NVLAP LAB CODE 200707-0

Bay Area Compliance Lab Corp.

FCC PART 22H, 24E

MEASUREMENT AND TEST REPORT

For

UMEOX MOBILE LIMITED

3409 Times Square Excellence, FuTian, Shenzhen, China

FCC ID: WNKUMEOX-C81

Report Type:	**Product Type:**
Original Report	Mobile Phone

Test Engineer:	Bruce Zhang
Report No.:	RSZ08082506
Report Date:	2008-09-09
Reviewed By:	Merry Zhao
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *UMEOX MOBILE LIMITED*'s product, model number: *C81* or the "EUT" as referred to in this report is a *Mobile Phone*, which measures approximately: 10.9 cm L x 4.1 cm W x 1.4 cm H, rated input voltage: DC 3.7V battery.

** All measurement and test data in this report was gathered from production sample serial number: 0808056 (Assigned by BACL, Shenzhen). The EUT was received on 2008-08-25.*

EUT Photo

Please see additional photos in Exhibit C

Objective

This type approval report is prepared on behalf of *UMEOX MOBILE LIMITED* in accordance with Part 2, Subpart J, Part 22 Subpart H, and Part 24 Subpart E of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC rules for output power, modulation characteristic, occupied bandwidth, spurious emission at antenna terminal, spurious radiated emission, frequency stability, band edge.

Related Submittal(s)/Grant(s)

No Related Submittal(s).

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-part J as well as the following parts:

Part 22 Subpart H - Public Mobile Services
Part 24 Subpart E - PCS

Applicable Standards: TIA/EIA 603-C, ANSI 63.4-2003.

All radiated and conducted emissions measurements were performed at Bay Area Compliance Laboratories Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp.(Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

The current scope of accreditations can be found at
http://ts.nist.gov/Standards/scopes/2007070.htm

SYSTEM TEST CONFIGURATION

Justification

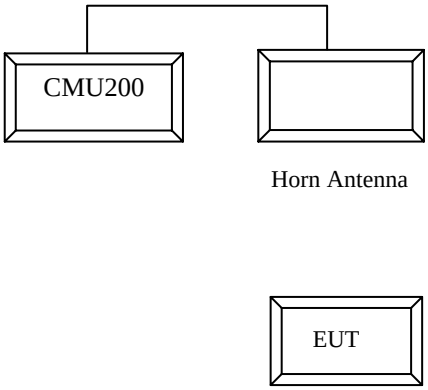
The EUT was configured for testing according to TIA/EIA-603-C.

The final qualification test was performed with the EUT operating at normal mode.

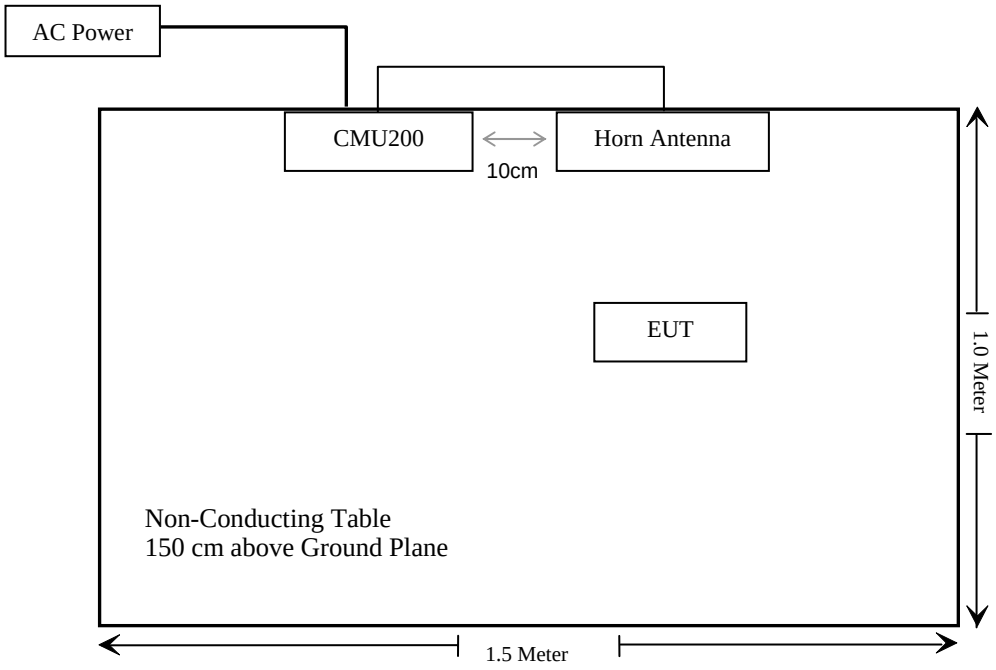
Equipment Modifications

No modifications were made to the EUT.

