HCT CO., LTD.

SAN 136-1, AMI-RI , BUBAL-EUP, ICHEON-SI, KYOUNGKI-DO, 467-701, KOREA
TEL: +82 31 639 8565 FAX : +82 31 639 8525 www.hct.co.kr

CERTIFICATE OF COMPLIANCE

RF REPORT

LG Electronics, Inc.

60-39, Kasan-Dong, Kumchon-Gu, Seoul 153-801, Korea

Date of Issue: Mar. 26,2008
Test Report No.: HCT-SAR08-0312
Test Site: HCT CO., LTD.

FCC ID : **BEJKF700Q**

APPLICANT : **LG Electronics, Inc.**

EUT Type:	Cellular/PCS GSM/EDGE/WCDMA Phone with Bluetooth GPRS Class 12 and GPRS mode class B (GPRS and GSM, but not simultaneously)
Tx Frequency:	824.20 – 848.80 MHz (GSM850) / 826.40 – 846.60 MHz (WCDMA850) 1 850.20 – 1 909.80 MHz (GSM1900) / 2 402 – 2 480 MHz (Bluetooth)
Rx Frequency:	869.20 – 893.80MHz (GSM850) / 871.40 – 891.60 MHz (WCDMA850) 1 930.20 – 1 989.80 MHz (GSM1900) / 2 402 – 2 480 MHz (Bluetooth)
Max. RF Output Power:	1.180 W ERP GSM850 (30.72 dBm) / 0.344 W ERP EDGE850 (25.37 dBm) 0.355W EIRP GSM1900 (25.50 dBm) / 0.160 W EIRP EDGE1900 (22.04 dBm) 0.161W ERP WCDMA850(22.07 dBm)
Trade Name/Model(s):	LG Electronics, Inc / KF700Q, KF700C
FCC Classification:	Licensed Portable Transmitter Held to Ear (PCE)
Application Type:	Certification
FCC Rule Part(s):	§24(E), §22(H), §2
Antenna Specifications:	Manufacturer: GALTRONICS Co. Ltd Part NO.: 020360159B3893, Gain: - 3.4 dBi
Emission Designator(s):	248KGXW (GSM850) / 248KG7W (EDGE850) 249KGXW (GSM1900) / 245KG7W (EDGE1900) 4M20F9W (WCDMA850)

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in § 2.947.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Hyundai C-Tech Co., Ltd. Certifies that no party to this application has been denied FCC benefits pursuant to section 5301 of the Anti- Drug Abuse Act of 1998, 21 U.S. C. 853(a)

Report prepared by
: Young-Kwan Kim
Test Engineer of RF Part

Approved by
: Sang- Jun Lee
Manager of RF Part

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MEASUREMENT REPORT

1. SCOPE

Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

General Information

Applicant:	LG Electronics, Inc.
Address:	60-39, Kasan-Dong, Kumchon-Gu, Seoul 153-801, Korea
Responsible Test Engineer:	Eui –Soon Park
Tel. / Fax :	+82-2-2033-1113 / +82-2-2033-1222

- FCC ID: BEJKF700Q
- EUT Type: Cellular/PCS GSM/EDGE/WCDMA Phone with Bluetooth
  GPRS Class 12 and GPRS mode class B (GPRS and GSM, but not simultaneously)
- Trade Name: LG Electronics, Inc.
- Model(s): KF700Q, KF700C
- Serial Number(s): #1
- Application Type: Certification
- FCC Classification: Licensed Portable Transmitter Held to Ear (PCE)
- FCC Rule Part(s): §24(E), §22(H), §2
- Modulation(s): GSM
- Antenna Type: Intenna
- Date(s) of Tests: Mar. 24, 2008 ~ Mar. 25, 2008
- Place of Tests: HCT CO., LTD.
  Icheon, Kyoungki-Do, KOREA
- Report Serial No.: HCT-SAR08-0312

2. INTRODUCTION

EUT DESCRIPTION

The **LG Electronics, Inc.** Cellular/ PCS GSM/ EDGE Phone with Bluetooth. Its basic purpose is used for communications. It transmits from 824.20 – 848.80 MHz (GSM850), 1 850.20 – 1 909.80 MHz (GSM1900), 826.40 – 846.60 MHz (WCDMA850) and receives from 869.20 – 893.80 MHz (GSM850), 1 930.20 – 1 989.80 MHz (GSM1900), 871.40 – 891.60 MHz (WCDMA850)). The RF power is rated at GSM850 (1.180 W), GSM1900 (0.355 W), WCDMA850 (0.161W).

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.

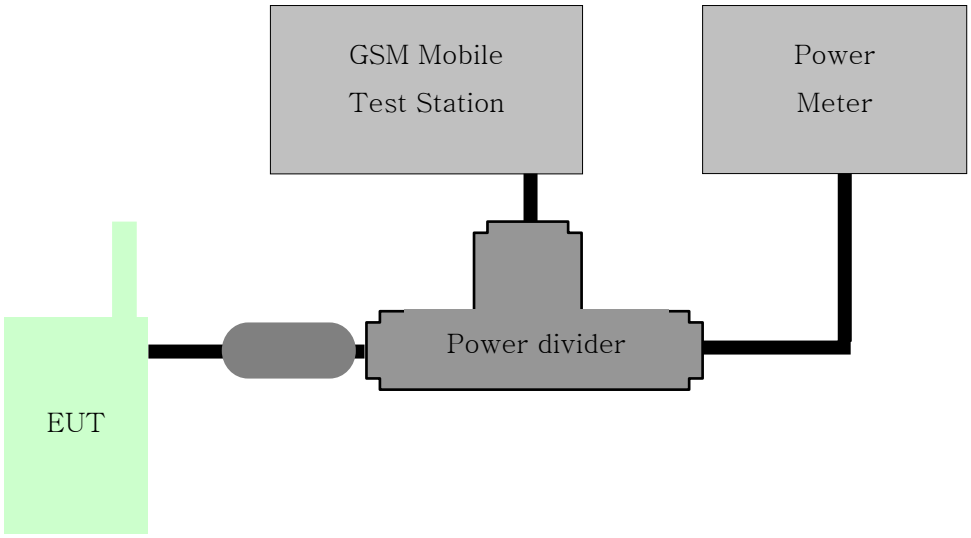
Test Facility

The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1, Maekok-Ri, Hobup-Myun, Ichon-Si, Kyoungki-Do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 6, 2006(Registration Number: 90661)

3. DESCRIPTION OF TESTS

3.1 Conducted RF Power TEST

Test Set-up



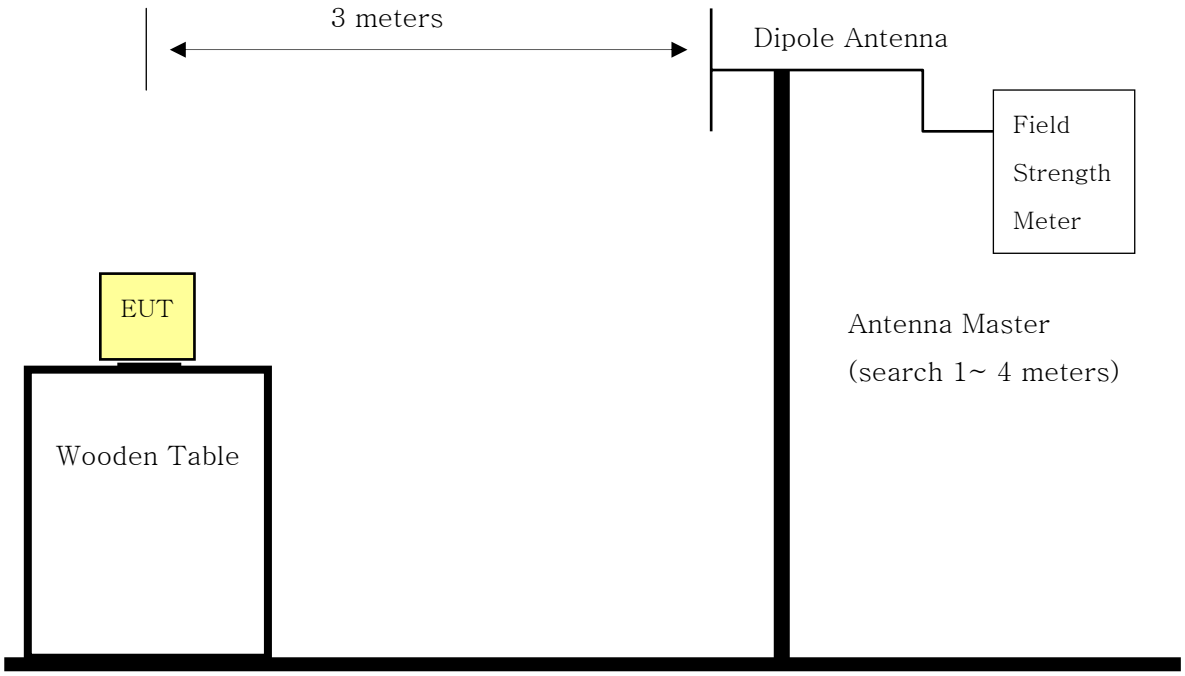
Test Procedure

According to FCC §2.1046 (A), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in § 2.1033(c)(8). The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated.

1) The EUT was coupled to the power meter and the base station simulator through a power divider. The radio frequency load attached to the EUT antenna terminal was 50 Ohm. The lost of the cables the test system is calibrated to correct the reading.
2) Set EUT maximum power through base station.
3) Select lowest, middle, and highest channels for each band.

3.2 Effective Radiated Power.

Test Set-up



[Open Field Test Site]

Test Procedure

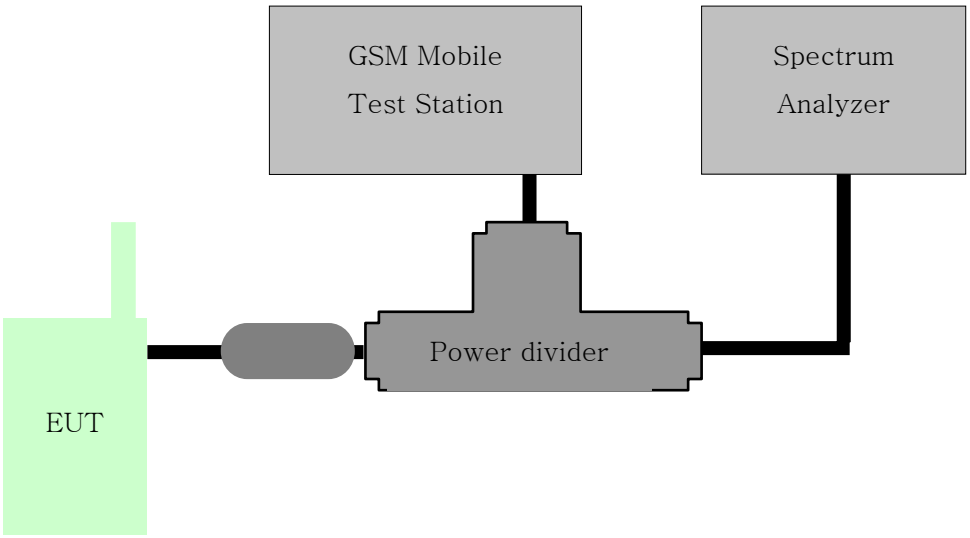
The measurement facilities used for this test have been documented in previous filings with the commission pursuant to section 2.948.

The open field test site is situated in open field with ground screen whose site attenuation characteristics meet ANSI C63.4 –2003. A mast capable of lifting the receiving antenna from a height of one to four meters is used together with a routable wooden platform mounted at three from the antenna mast.

1) The EUT mounted on a wooden tripod is 0.8 meter above test site ground level.
2) During the test, the turn table is rotated and the antenna height is also varied from 1 to 4 meters until the maximum signal is found.
3) Record the field strength meter's level.
4) Replace the EUT with λ/ 2 dipole antenna that is connected to a calibrated signal generator.
5) Increase the signal generator output till the field strength meter's level is equal to the item(4). (47dBm Amp is used for ERP/EIRP.)
6) The signal generator output level is the rating of effective radiated power (ERP).
7) The instrument settings used (RBW/ VBW) during ERP/ EIRP output power measurement are as Blows;
   -. Below 1 GHz: RBW 100 KHz, VBW 300 KHz / Above 1 GHz : RBW 1 MHz, VBW 1 MHz

3.3 Occupied bandwidth.

Test Set-up

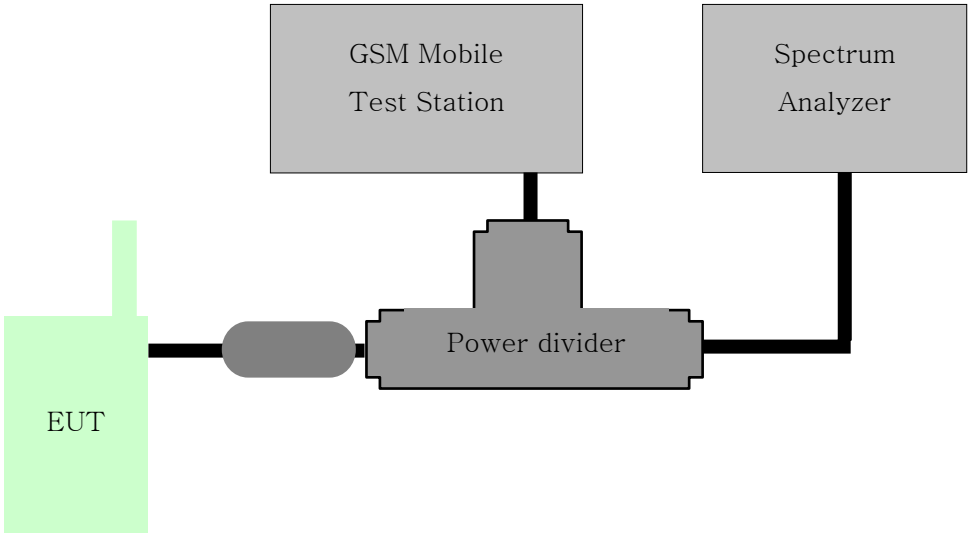


Test Procedure

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 26 dB below the transmitter power. Plots of the EUT's occupied bandwidth are shown herein.

3.4 Spurious and Harmonic Emissions at Antenna Terminal.

Test Set-up

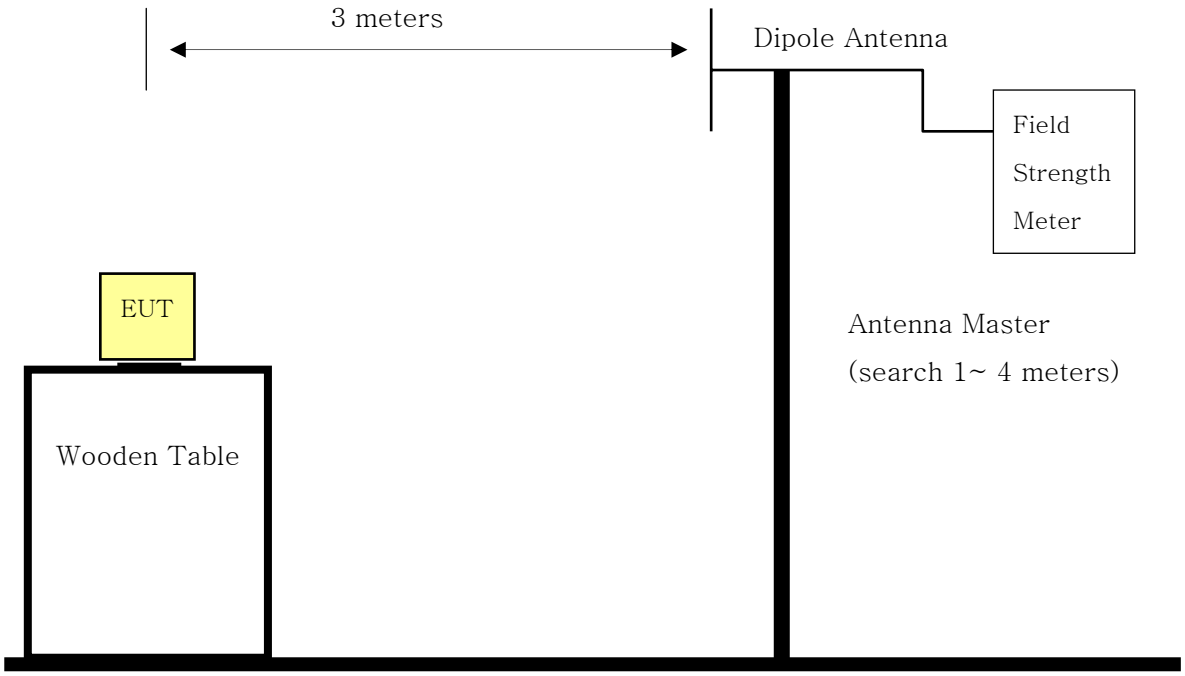


Test Procedure

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic.

3.5 Field strength of spurious radiation .

Test Set-up



[Open Field Test Site]

Test Procedure

The measurement facilities used for this test have been documented in previous filings with the commission pursuant to section 2.948.
The open field test site is situated in open field with ground screen whose site attenuation characteristics meet ANSI C63.4 –2003. A mast capable of lifting the receiving antenna from a height of one to four meters is used together with a turn-able wooden platform mounted at three from the antenna mast.

