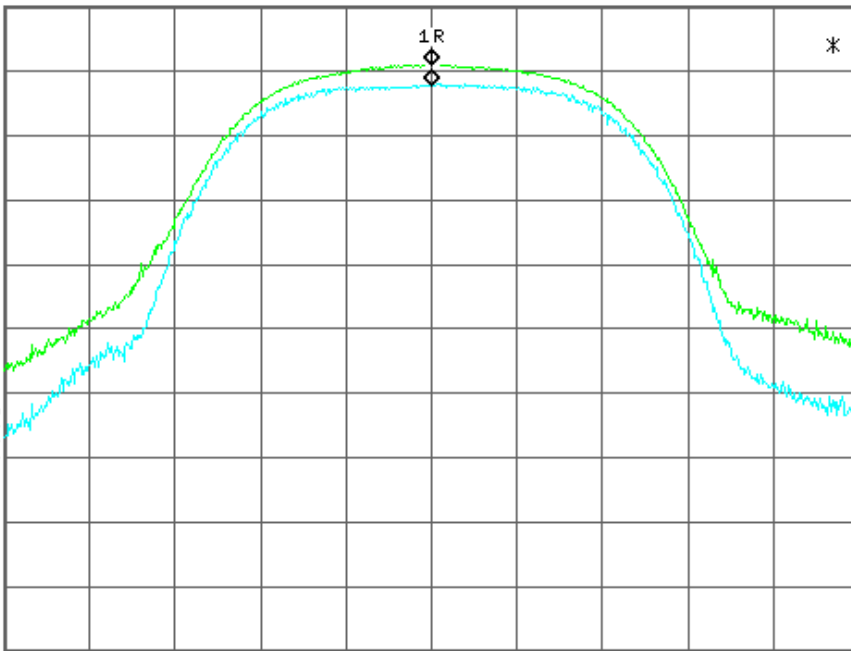
V1 V2

S3 FC

$\mathcal{E}(f)$:

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

File exists