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1037, §2.1093	RF Exposure	Please refer to SAR Report *
§2.1046; § 22.913 (a) § 24.232 (c)	RF Output Power	Compliant
§ 2.1047	Modulation Characteristics	Compliant
§ 2.1049 § 22.905 § 22.917 § 24.238	99% & -26 dB Occupied Bandwidth	Compliant
§ 2.1051, § 22.917 (a) § 24.238 (a)	Spurious Emissions at Antenna Terminal	Compliant
§ 2.1053 § 22.917 (a) § 24.238 (a)	Field Strength of Spurious Radiation	Compliant
§ 22.917 (a) § 24.238 (a)	Out of band emission, Band Edge	Compliant
§ 2.1055 § 22.355 § 24.235	Frequency stability vs. temperature Frequency stability vs. voltage	Compliant

Note: Please refer to the SAR report (Report Number: R0808271-SAR).

§1.1037, §2.1093 - RF EXPOSURE

Please refer to SAR Report.

Report Number: R0808271-SAR.

§ 2.1046, § 22.913 (a), & § 24.232 (c) - RF OUTPUT POWER

Applicable Standard

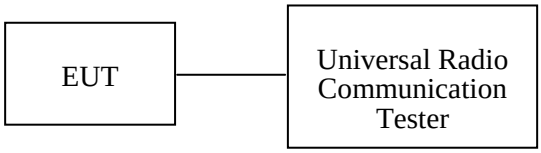
According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC §2.1046 and §24.232 (C), in no case may the peak output power of a base station transmitter exceed 2 watt EIRP.

Test Procedure

Conducted method:

The RF output of the transmitter was connected to the wireless test set and the spectrum analyzer through sufficient attenuation.



Radiated method:

TIA/EIA 603-C section 2.2.17

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Horn Antenna	DRH-118	A052604	2007-09-25	2008-09-25
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2008-03-11	2009-03-11
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2008-05-09	2009-05-09
HP	Preamplifier	8449B	3008A00277	2007-09-29	2008-09-29
HP	Signal Generator	HP8657A	2849U00982	2007-10-16	2008-10-16
HP	Amplifier	HP8447D	2944A09795	2007-11-15	2008-11-15
Giga-tronics	Signal Generator	1026	270801	2007-09-29	2008-09-29
COM POWER	Dipole Antenna	AD-100	041000	2007-09-25	2008-09-25
A.H. System	Horn Antenna	SAS-200/571	135	2008-05-17	2009-05-17
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	1100.0008.02	2008-06-21	2009-06-21

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

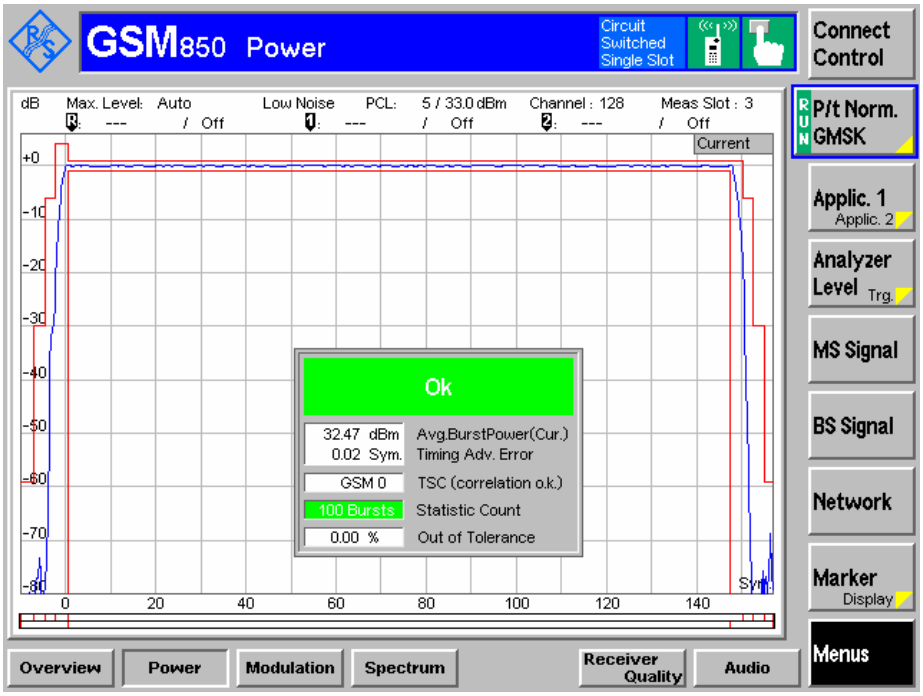
Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