1) The unit mounted on a wooden table 1.5 m × 1.0 m × 0.80 m is 0.8 meter above test site ground level.
2) During the emission test, the turntable is rotated and the EUT is manipulated to find the configuration resulting in maximum emission under normal condition of installation and operation.
3) The antenna height and polarization are also varied from 1 to 4 meters until the maximum signal is found.
4) The spectrum shall be scanned up to the 10th harmonic of the fundamental frequency.
5) The instrument settings used (RBW/ VBW) during ERP/ EIRP output power measurement are as below ;

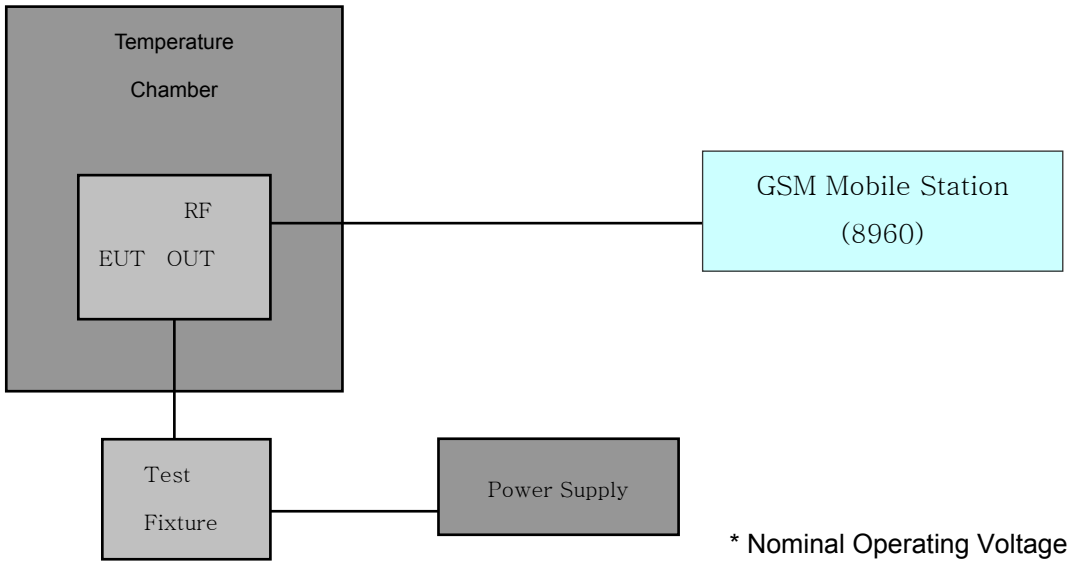
   -. Below 1 GHz: RBW 100 KHz, VBW 300 KHz

   -. Above 1 GHz: RBW 1 MHz, VBW 1 MHz

3.6 Frequency stability .

3.6.1 Frequency stability with variation of ambient temperature.

Test Set-up



Test Procedure

The frequency stability of the transmitter is measured by:

a.) **Temperature:** The temperature is varied from - 30 °C to + 50 °C using an environmental chamber.

b.) **Primary Supply Voltage:** The primary supply voltage is varied from battery end point 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 ± 0.000 25 %(± 2.5 ppm) of the center frequency.

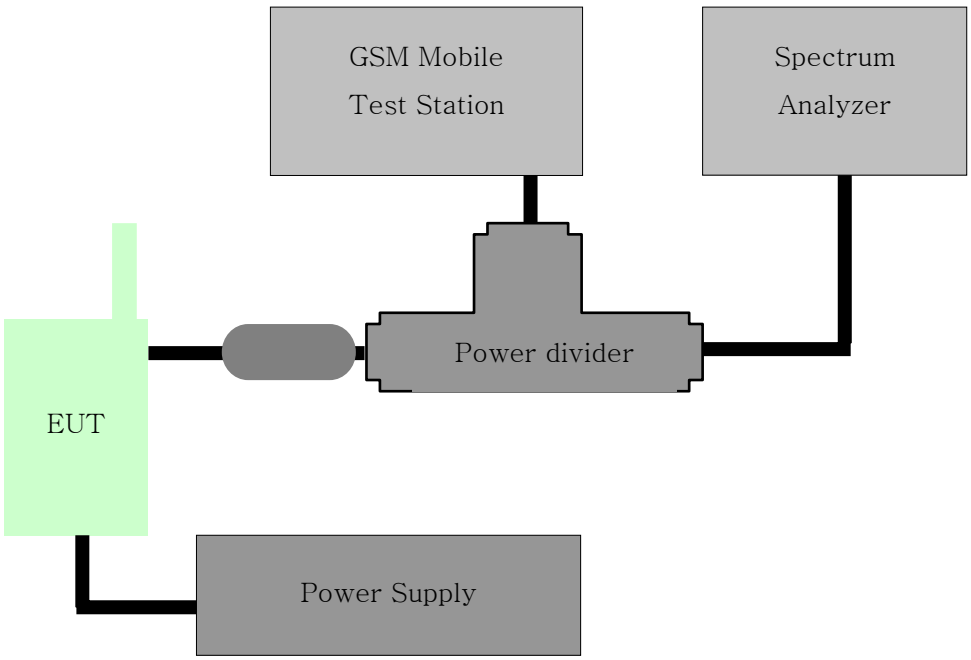
Time Period and Procedure:

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 power 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 were made at 10 °C intervals starting at - 30 °C up to + 50 °C allowing at least two hours at each temperature for stabilization. In all measurements the frequency is measured within three minutes after 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.

3.6.2 Frequency stability with variation of primary supply voltage.

Test Set-up

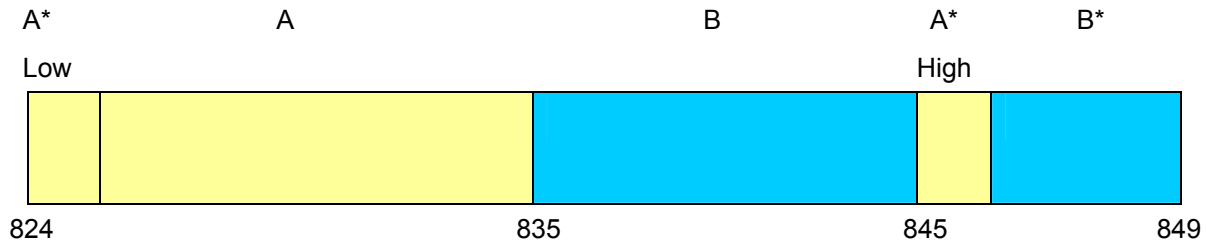


Test Procedure

1) The primary supply is varied in steps of from battery end point to 115 % of the nominal supply voltage, or reduce primary supply voltage to the battery operating end point.
2) The frequency is recorded each 10 °C step.

3.7 Frequency Block Edge

3.7.1 Cellular - Mobile Frequency Blocks



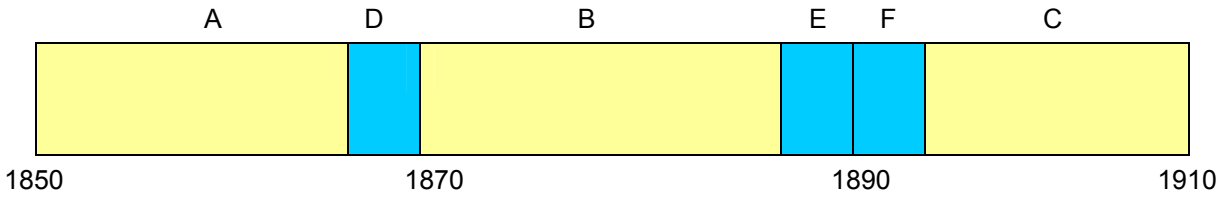
BLOCK 1: 824 – 835 MHz (A* Low + A)

BLOCK 2: 835 – 845 MHz (B)

BLOCK 3: 845 – 846.5 MHz (A* High)

BLOCK 4: 846.5 – 849 MHz (B*)

3.7.2 Cellular - Mobile Frequency Blocks



BLOCK 1: 1 850 – 1 865 MHz (A)

BLOCK 2: 1 865 – 1 870 MHz (D)

BLOCK 3: 1 870 – 1 885 MHz (B)

BLOCK 4: 1 885 – 1 890 MHz (E)

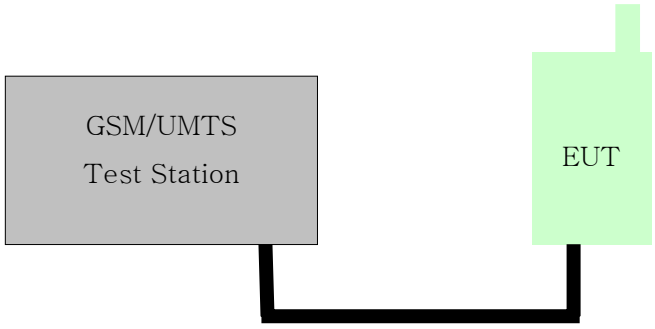
BLOCK 5: 1 890 – 1 895 MHz (F)

BLOCK 6: 1 895 – 1 910 MHz (C)

4. POWER MEASUREMENT RESULTS

4.1 Conducted Output Power

A base station simulator was used to establish communication with the Cellular/PCS GSM/EDGE/WCDMA Phone with Bluetooth. The base station simulator parameter 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 12.2kbps AMR and TPC bits all set to “1” and in GSM mode and using a Power Control Level of “0” in the PCS Band and “5” in the Cellular Band. The power are reported below.



Band	Channel	Voice	GPRS Data				EDGE Data			
		GSM (dBm)	GPRS 1 TX Slot (dBm)	GPRS 2 TX Slot (dBm)	GPRS 3 TX Slot (dBm)	GPRS 4 TX Slot (dBm)	EDGE 1 TX Slot (dBm)	EDGE 2 TX Slot (dBm)	EDGE 3 TX Slot (dBm)	EDGE 4 TX Slot (dBm)
GSM 850	128	32.25	32.22	32.18	32.12	32.03	26.87	26.87	26.84	26.80
	190	32.34	32.35	32.28	32.21	32.12	26.96	26.94	26.91	26.87
	251	32.35	32.36	32.29	32.21	32.14	26.96	26.94	26.90	26.86
GSM 1900	512	29.56	29.56	29.45	29.33	29.22	26.03	25.99	25.94	25.87
	661	29.77	29.76	29.66	29.54	29.43	26.22	26.17	26.13	26.06
	810	29.78	29.77	29.67	29.56	29.45	26.23	26.18	26.14	26.07

Table 1. GSM Conducted output powers

Band	Channel	HSDPA INACTIVE		HSDPA ACTIVE	
		12.2kbps RMC (dBm)	12.2kbps AMR (dBm)	12.2kbps RMC (dBm)	12.2kbps AMR (dBm)
WCDMA 850	4132	21.86	21.85	21.20	21.18
	4175	21.95	21.93	21.19	21.19
	4233	21.97	21.97	21.30	21.26

Table 2. WCDMA Conducted output powers

4.2 Effective Radiated Power Output (GSM/WCDMA)

Radiated measurements at 3 meters

Modulation: GSM850 / WCDMA850

MODE	Freq. (MHz)	REF. LEVEL (dBm)	POL (H/V)	ERP (W)	ERP (dBm)	BATTERY
GSM850	824.20	- 18.08	V	0.807	29.07	Standard
GSM850	836.60	- 17.07	V	1.019	30.08	Standard
GSM850	848.80	- 16.43	V	1.180	30.72	Standard
EDGE	848.80	- 21.78	V	0.344	25.37	Standard

MODE	Freq. (MHz)	REF. LEVEL (dBm)	POL (H/V)	ERP (W)	ERP (dBm)	BATTERY
WCDMA850	826.40	- 25.76	V	0.138	21.39	Standard
WCDMA850	836.60	- 25.44	V	0.148	21.71	Standard
WCDMA850	846.60	- 25.08	V	0.161	22.07	Standard

Note: Standard batteries are the only options for this phone

NOTES:

Effective Radiated Power Output Measurements by Substitution Method According to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

4.3 Equivalent Isotropic Radiated Power (E.I.R.P.) GSM

Radiated measurements at 3 meters

Modulation: GSM1900

MODE	Freq. (MHz)	REF. LEVEL (dBm)	POL (H/V)	EIRP (W)	EIRP (dBm)	BATTERY
GSM1900	1 850.2	- 28.56	H	0.355	25.50	Standard
GSM1900	1 880.0	- 28.67	H	0.346	25.39	Standard
GSM1900	1 909.8	- 30.12	H	0.248	23.94	Standard
EDGE	1 850.2	- 32.02	H	0.160	22.04	Standard

Note: Standard batteries are the only options for this phone

NOTES:

Equivalent Isotropic Radiated Power Measurements by Substitution Method According to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn 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 the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

5. RADIATED MEASUREMENT RESULTS

5.1 GSM850 Radiated Measurements (CH: 128)

Field Strength of SPURIOUS Radiation

▣ OPERATING FREQUENCY: 824.20 MHz
▣ CHANNEL: 128 (Low)
▣ MEASURED OUTPUT POWER: 30.72 dBm = 1.180 W
▣ MODULATION SIGNAL: GSM (Internal)
▣ DISTANCE: 3 meters
▣ LIMIT: - (43 + 10 lo_{g10} (W)) = - 43.72 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1 648.40	- 50.22	7.3	- 42.92	V	- 69.34
2 472.60	- 54.67	8.3	- 46.37	V	- 71.99
3 296.80	- 59.34	9.7	- 49.64	V	- 74.06

NOTES:

Radiated Spurious Emission Measurements by Substitution Method
according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is 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 or dipole antenna are taken into consideration.

5.2 GSM850 Radiated Measurements (CH: 190)

Field Strength of SPURIOUS Radiation

- ▣ OPERATING FREQUENCY: 836.60 MHz
- ▣ CHANNEL: 190 (Mid)
- ▣ MEASURED OUTPUT POWER: 30.72 dBm = 1.180 W
- ▣ MODULATION SIGNAL: GSM (Internal)
- ▣ DISTANCE: 3 meters
- ▣ LIMIT: - (43 + 10 lo_{g10} (W)) = - 43.72 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1 673.20	- 47.40	7.3	- 40.10	V	- 66.52
2 509.80	- 55.99	8.3	- 47.69	V	- 73.31
3 346.40	- 57.56	9.7	- 47.86	V	- 72.28

NOTES:

Radiated Spurious Emission Measurements by Substitution Method

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is 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 or dipole antenna are taken into consideration.

5.3 GSM850 Radiated Measurements (CH: 251)

Field Strength of SPURIOUS Radiation

- ▣ OPERATING FREQUENCY: 848.80 MHz
- ▣ CHANNEL: 251 (High)
- ▣ MEASURED OUTPUT POWER: 30.72 dBm = 1.180 W
- ▣ MODULATION SIGNAL: GSM (Internal)
- ▣ DISTANCE: 3 meters
- ▣ LIMIT: - (43 + 10 lo_{g10} (W)) = - 43.72 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1 699.60	- 49.61	7.3	- 42.31	V	- 68.73
2 549.40	- 59.64	8.3	- 51.34	V	- 76.96
3 390.20	- 60.07	9.7	- 50.37	V	- 74.79

NOTES:

Radiated Spurious Emission Measurements by Substitution Method

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is 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 or dipole antenna are taken into consideration.

5.4 WCDMA850 Radiated Measurements (CH: 4132)

Field Strength of SPURIOUS Radiation

- ▣ OPERATING FREQUENCY: 826.40 MHz
- ▣ CHANNEL: 4132 (Low)
- ▣ MEASURED OUTPUT POWER: 22.07 dBm = 0.161 W
- ▣ MODULATION SIGNAL: WCDMA (Internal)
- ▣ DISTANCE: 3 meters
- ▣ LIMIT: - (43 + 10 lo_{g10} (W)) = - 35.07 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1 652.80	- 59.61	7.3	- 52.31	V	- 70.08
2 479.20	- 58.67	8.3	- 50.37	V	- 67.34
3 305.60	- 56.48	9.7	- 46.78	V	- 62.55

NOTES:

Radiated Spurious Emission Measurements by Substitution Method

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is 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 or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to “1” and in GSM mode and using a Power Control Level of “0” in the PCS Band and “5” in the Cellular Band. This unit was tested with its standard battery.

5.5 WCDMA850 Radiated Measurements (CH: 4183)

Field Strength of SPURIOUS Radiation

- ▣ OPERATING FREQUENCY: 836.60 MHz
- ▣ CHANNEL: 4183 (Mid)
- ▣ MEASURED OUTPUT POWER: 22.07 dBm = 0.161 W
- ▣ MODULATION SIGNAL: WCDMA (Internal)
- ▣ DISTANCE: 3 meters
- ▣ LIMIT: - (43 + 10 lo_{g10} (W)) = - 35.07 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1 673.20	- 60.97	7.3	- 53.67	V	- 71.44
2 509.80	- 62.68	8.3	- 54.38	V	- 71.35
3 346.40	- 50.07	9.7	- 40.37	V	- 56.14

NOTES:

Radiated Spurious Emission Measurements by Substitution Method

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is 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 or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to “1” and in GSM mode and using a Power Control Level of “0” in the PCS Band and “5” in the Cellular Band. This unit was tested with its standard battery.

5.6 WCDMA850 Radiated Measurements (CH: 4233)

Field Strength of SPURIOUS Radiation

- ▣ OPERATING FREQUENCY: 846.60 MHz
- ▣ CHANNEL: 4233 (High)
- ▣ MEASURED OUTPUT POWER: 22.07 dBm = 0.161 W
- ▣ MODULATION SIGNAL: WCDMA (Internal)
- ▣ DISTANCE: 3 meters
- ▣ LIMIT: - (43 + 10 lo_{g10} (W)) = - 35.07 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
1 693.20	- 58.41	7.3	- 51.11	V	- 68.88
2 539.80	- 64.47	8.3	- 56.17	V	- 73.14
3 386.40	- 53.33	9.7	- 43.63	V	- 59.40

NOTES:

Radiated Spurious Emission Measurements by Substitution Method

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For WCDMA signals, a peak detector is used, with RBW = VBW = 5MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is 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 or dipole antenna are taken into consideration.

This device was tested under all configurations and the highest power is reported in WCDMA mode with HSDPA Inactive at 12.2 kbps AMR and TPC bits all set to “1” and in GSM mode and using a Power Control Level of “0” in the PCS Band and “5” in the Cellular Band. This unit was tested with its standard battery.

5.7 GSM1900 Radiated Measurements (CH: 512)

Field Strength of SPURIOUS Radiation

- ▣ OPERATING FREQUENCY: 1 850.20 MHz
- ▣ CHANNEL: 512 (Low)
- ▣ MEASURED OUTPUT POWER: 25.50 dBm = 0.355 W
- ▣ MODULATION SIGNAL: GSM (Internal)
- ▣ DISTANCE: 3 meters
- ▣ LIMIT: - (43 + 10 lo_{g10} (W)) = - 38.50 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3 700.40	- 60.77	12.4	- 48.37	H	- 64.87
5 550.60	- 69.01	11.7	- 57.31	H	- 74.71
7 400.80	- 66.11	11.5	- 54.61	H	- 72.41

NOTES:

Radiated Spurious Emission Measurements by Substitution Method

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is 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 or dipole antenna are taken into consideration.

5.8 GSM1900 Radiated Measurements (CH: 661)

Field Strength of SPURIOUS Radiation

- ▣ OPERATING FREQUENCY: 1 880.00 MHz
- ▣ CHANNEL: 661 (Mid)
- ▣ MEASURED OUTPUT POWER: 25.50 dBm = 0.355 W
- ▣ MODULATION SIGNAL: GSM (Internal)
- ▣ DISTANCE: 3 meters
- ▣ LIMIT: - (43 + 10 lo_{g10} (W)) = - 38.50 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3 760.00	- 56.68	12.4	- 44.28	H	- 60.78
5 460.00	- 65.37	11.7	- 53.67	H	- 71.07
7 520.00	- 66.87	11.5	- 55.37	H	- 73.17

NOTES:

Radiated Spurious Emission Measurements by Substitution Method

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is 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 or dipole antenna are taken into consideration.

5.9 GSM1900 Radiated Measurements (CH: 810)

Field Strength of SPURIOUS Radiation

- ▣ OPERATING FREQUENCY: 1 909.80 MHz
- ▣ CHANNEL: 810 (High)
- ▣ MEASURED OUTPUT POWER: 25.50 dBm = 0.355 W
- ▣ MODULATION SIGNAL: GSM (Internal)
- ▣ DISTANCE: 3 meters
- ▣ LIMIT: - (43 + 10 lo_{g10} (W)) = - 38.50 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	(dBc)
3 819.60	- 60.01	12.4	- 47.61	H	- 64.11
5 729.40	- 71.16	11.7	- 59.46	H	- 76.86
7 639.20	- 68.50	11.5	- 57.00	H	- 74.80

NOTES:

Radiated Spurious Emission Measurements by Substitution Method

according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For CDMA signals, a peak detector is used, with RBW = VBW = 3 MHz. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW = 1 MHz. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is 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 or dipole antenna are taken into consideration.

6. FREQUENCY STABILITY MEASUREMENT

6.1 FREQUENCY STABILITY (GSM850)

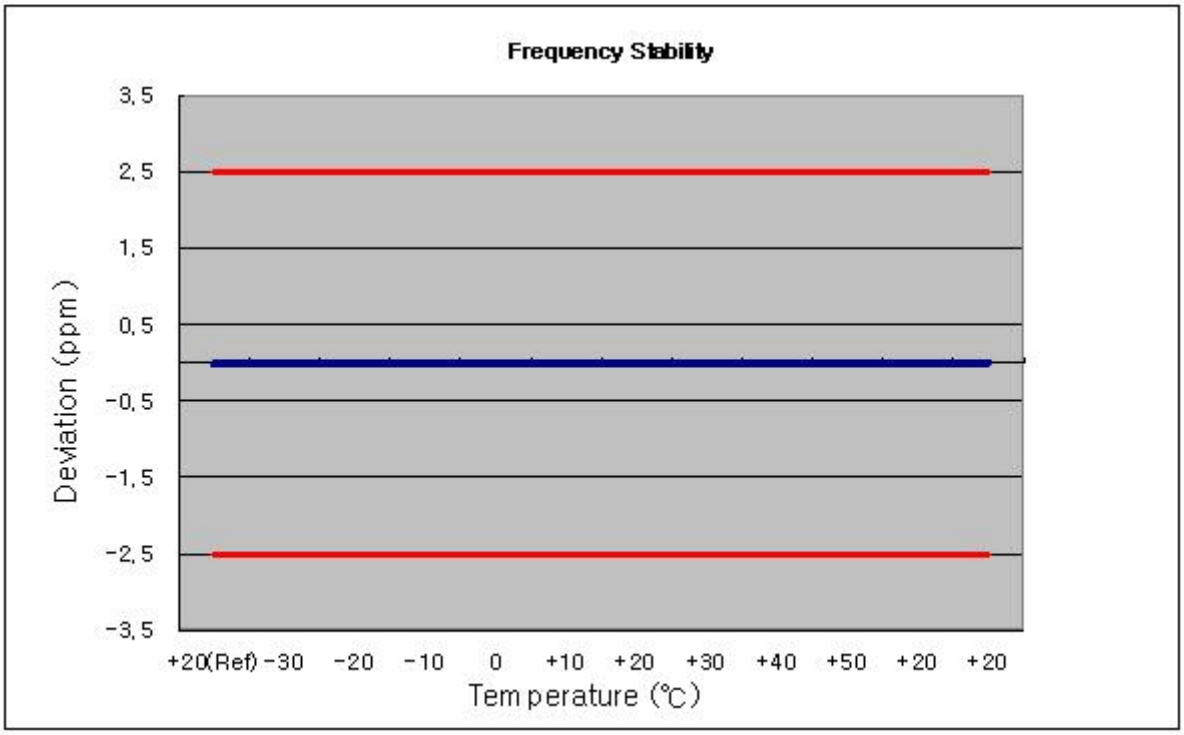
OPERATING FREQUENCY: 836,600,000 Hz

CHANNEL: 190

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIM IT: ± 0.000 25 % or 2.5 ppm

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
100%	3.70	+20(Ref)	836,599,980	-20	-0.000002	-0.011
100%		-30	836,520,040	40	0.000005	0.021
100%		-20	836,519,963	-37	-0.000004	-0.020
100%		-10	836,520,031	31	0.000004	0.016
100%		0	836,519,971	-29	-0.000003	-0.015
100%		+10	836,519,973	-27	-0.000003	-0.014
100%		+20	836,519,980	-20	-0.000002	-0.011
100%		+30	836,520,029	29	0.000003	0.015
100%		+40	836,519,968	-32	-0.000004	-0.017
100%		+50	836,520,032	32	0.000004	0.017
115%	4.26	+20	836,519,961	-39	-0.000005	-0.021
Batt. Endpoint	3.22	+20	836,520,028	28	0.000003	0.015



6.2 FREQUENCY STABILITY (WCDMA850)

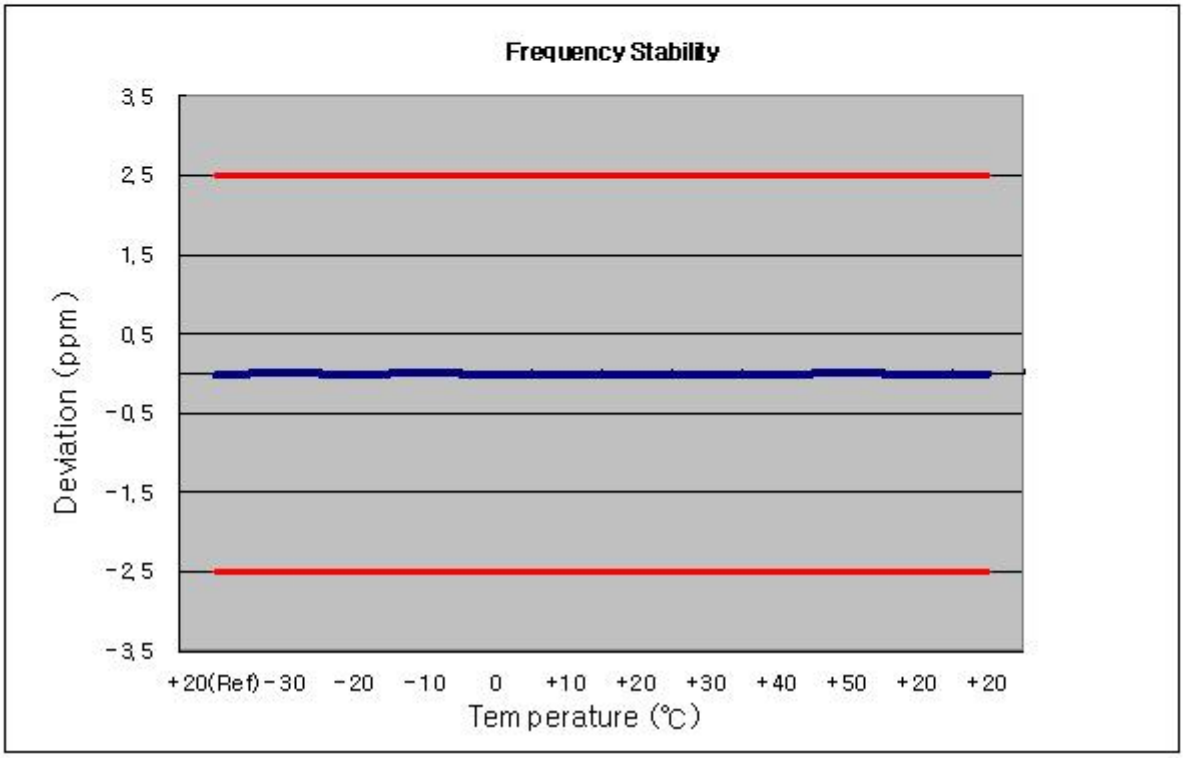
OPERATING FREQUENCY: 836.600,071 Hz

CHANNEL: 4183

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIM IT: ± 0.00025 % or 2.5 ppm

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
100%	3.70	+20(Ref)	836 400 018	18	0.000002	0.010
100%		-30	836 399 964	-36	-0.000004	-0.019
100%		-20	836 400 032	32	0.000004	0.017
100%		-10	836 399 970	-30	-0.000004	-0.016
100%		0	836 400 022	22	0.000003	0.012
100%		+10	836 399 974	-26	-0.000003	-0.014
100%		+20	836 400 018	18	0.000002	0.010
100%		+30	836 400 029	29	0.000003	0.015
100%		+40	836 399 968	-32	-0.000004	-0.017
100%		+50	836 400 037	37	0.000004	0.020
115%	4.26	+20	836 399 966	-34	-0.000004	-0.018
Batt. Endpoint	3.22	+20	836 400 033	33	0.000004	0.018



6.3 FREQUENCY STABILITY (GSM1900)

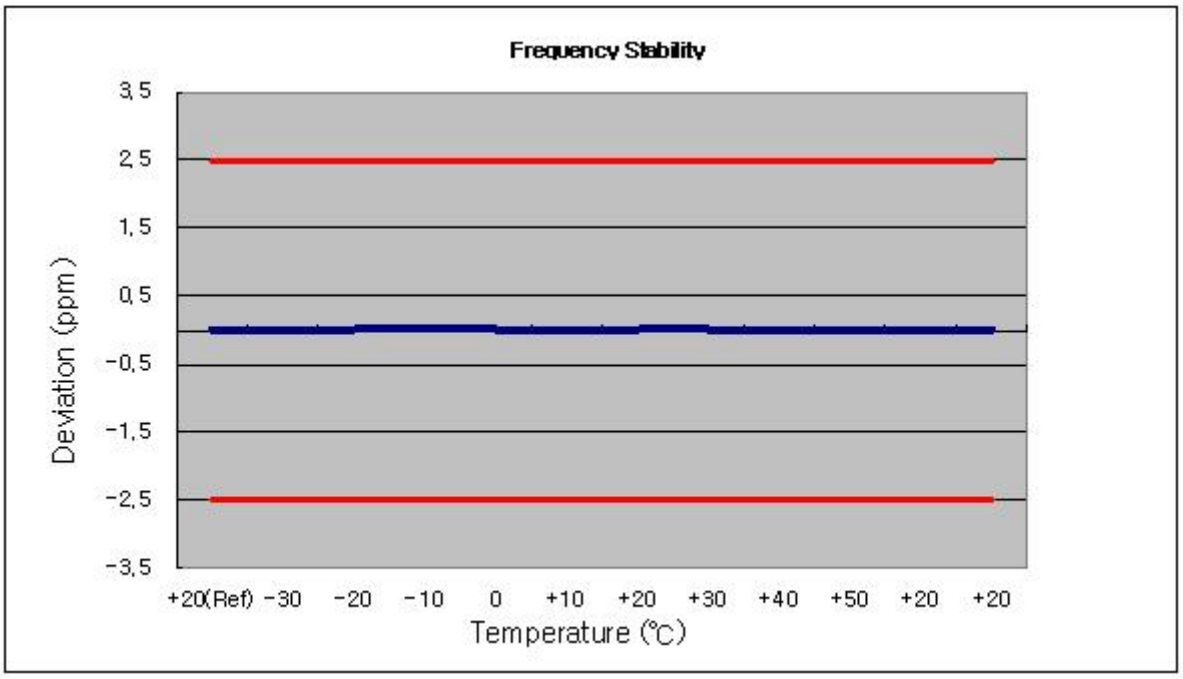
OPERATING FREQUENCY: 1,880,000,000 Hz

CHANNEL: 661

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIM IT: ± 0.000 25 % or 2.5 ppm

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
100%	3.70	+20(Ref)	1,880,000,029	29	0.000003	0.015
100%		-30	1,879,999,961	-39	-0.000005	-0.021
100%		-20	1,880,000,042	42	0.000005	0.022
100%		-10	1,880,000,029	29	0.000003	0.015
100%		0	1,880,000,027	27	0.000003	0.014
100%		+10	1,879,999,976	-24	-0.000003	-0.013
100%		+20	1,880,000,029	29	0.000003	0.015
100%		+30	1,880,000,032	32	0.000004	0.017
100%		+40	1,879,999,970	-30	-0.000004	-0.016
100%		+50	1,880,000,036	36	0.000004	0.019
115%	4.26	+20	1,879,999,963	-37	-0.000004	-0.020
Batt. Endpoint	3.30	+20	1,880,000,039	39	0.000005	0.021



7. LIST OF TEST EQUIPMENT

Manufacture	Model/ Equipment	Serial Number	Calibration Date	Calibration Interval	Calibration Due
R&S	ESI40/ Spectrum Analyzer	831564/003	11/06/2007	Annual	11/06/2008
Advantest	R3273/ Spectrum Analyzer	J04821	05/02/2007	Annual	05/02/2008
HP	8664A/ Signal Generator	3744A02069	04/10/2007	Annual	04/10/2008
Agilent	E4419B/ Power Meter	MY41291386	11/05/2007	Annual	11/05/2008
Agilent	8481A/ Power Sensor	MY41090870	11/05/2007	Annual	11/05/2008
Agilent	HP8901B/ Modulation Analyzer	3438A05231	08/04/2007	Annual	08/04/2008
Agilent	8903A/ Audio Analyzer	2433A04322	08/04/2007	Annual	08/04/2008
R&S	CMU200/ Base Station	110740	07/26/2007	Annual	07/26/2008
Agilent	8960 (E5515C)/ Base Station	GB444400269	02/11/2008	Annual	02/11/2009
Tescom	TC-3000/ Bluetooth Simulator	3000A4900112	01/11/2008	Annual	01/11/2009
MITEQ	AMF-6D-01180-35-20P/ AMP	990893	04/25/2007	Annual	04/25/2008
Wainwright	WHK1.2/15G-10EF/H.P.F	2	06/28/2007	Annual	06/28/2008
Wainwright	WHK3.3/18G-10EF/H.P.F	1	06/28/2007	Annual	06/28/2008
Agilent	778D/ Dual Directional Coupler	16072	11/09/2007	Annual	11/09/2008
Agilent	1506A/ Power Divider	99441	11/10/2007	Annual	11/10/2008
Digital	EP-3010/ Power Supply	3110117	12/29/2007	Annual	12/29/2008
Schwarzbeck	UHAP/ Dipole Antenna	630	11/13/2007	Annual	11/13/2008
Schwarzbeck	UHAP/ Dipole Antenna	605	11/13/2007	Annual	11/13/2008
R&S	HFH2-Z2/ Loop Antenna	881056/070	12/11/2007	Annual	12/11/2008
Korea Engineering	KR-1005L / Chamber	KRAB07063-2CH	01/05/2008	Annual I	01/05/2009
Schwarzbeck	VULB9160/ TRILOG Antenna	3150	04/20/2007	Biennial	04/20/2009
Schwarzbeck	VULB9160/ TRILOG Antenna	3125	05/16/2007	Biennial	05/16/2009
Schwarzbeck	BBHA 9120D/ Horn Antenna	147	03/31/2007	Biennial	03/31/2008
Schwarzbeck	BBHA 9120D/ Horn Antenna	1201	05/02/2007	Biennial	05/02/2008

8. SAMPLE CALCULATIONS

A. ERP Sample Calculation

MODE	Freq. (MHz)	REF. LEVEL (dBm)	POL (H/V)	ERP (W)	ERP (dBm)	BATTERY
GSM850	824.20	- 18.08	V	0.807	29.07	Standard

1) The EUT mounted on a wooden tripod is 0.8 meter above test site ground level.