** The testing was performed by Bruce Zhang on 2008-09-08.*

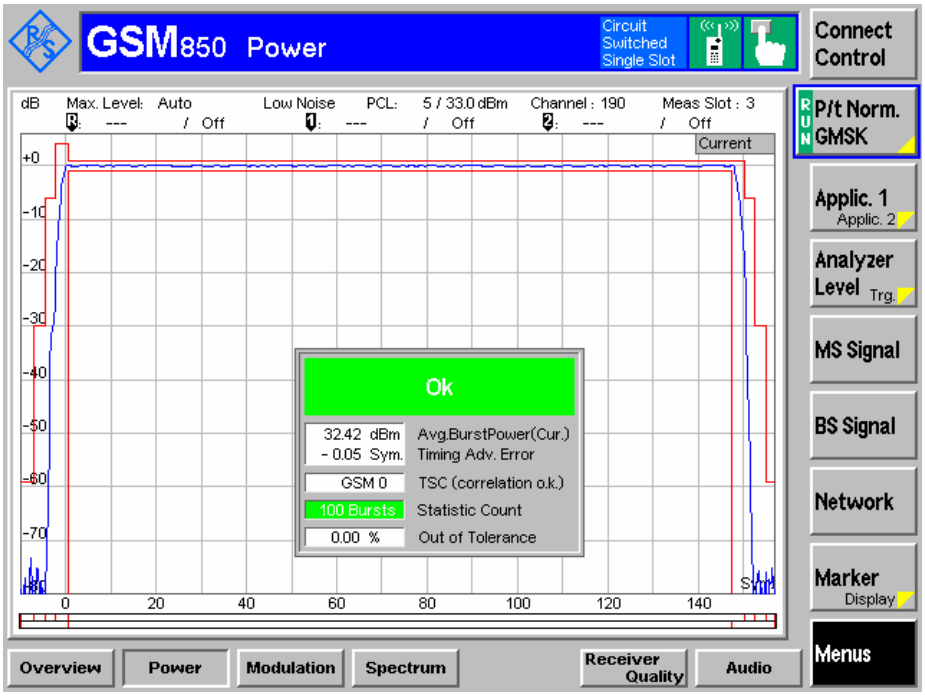
GSM850 Band

Channel	Frequency (MHz)	Output Power (dBm)
Low, Channel 128	824.2	32.47
Mid, Channel 190	836.6	32.42
High, Channel 251	848.8	32.36