2) During the test , the turn table is rotated and the antenna height is also varied from 1 to 4 meters until the maximum signal is found.

3) Record the field strength meter's level.(**LEVEL**)

4) Replace the EUT with dipole antenna that is connected to a calibrated signal generator.

5) Increase the signal generator output till the field strength meter's level is equal to the item (3).

6) The signal generator output level with cable loss is the rating of effective radiated power (**ERP**).
(Cable loss means the factor between Signal Generator and Transmitting Antenna.)

For more details, please refer to the test set-up procedure.

B. Emission Designator

Emission Designator = 249KGXW

GSM BW = 249KHz

G = Phase Modulation

X = Cases not otherwise covered

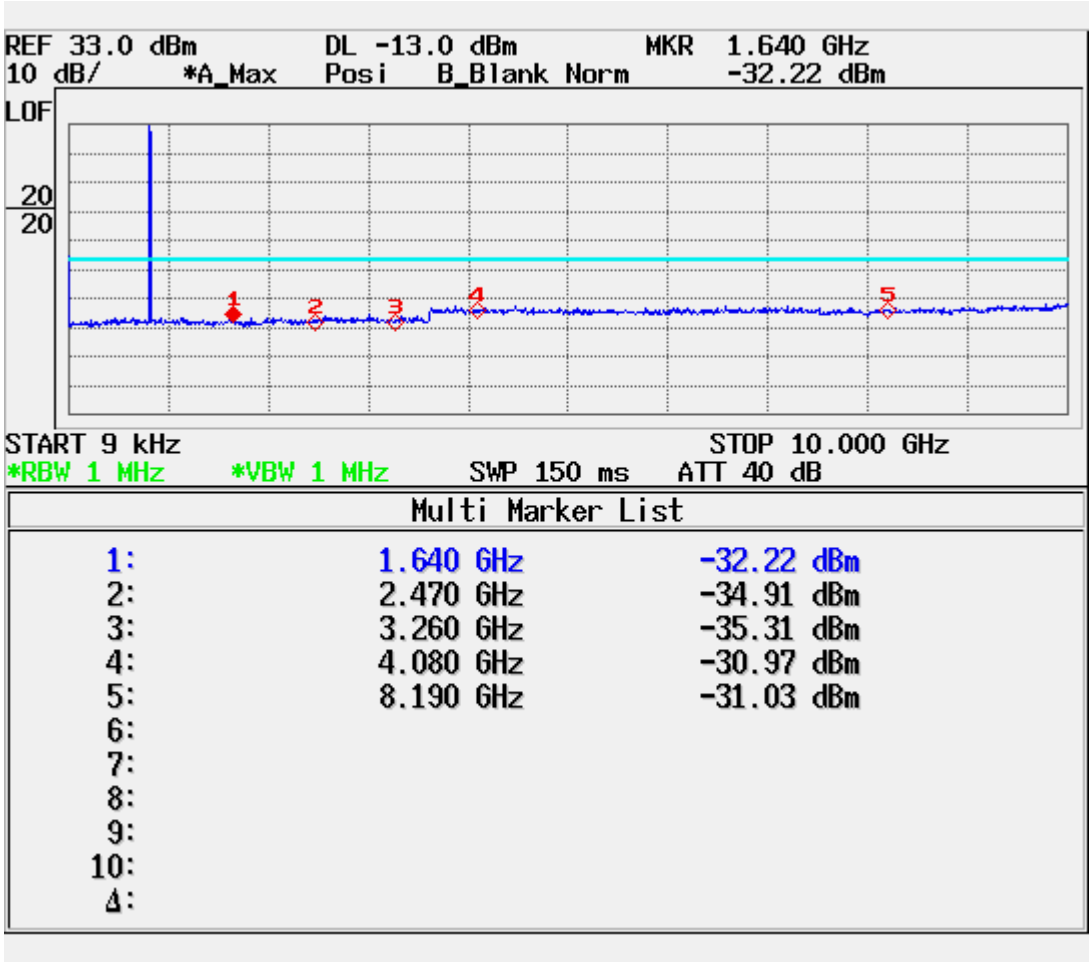
W = Combination (Audio/Data)

9. CONCLUSION

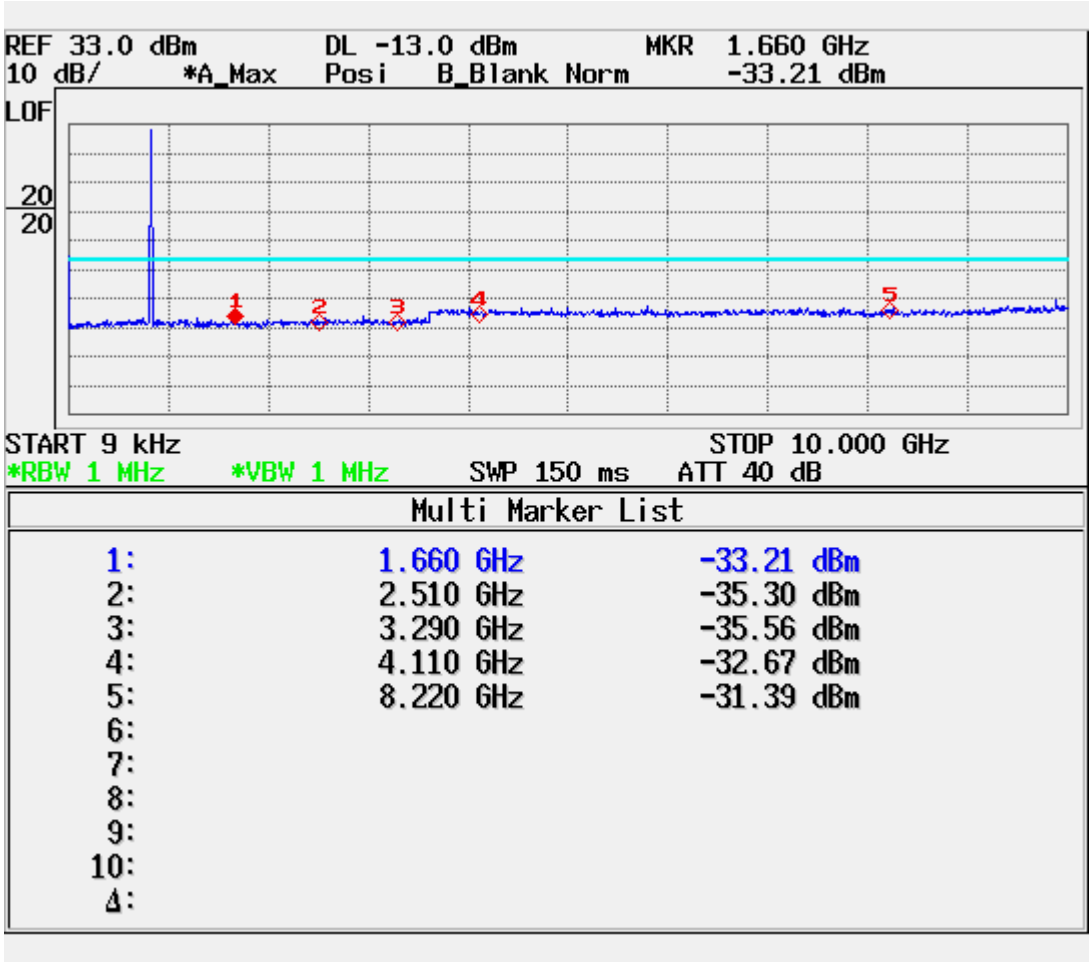
The data collected shows that the Cellular/PCS GSM Phone. **FCC ID: BEJKF700Q** complies with all the requirements of Parts 2, 22 and 24 of the FCC rules.

10. RF TEST PLOTS

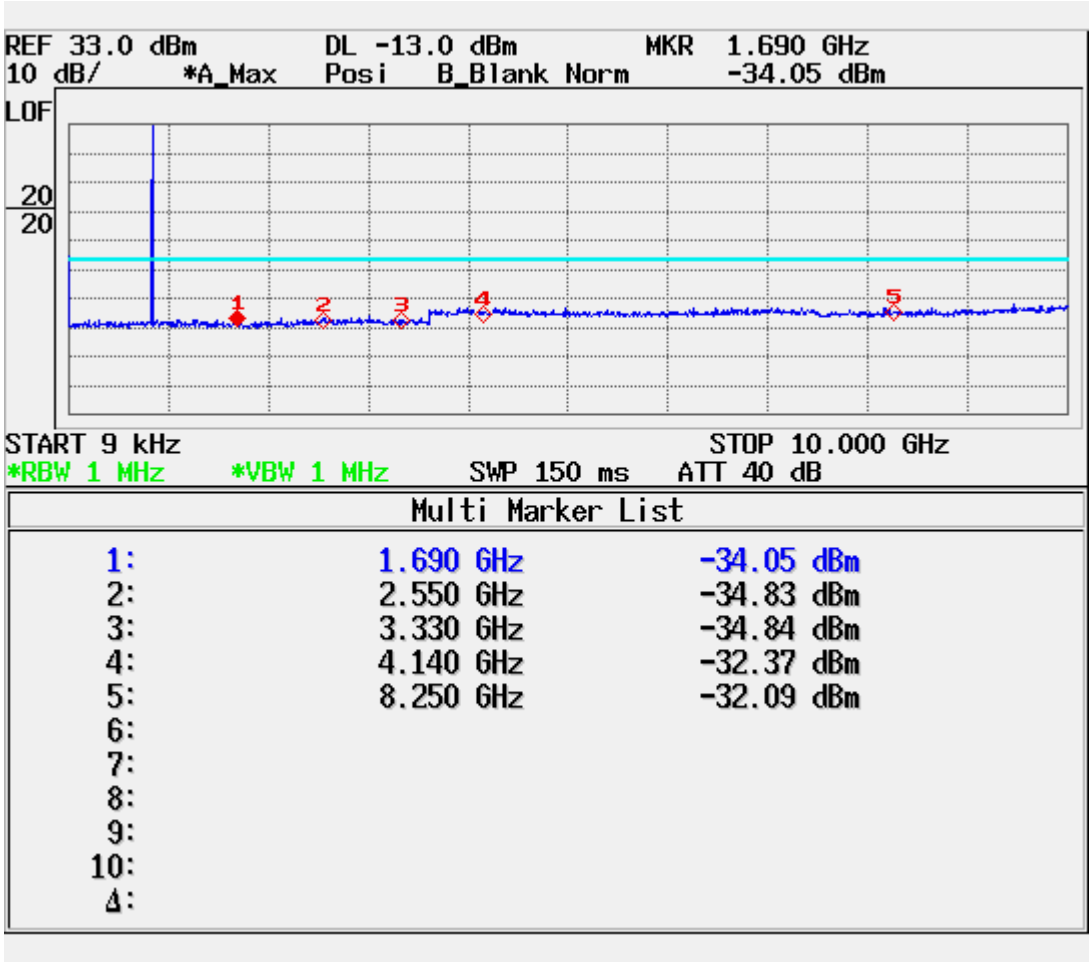
■ GSM850 MODE (128 CH.) Conducted Spurious



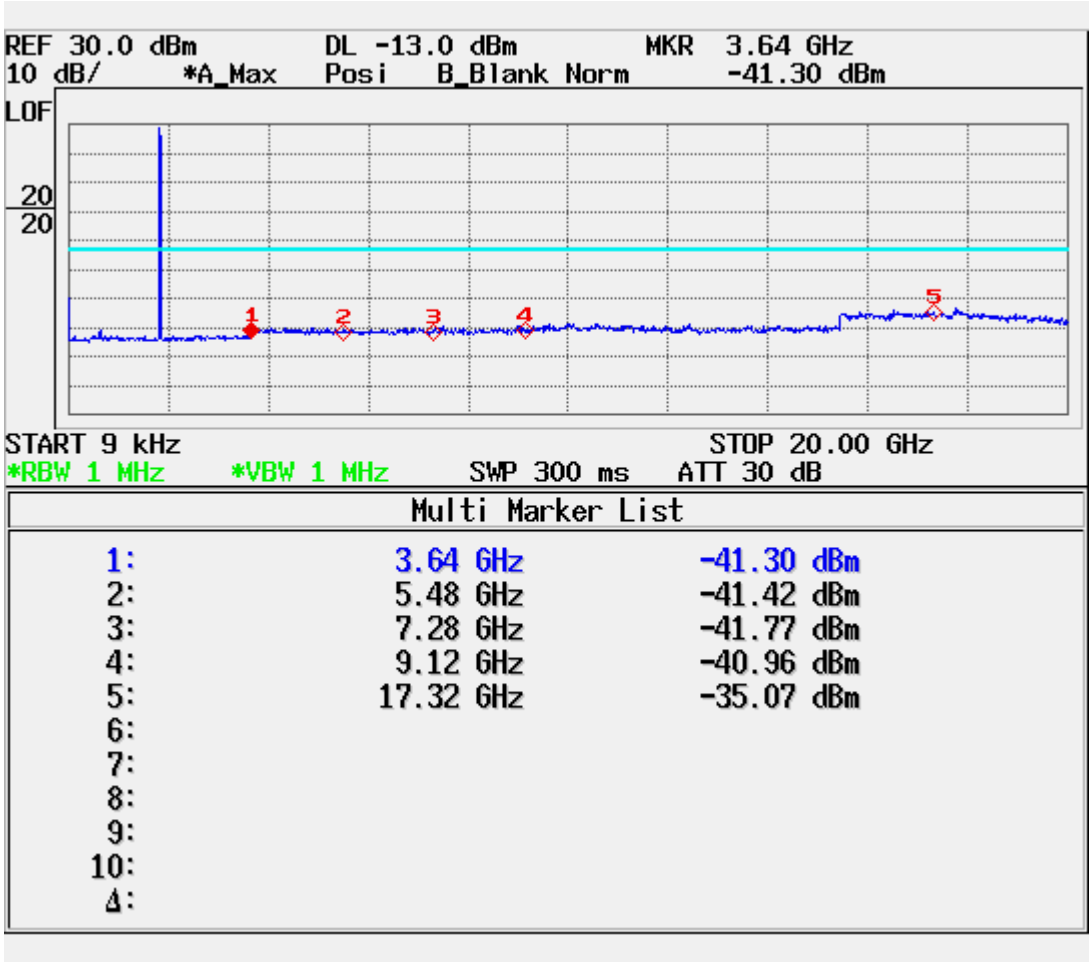
■ GSM850 MODE (190 CH.) Conducted Spurious



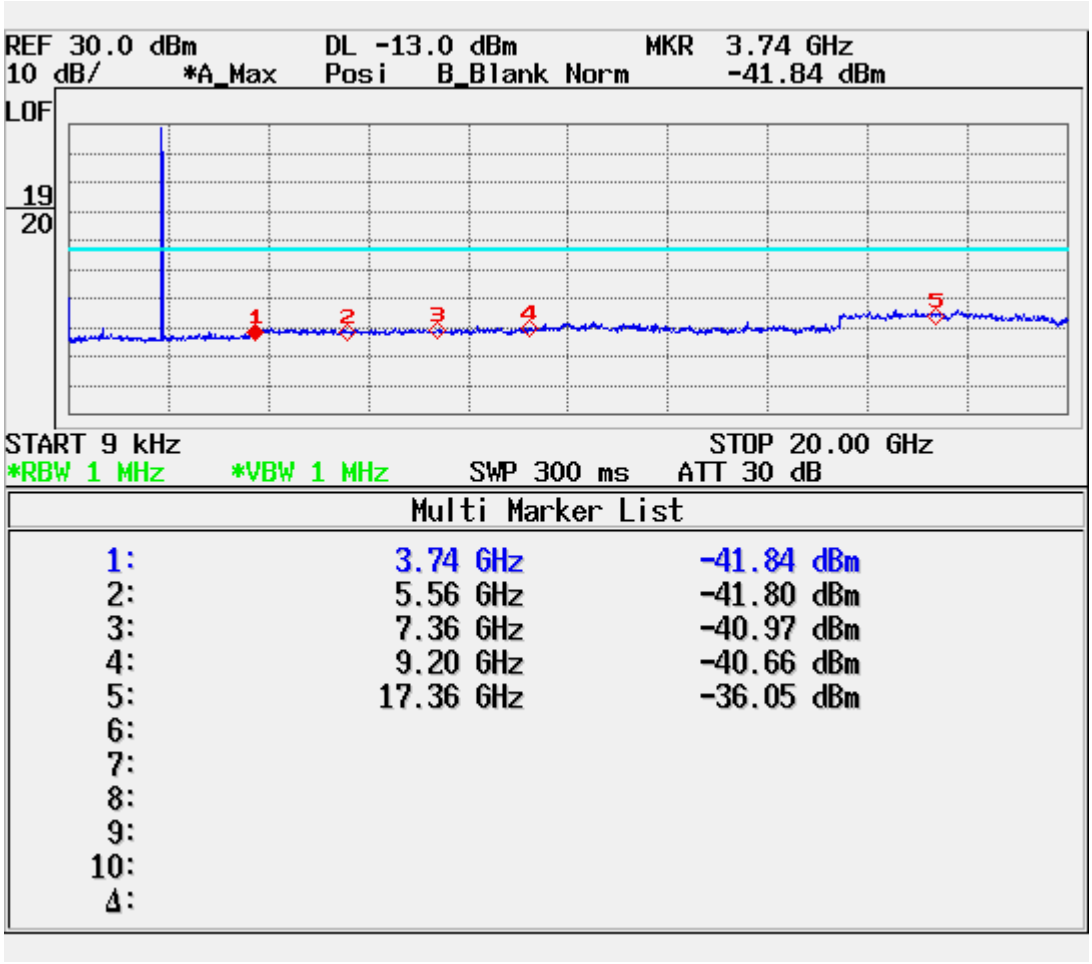
■ GSM850 MODE (251 CH.) Conducted Spurious