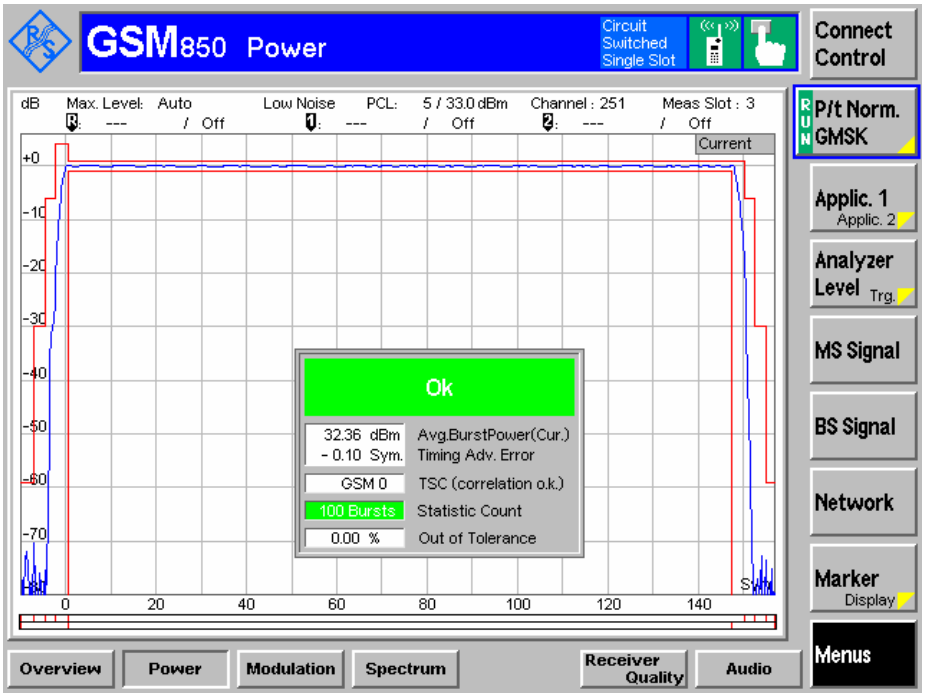
Low Channel



Middle Channel



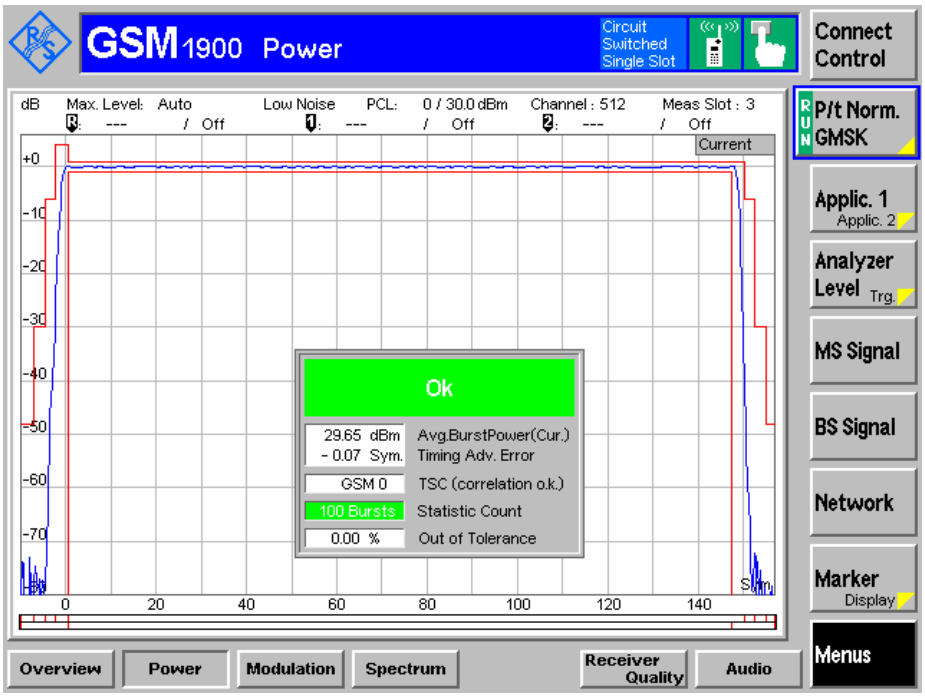
High Channel



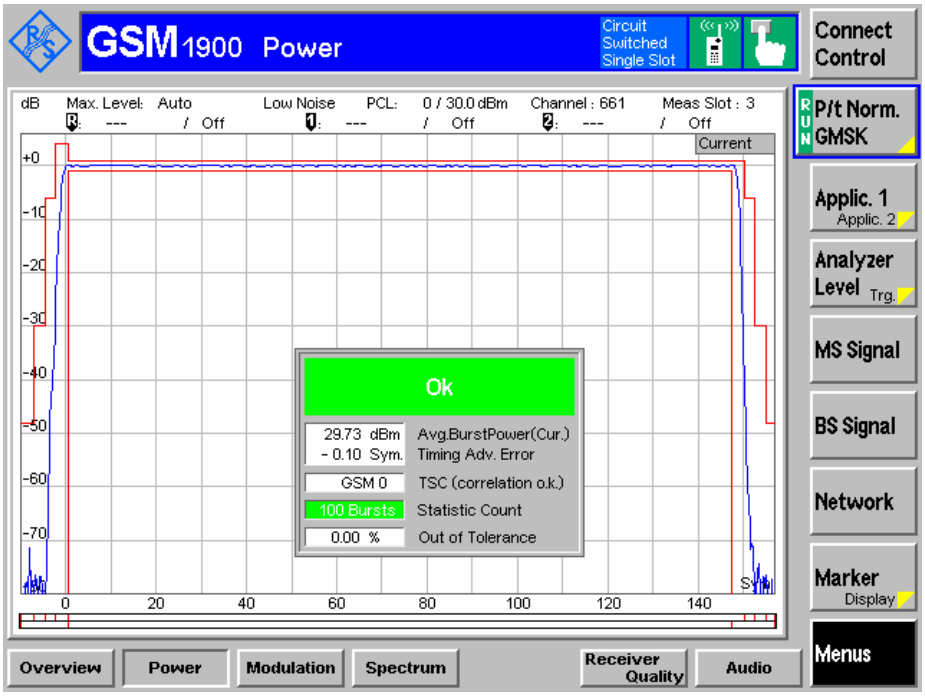
1900 PCS Band

Channel	Frequency (MHz)	Output Power (dBm)
Low, Channel 512	1850.2	29.65
Mid, Channel 661	1880.0	29.73
High, Channel 810	1909.8	29.85

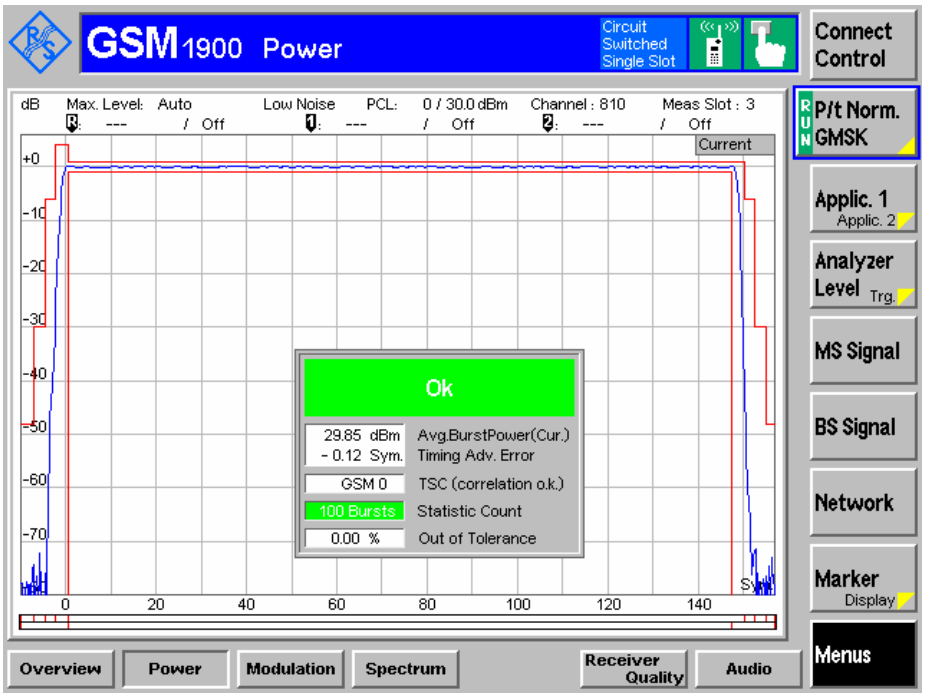
Low Channel



Middle Channel



High Channel



ERP for GSM 850 Band:

Indicated		Table Angle Degree	Test Antenna		Substituted			Ant. Gain Correction (dBi)	Cable Loss (dB)	Absolute Level		FCC Part 22H Limit (W)
Freq. (MHz)	Receiver Reading (dBµV)		Height (m)	Polar (H/V)	Freq. (MHz)	Level (dBm)	Polar (H/V)			(dBm)	(Watt)	
Low Channel												
824.2	114.56	125	1.0	H	824.2	25.3	H	0	0.90	24.4	0.275	7
824.2	115.74	250	1.1	V	824.2	26.4	V	0	0.90	25.5	0.355	7
Middle Channel												
836.6	115.40	120	1.1	H	836.6	26.5	H	0	0.90	25.6	0.363	7
836.6	116.03	125	1.0	V	836.6	27.5	V	0	0.90	26.6	0.457	7
High Channel												
848.8	116.10	125	1.1	H	848.8	27.2	H	0	0.90	26.3	0.427	7
848.8	116.35	130	1.0	V	848.8	27.8	V	0	0.90	26.9	0.490	7

EIRP for PCS 1900 Band:

Indicated		Table Angle Degree	Test Antenna		Substituted			Antenna Gain Correction (dBi)	Cable Loss (dB)	Absolute Level		FCC Part 24E Limit (W)
Freq. (MHz)	Receiver Reading (dBµV)		Height (m)	Polar (H/V)	Freq. (MHz)	Level (dBm)	Polar (H/V)			(dBm)	(Watt)	
Low Channel												
1850.2	122.93	125	1.0	H	1850.2	22.0	H	6.2	1.02	27.18	0.522	2
1850.2	125.89	150	1.1	V	1850.2	22.5	V	6.2	1.02	27.68	0.586	2
Middle Channel												
1880	122.55	120	1.1	H	1880	21.8	H	6.2	1.03	26.97	0.498	2
1880	123.30	125	1.0	V	1880	21.5	V	6.2	1.03	26.67	0.465	2
High Channel												
1909.8	120.35	125	1.1	H	1909.8	19.5	H	6.2	1.03	24.67	0.293	2
1909.8	122.58	130	1.0	V	1909.8	21.2	V	6.2	1.03	26.37	0.434	2

§2.1047 – MODULATION CHARACTERISTIC

Applicable Standard

Requirement: §2.1047.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	1100.0008.02	2008-06-21	2009-06-21

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

Test Method: TIA/EIA-603-C 2.2.3

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

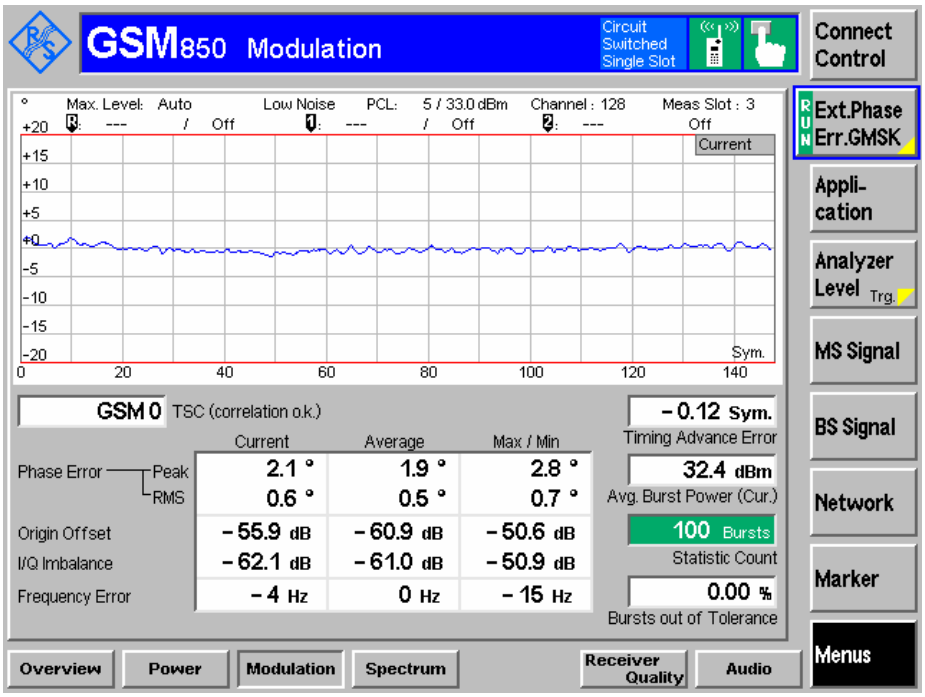
** The testing was performed by Bruce Zhang on 2008-08-26.*