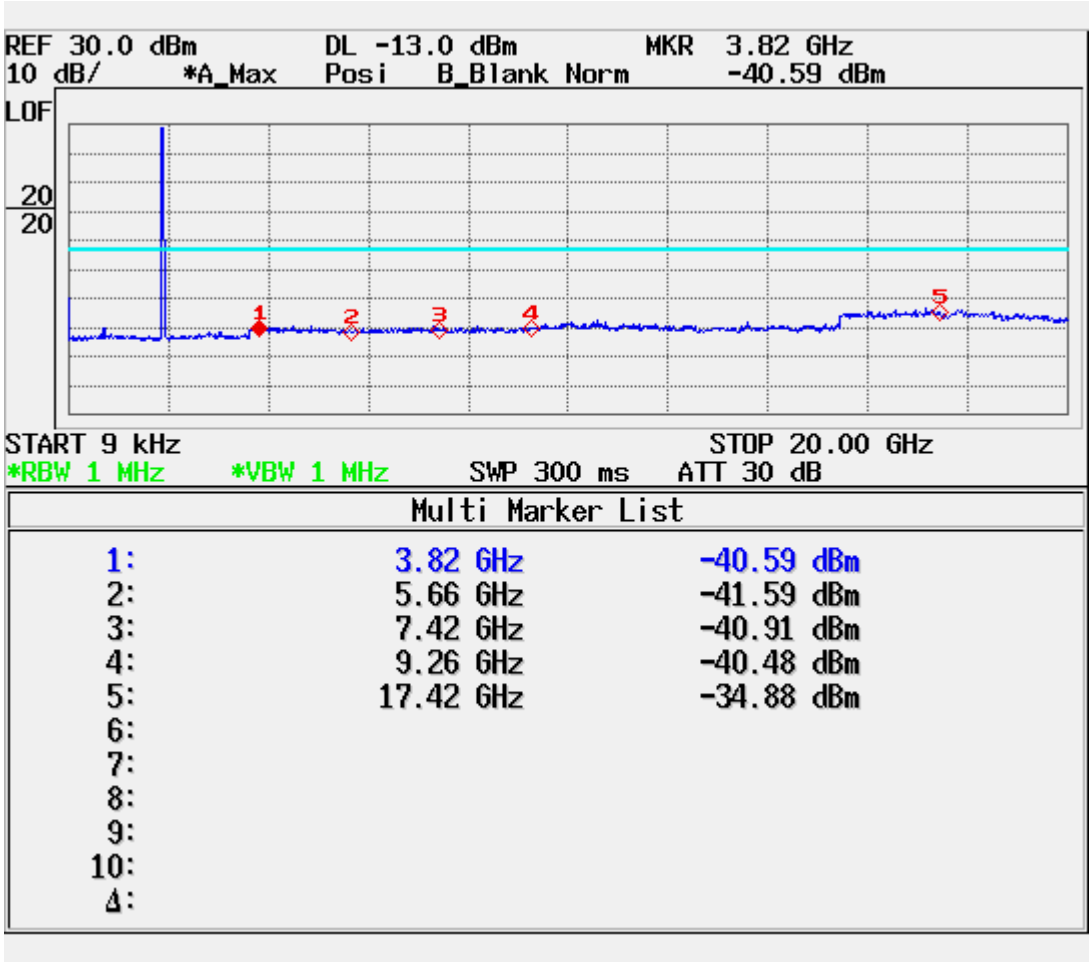
■ GSM1900 MODE (512 CH.) Conducted Spurious



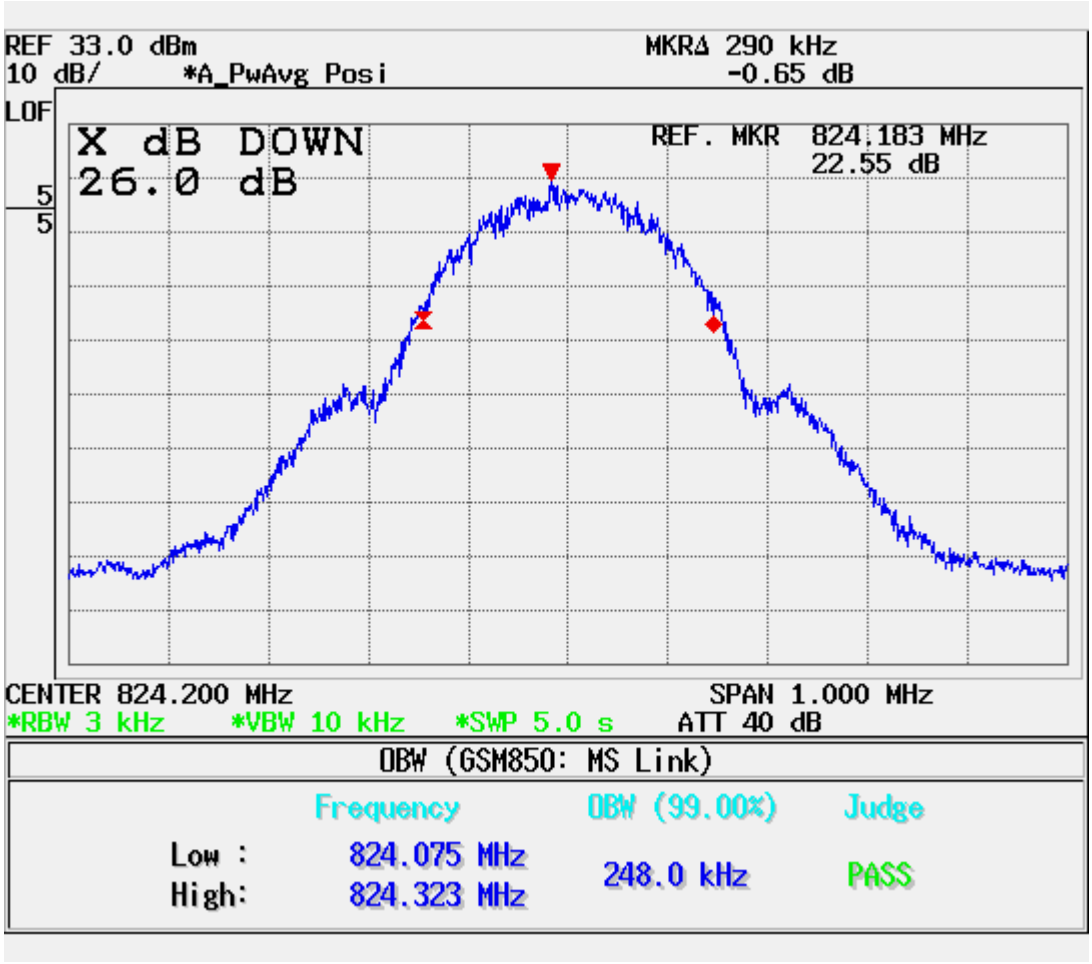
■ GSM1900 MODE (661 CH.) Conducted Spurious



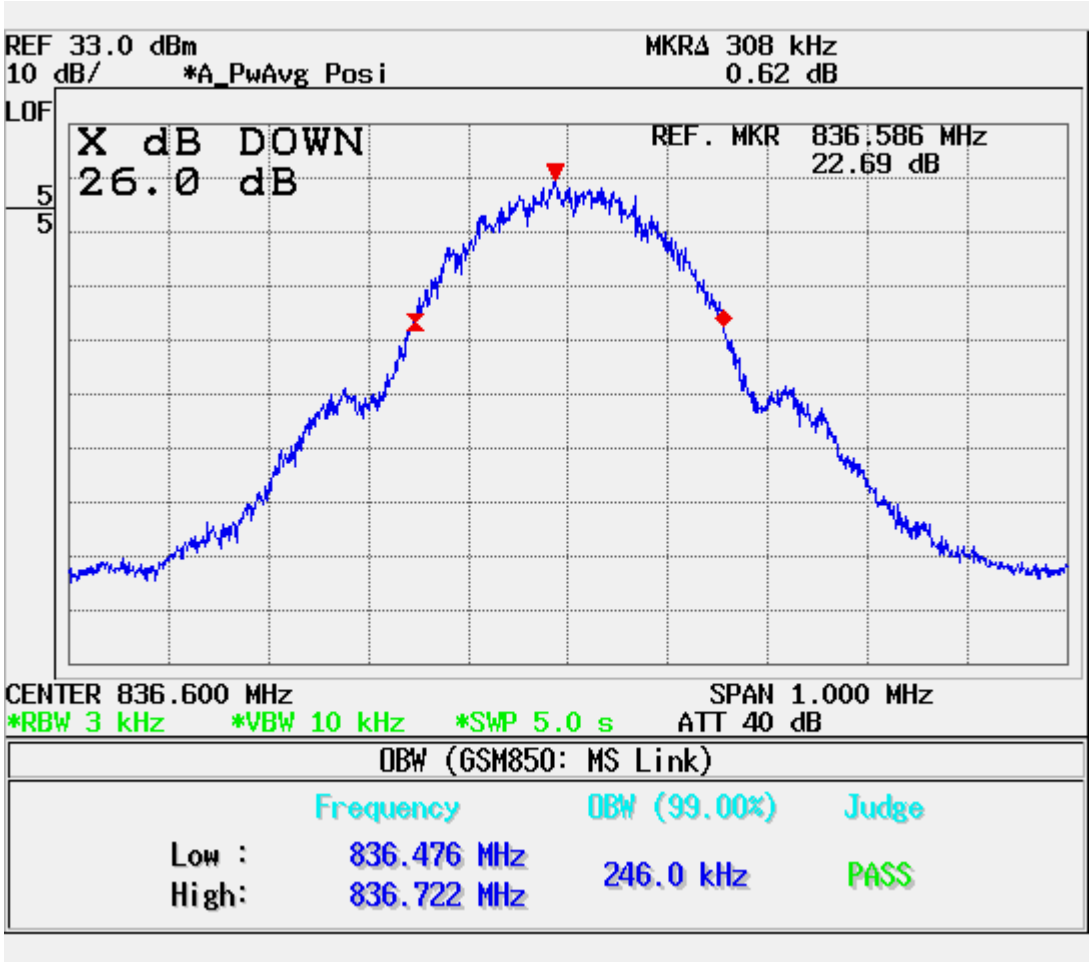
■ GSM1900 MODE (810 CH.) Conducted Spurious



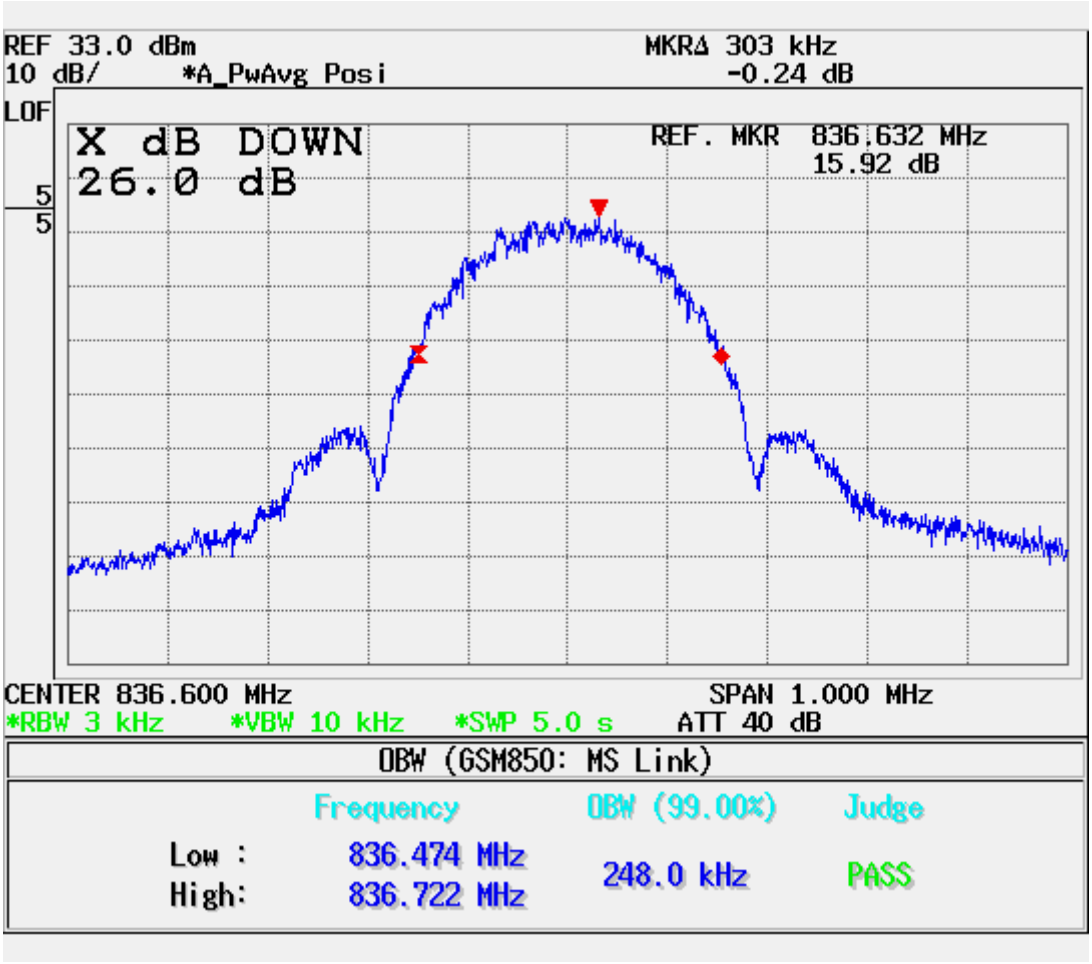
■ Occupied Bandwidth -26dBc BW (KHz) (GSM850 128 CH)



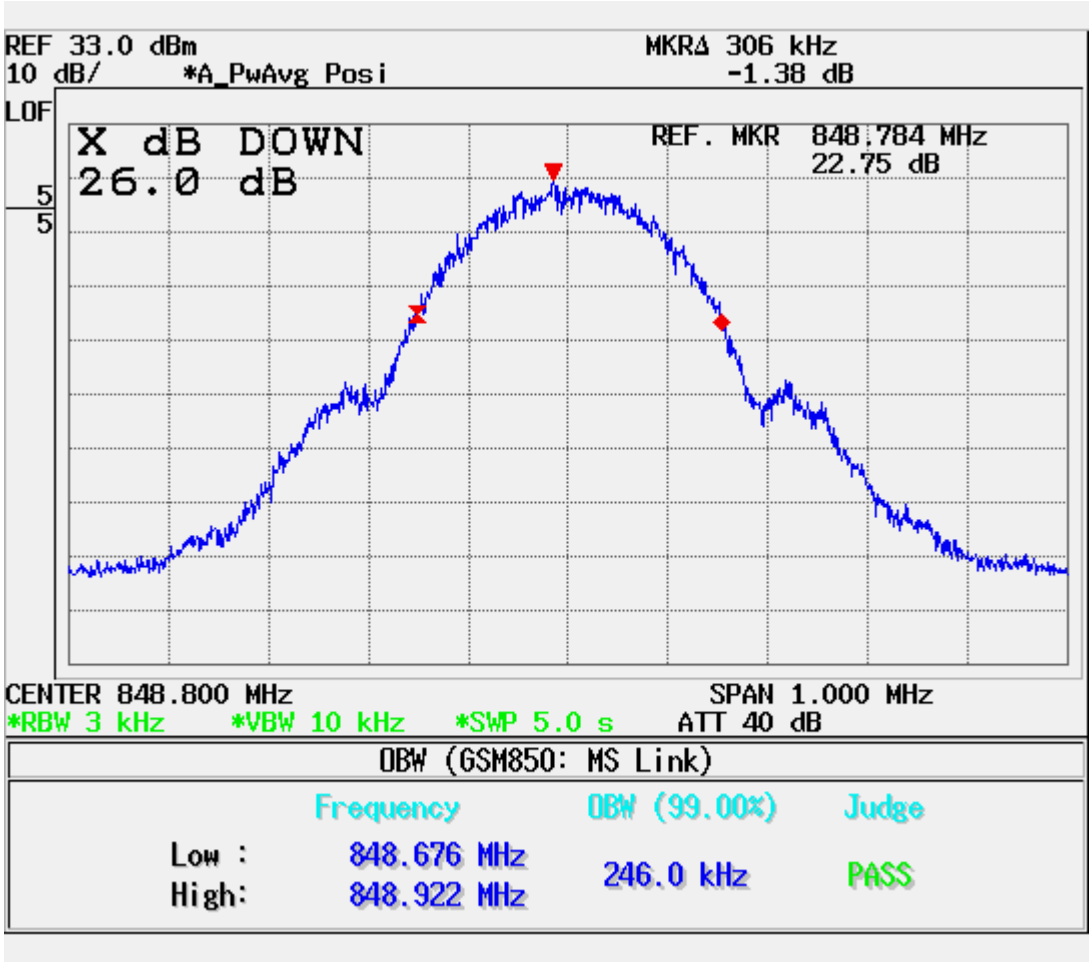
■ Occupied Bandwidth -26dBc BW (KHz) (GSM850 190 CH)