Test Mode: Transmitting

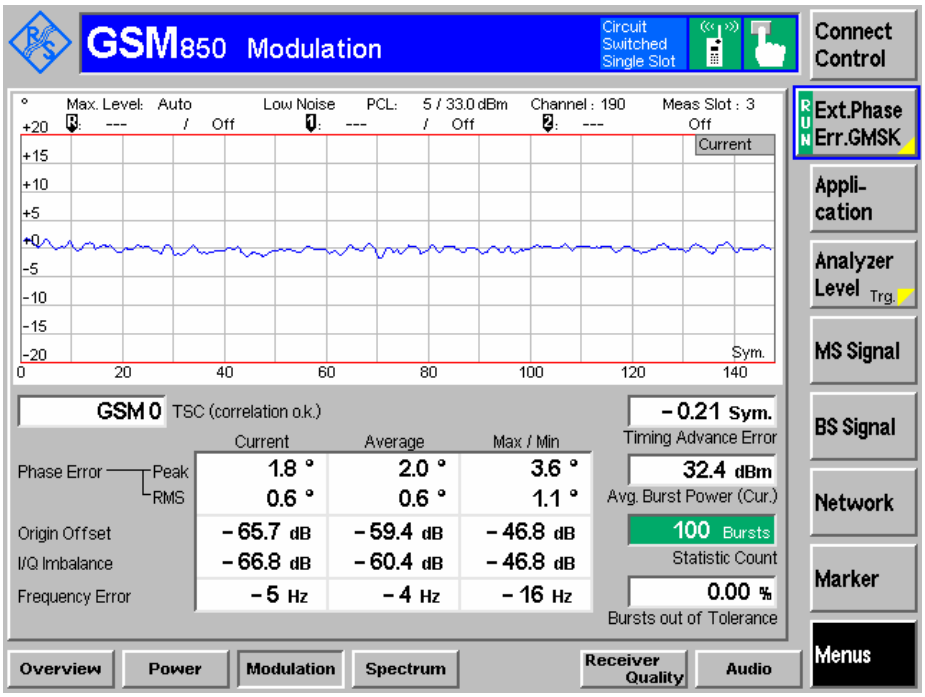
GSM850 Band:

Channel	Frequency (MHz)	Frequency Error (Hz)	Phase Error (Degree)		I/Q Offset (dBc)
Channel 128	824.2	0	RMS	0.5	-61.0
			Peak	1.9	
Channel 190	836.6	-4	RMS	0.6	-60.4
			Peak	2.0	
Channel 251	848.8	-2	RMS	1.0	-55.7
			Peak	2.5	