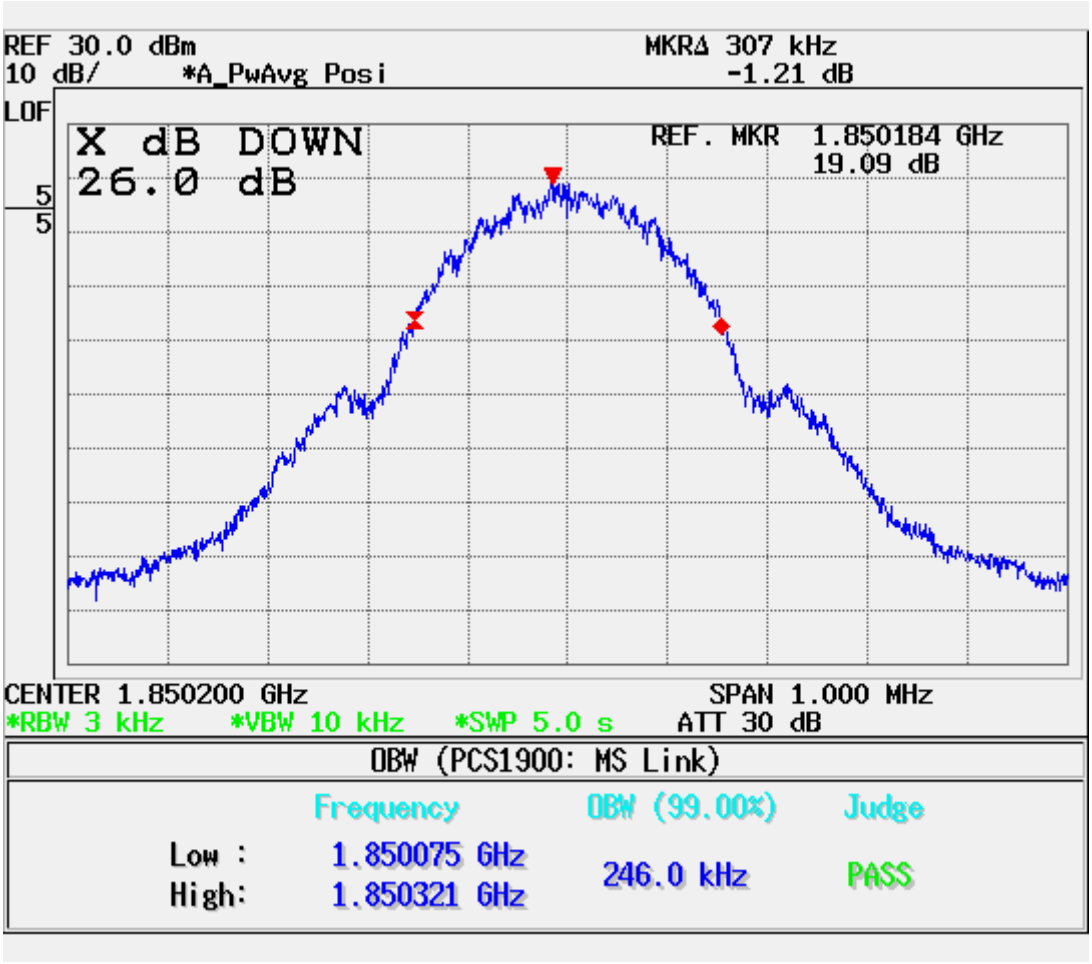
■ Occupied Bandwidth -26dBc BW (KHz) (GSM850 190 CH) EDGE



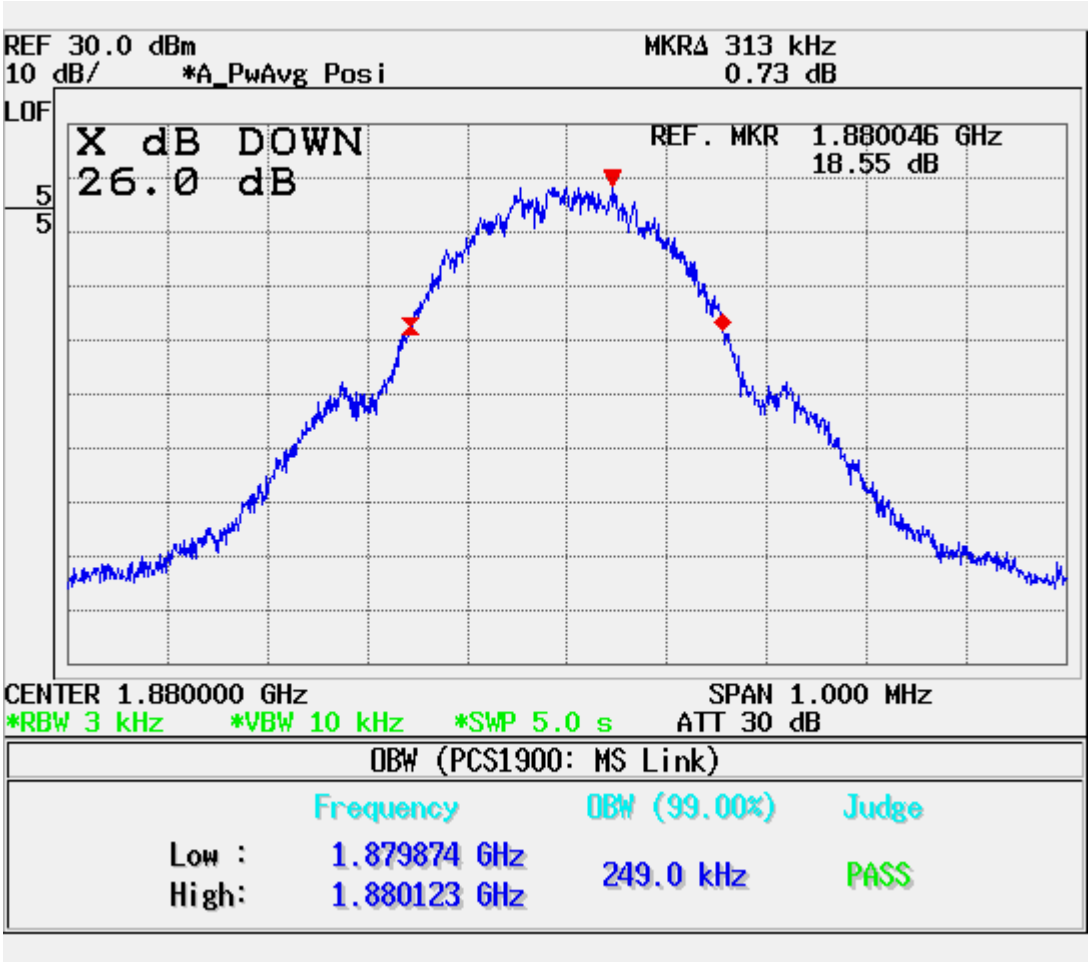
■ Occupied Bandwidth -26dBc BW (KHz) (GSM850 251 CH)



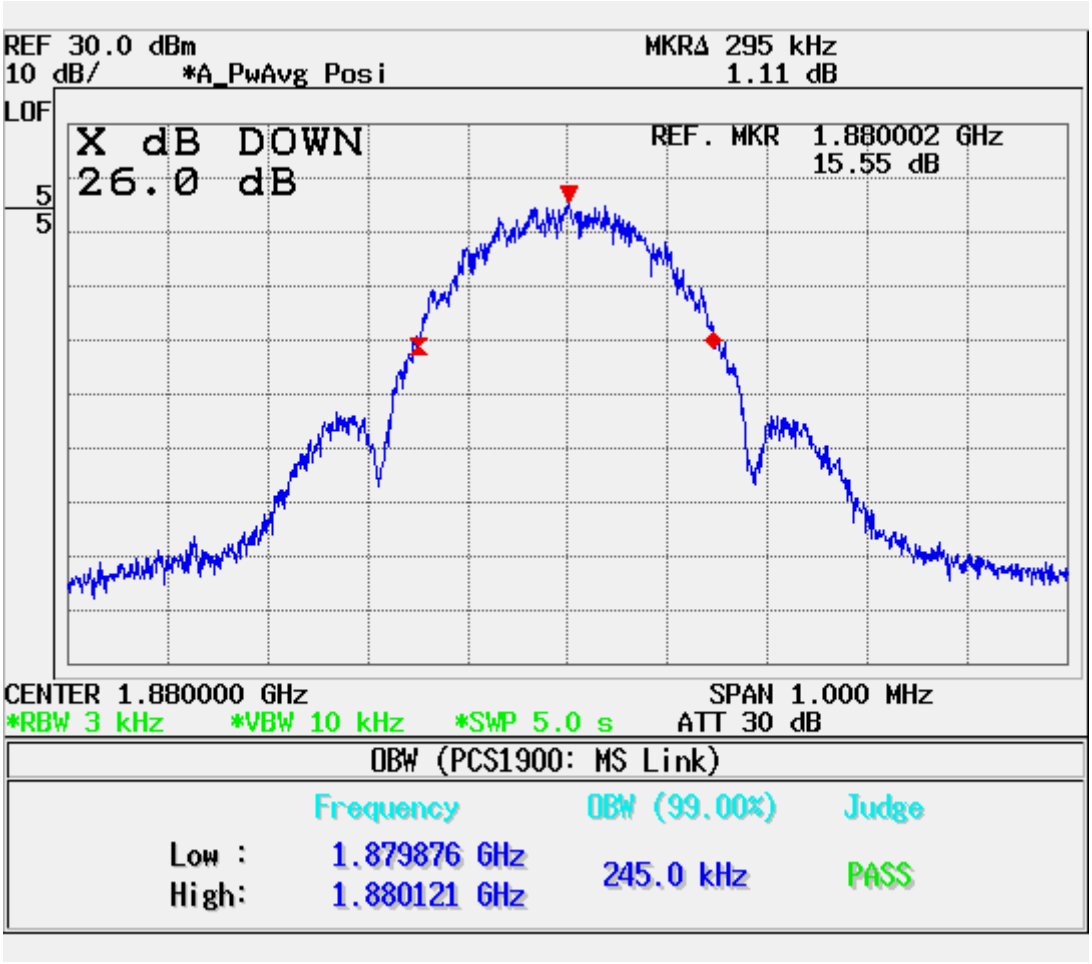
■ Occupied Bandwidth -26dBc BW (KHz) (GSM1900 512 CH)



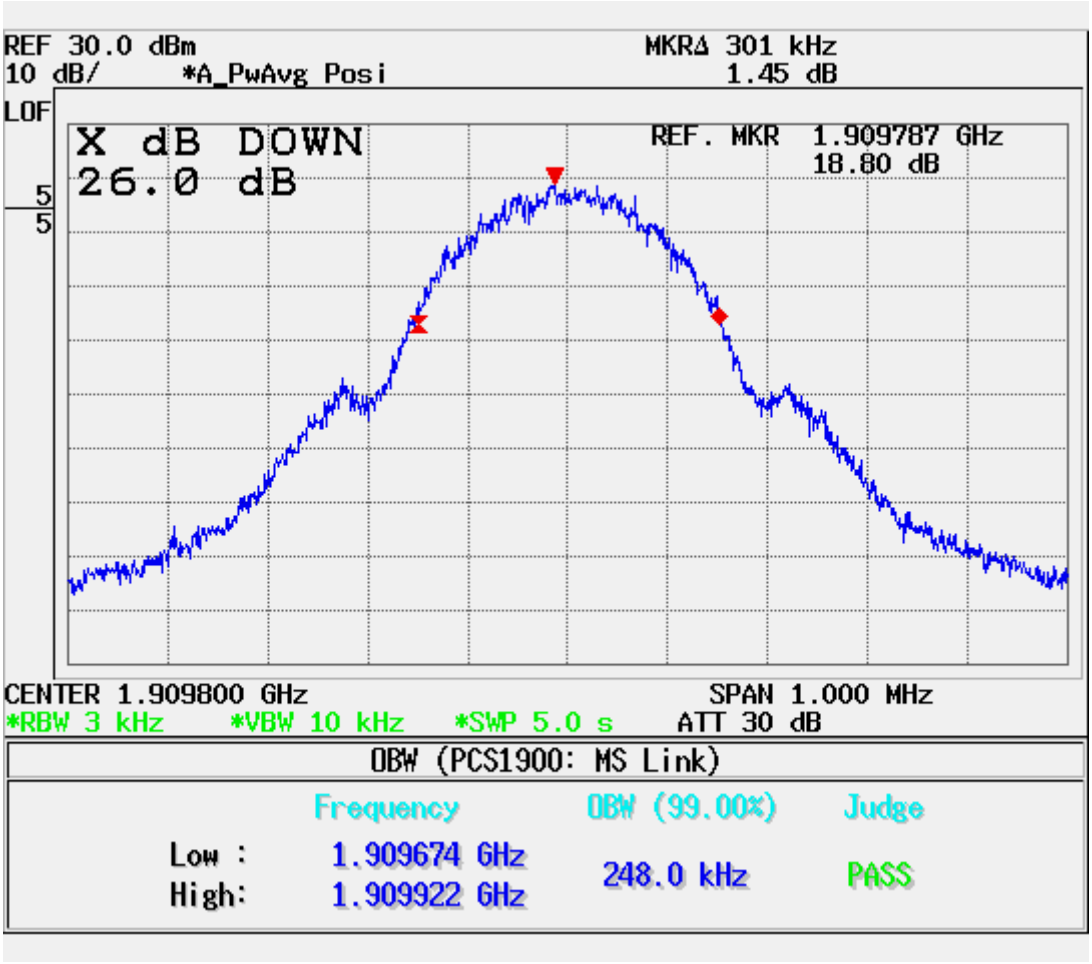
■ Occupied Bandwidth -26dBc BW (KHz) (GSM1900 661 CH)



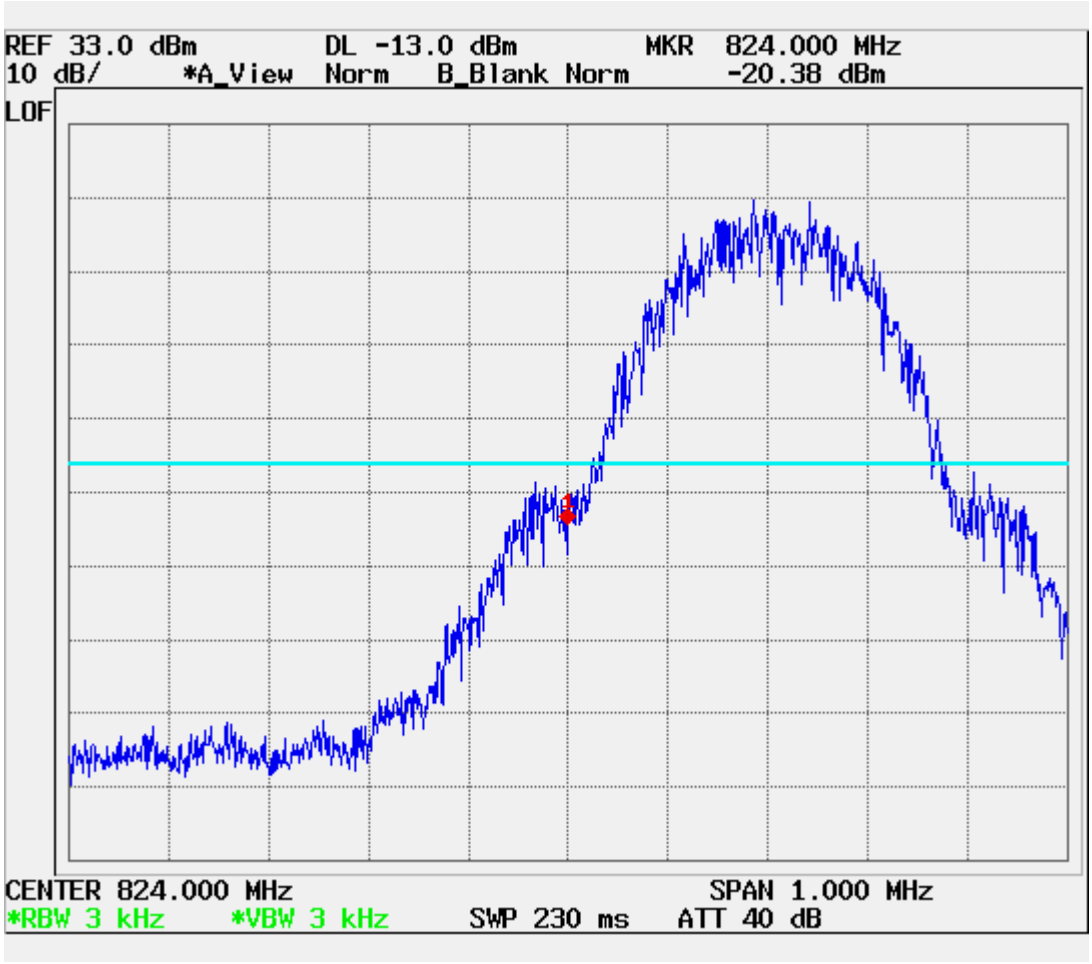
■ Occupied Bandwidth -26dBc BW (KHz) (GSM1900 661 CH) EDGE



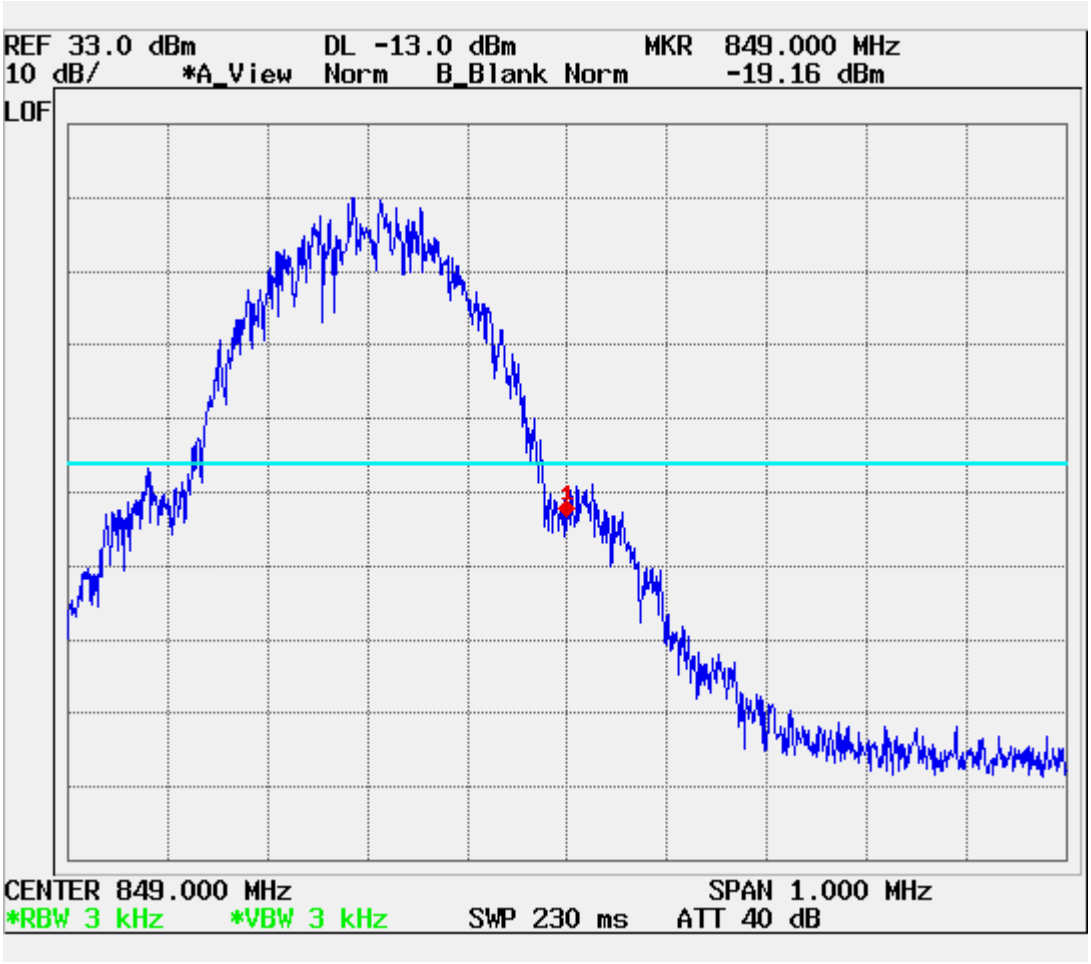
■ Occupied Bandwidth -26dBc BW (KHz) (GSM1900 810 CH)



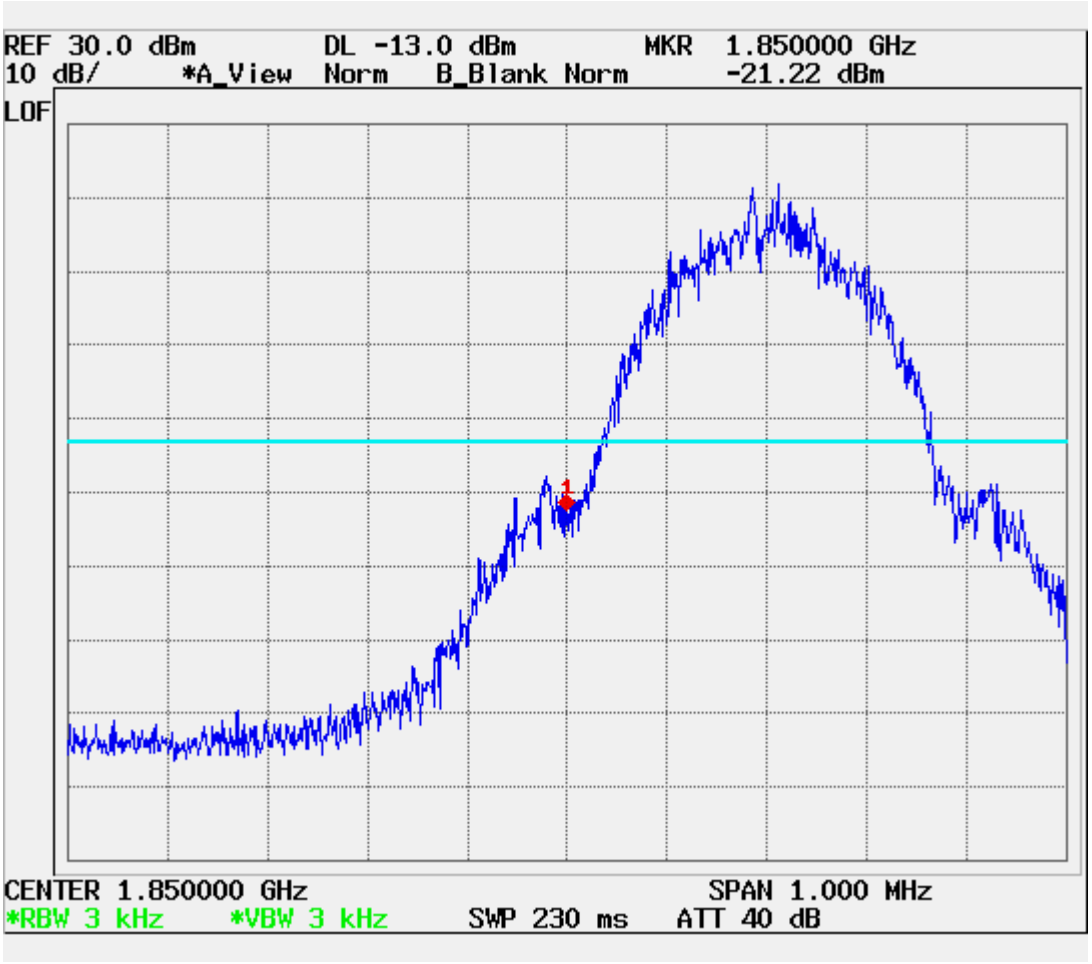
■ GSM Block Edge GSM850 (128 CH.)



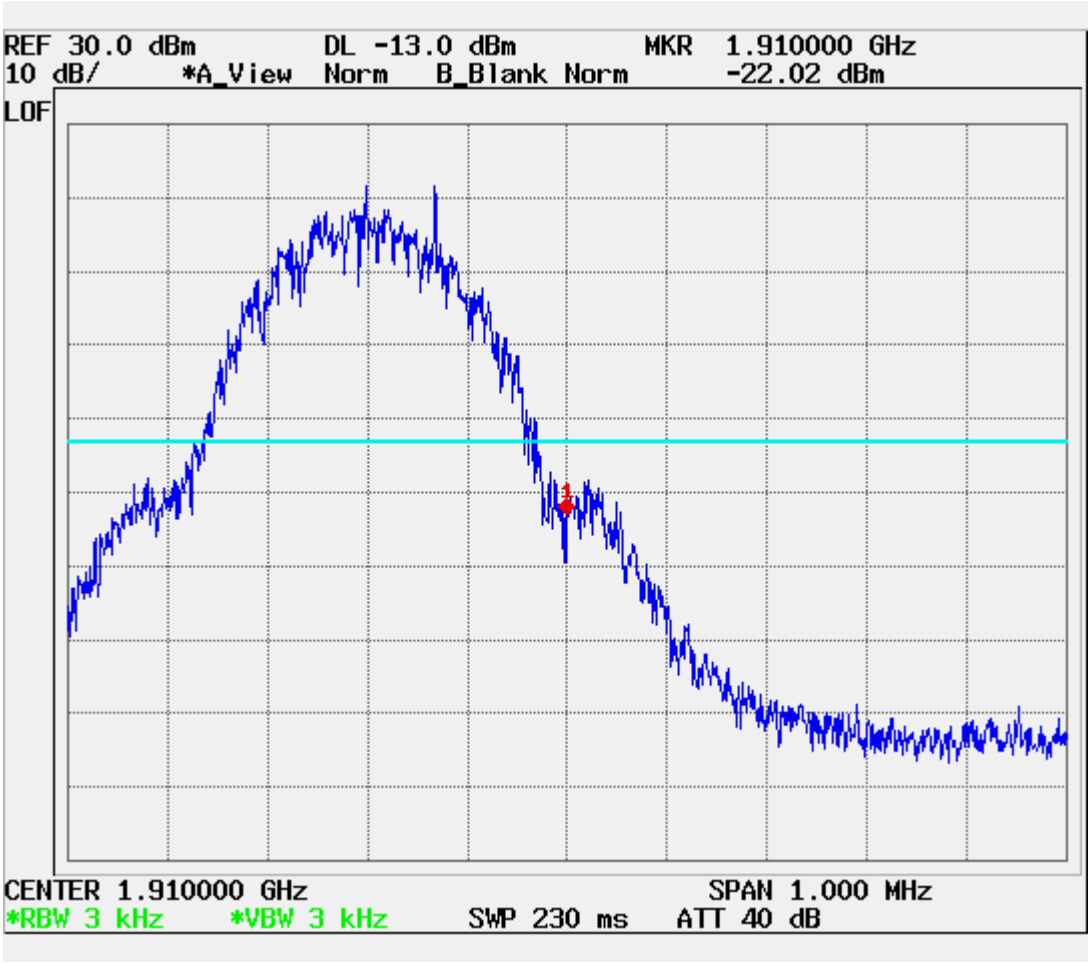
■ GSM Block Edge GSM850 (251 CH.)



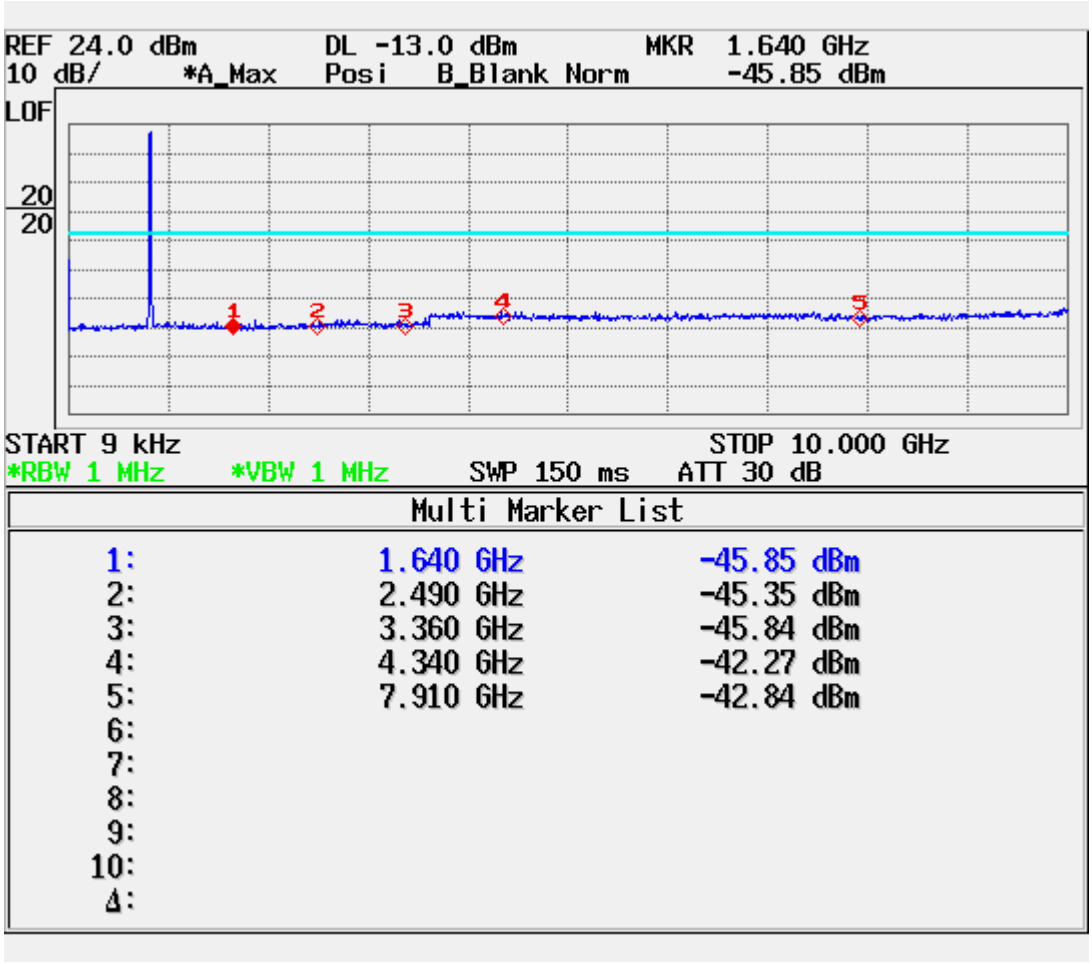
■ GSM Block Edge GSM1900 (512 CH.)



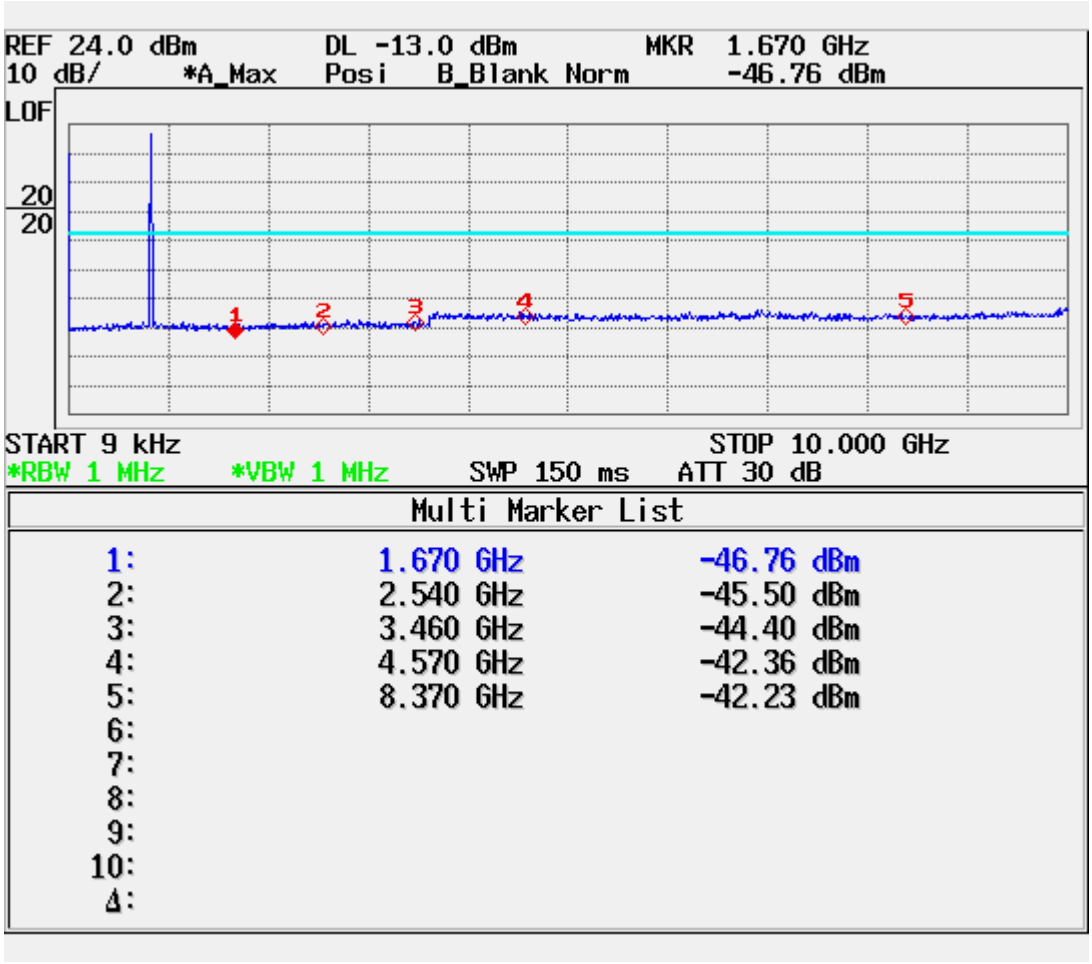
■ GSM Block Edge GSM1900 (810 CH.)



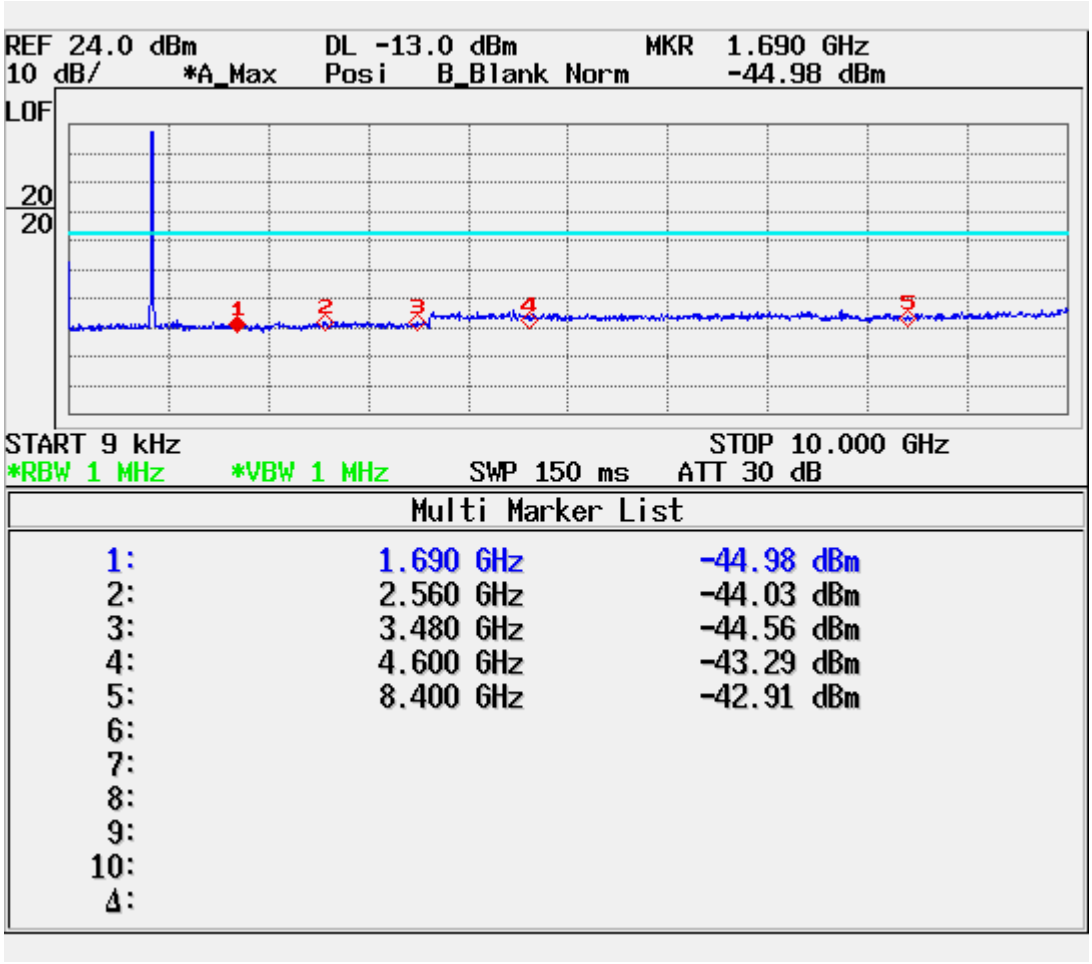
■ WCDMA850 MODE (4132 CH.) Conducted Spurious



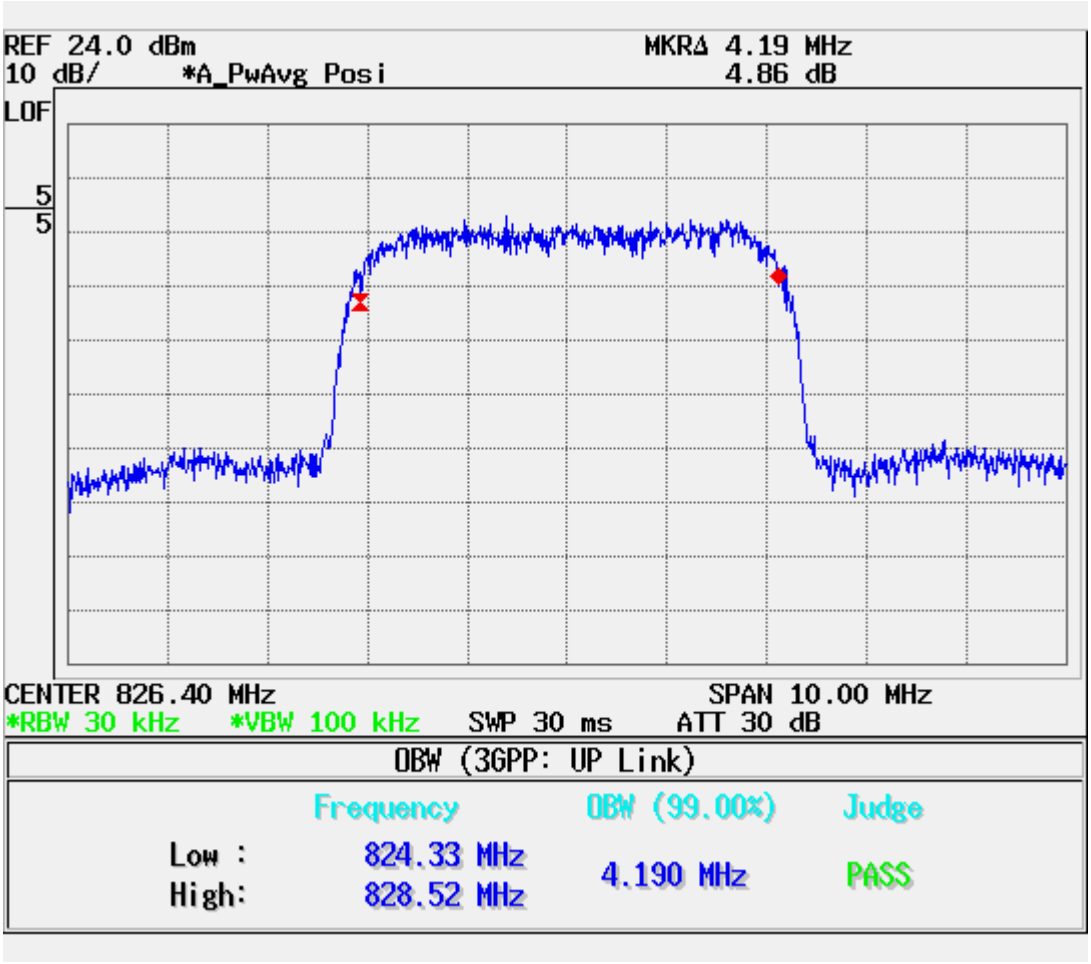
■ WCDMA850 MODE (4183 CH.) Conducted Spurious



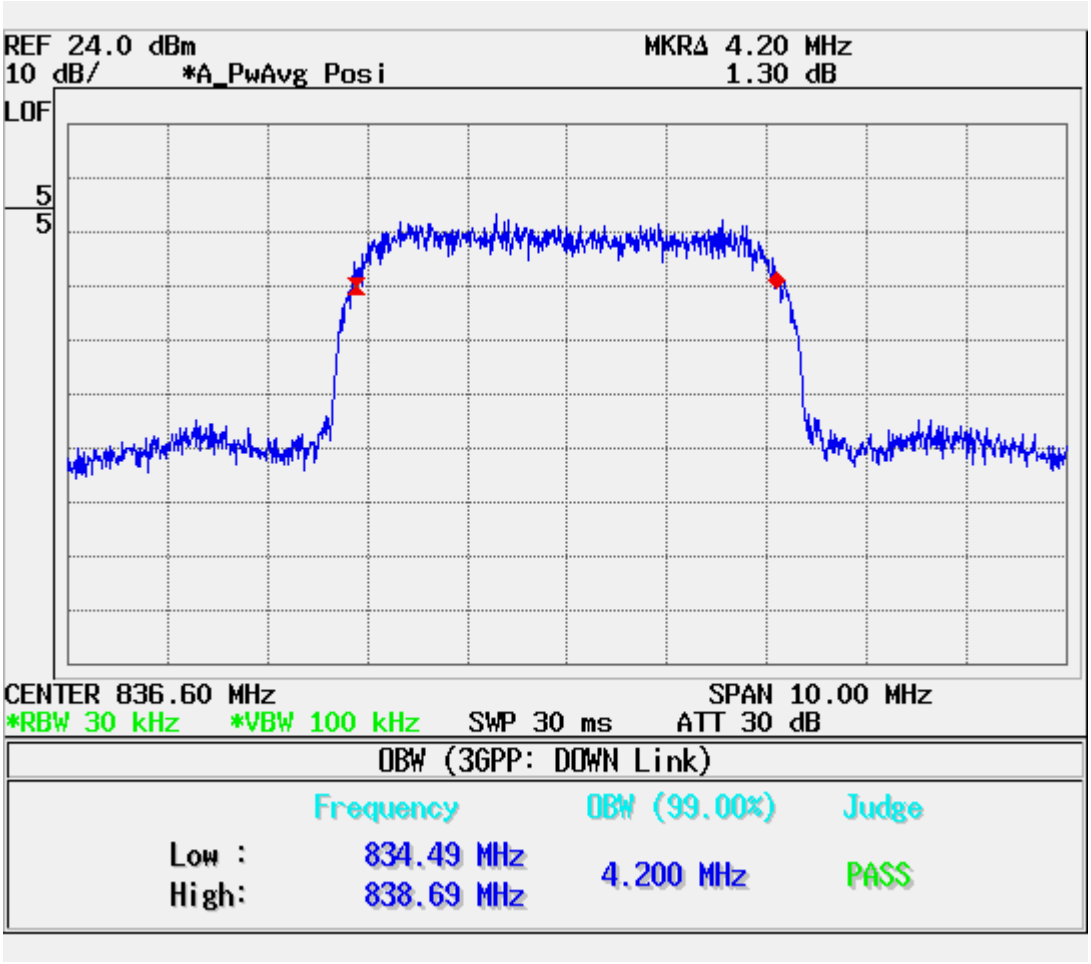
■ WCDMA850 MODE (4233 CH.) Conducted Spurious



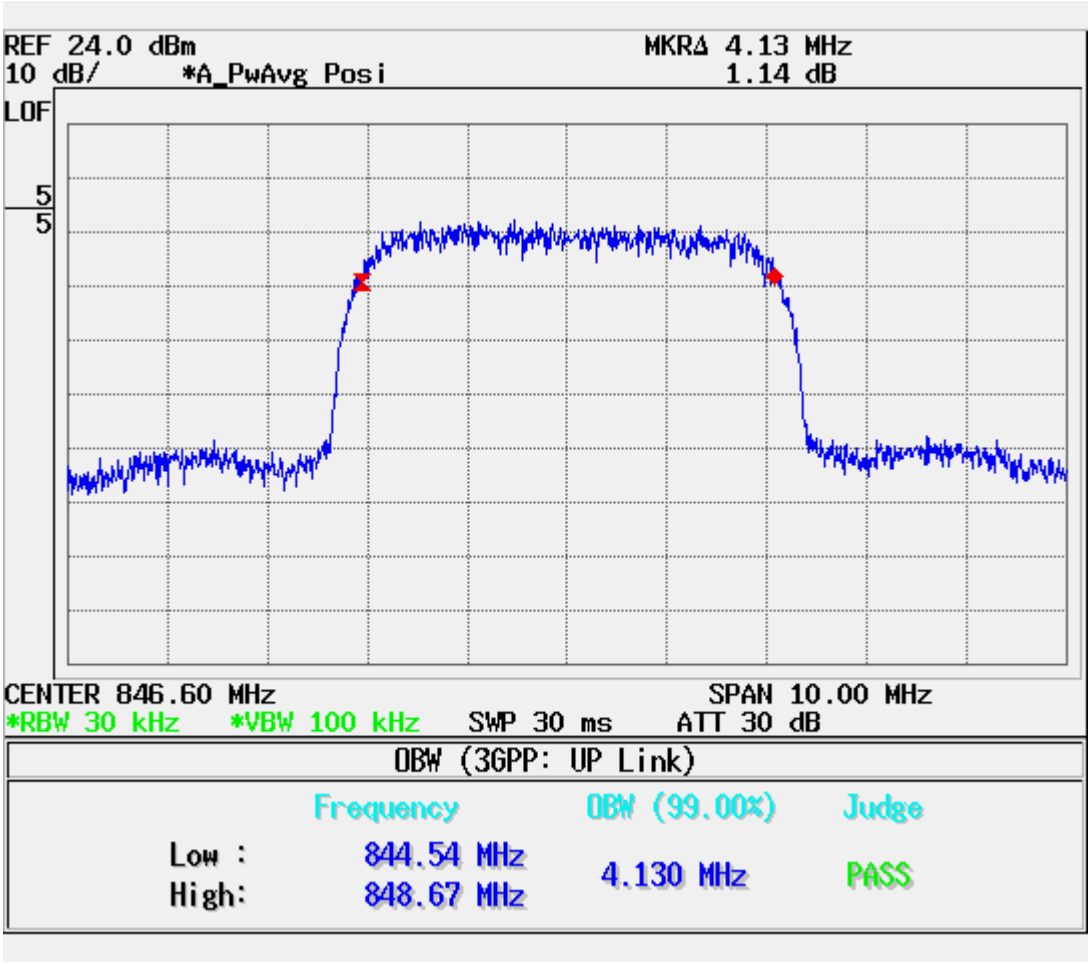
■ Occupied Bandwidth - 26 dBc BW (KHz) (WCDA850 4132 CH)



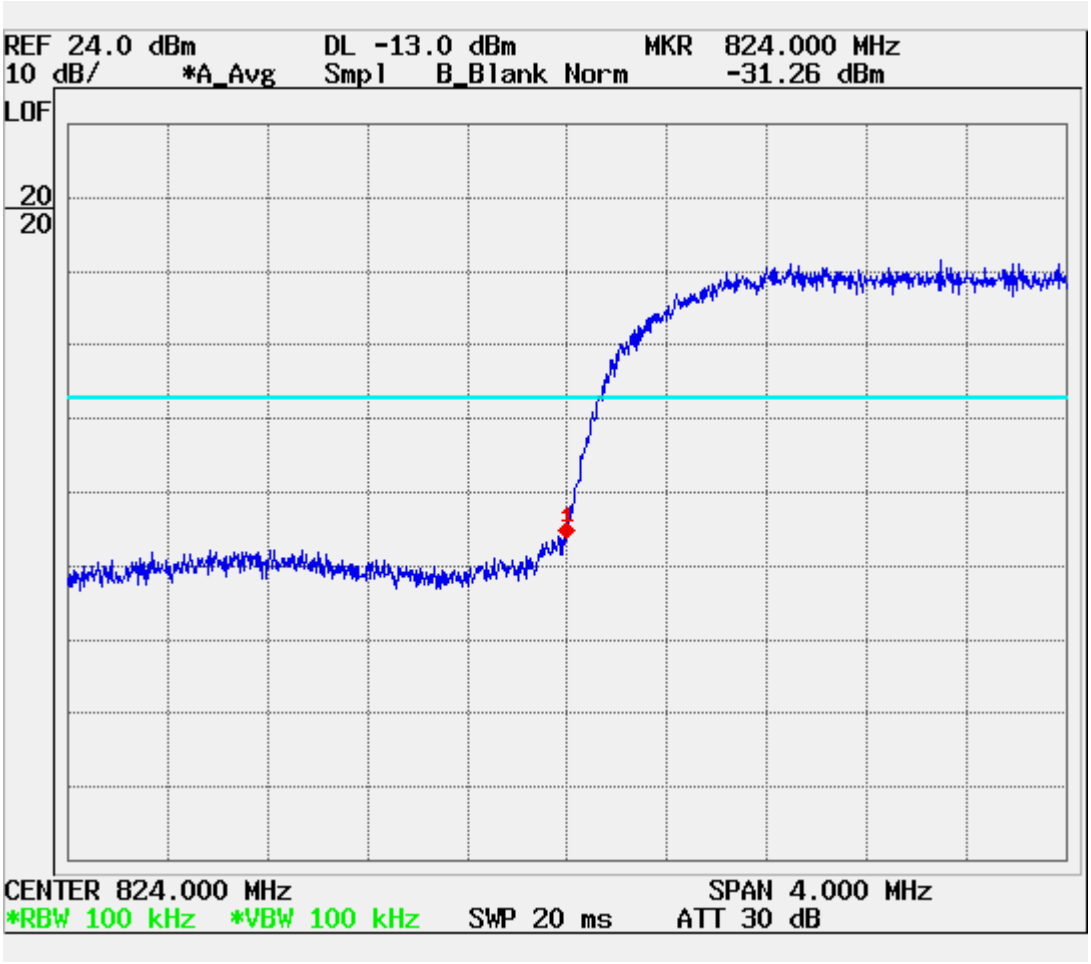
■ Occupied Bandwidth - 26 dBc BW (KHz) (WCDA850 4183 CH)



■ Occupied Bandwidth - 26 dBc BW (KHz) (WCDA850 4233 CH)



■ GSM Block Edge WCDA850 (4132 CH.)



■ GSM Block Edge WCDA850 (4233 CH.)