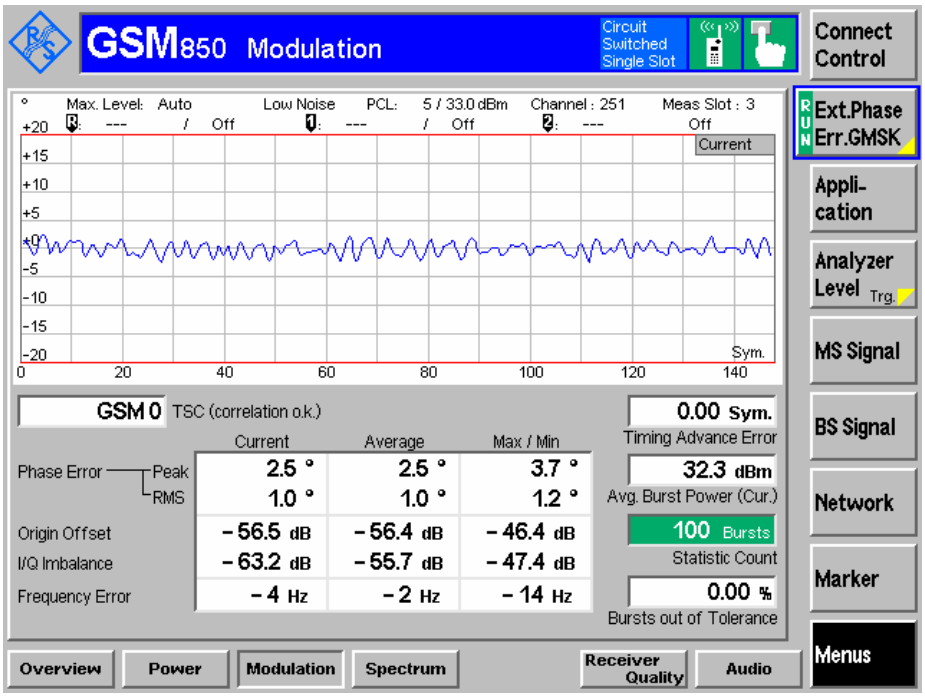
Low Channel



Middle Channel



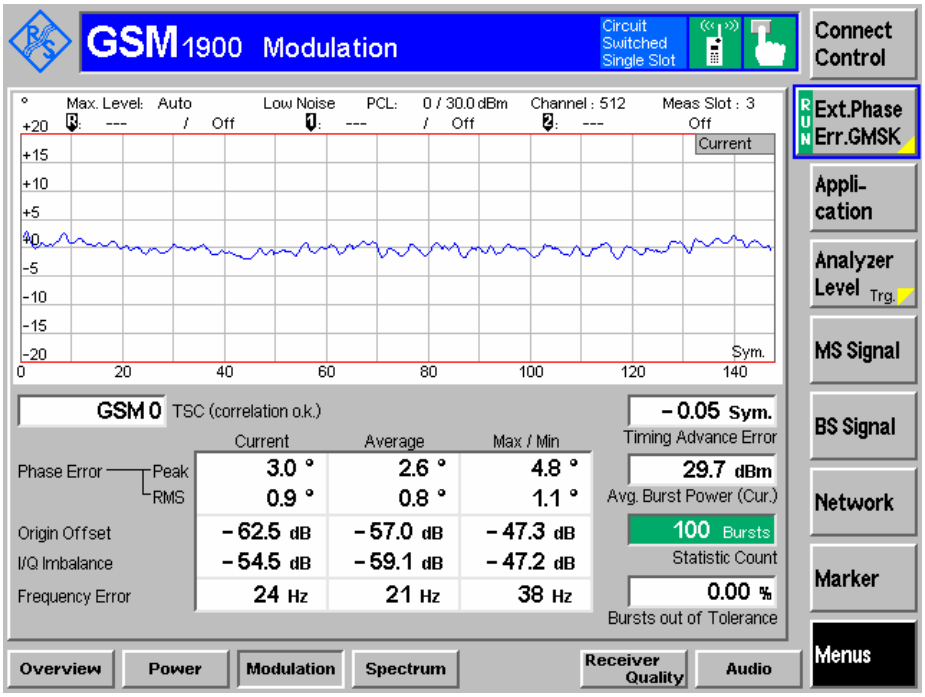
High Channel



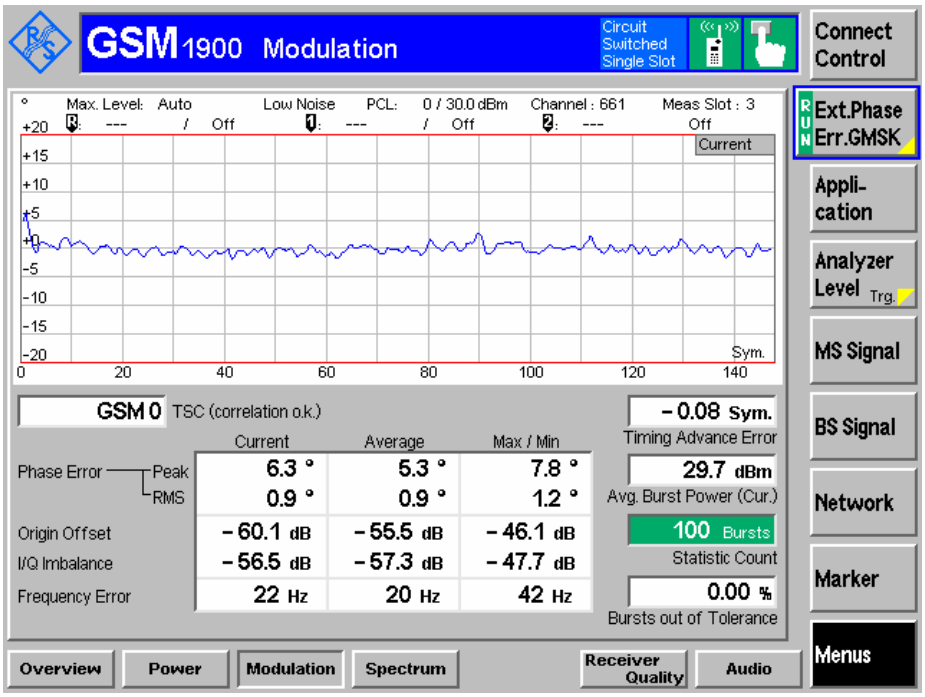
PCS1900 Band:

Channel	Frequency (MHz)	Frequency Error (Hz)	Phase Error (Degree)		I/Q Offset (dBc)
Channel 512	1850.2	21	RMS	0.8	-59.1
			Peak	2.6	
Channel 661	1880.0	20	RMS	0.9	-57.3
			Peak	5.3	
Channel 810	1909.8	20	RMS	1.3	-54.1
			Peak	9.3	

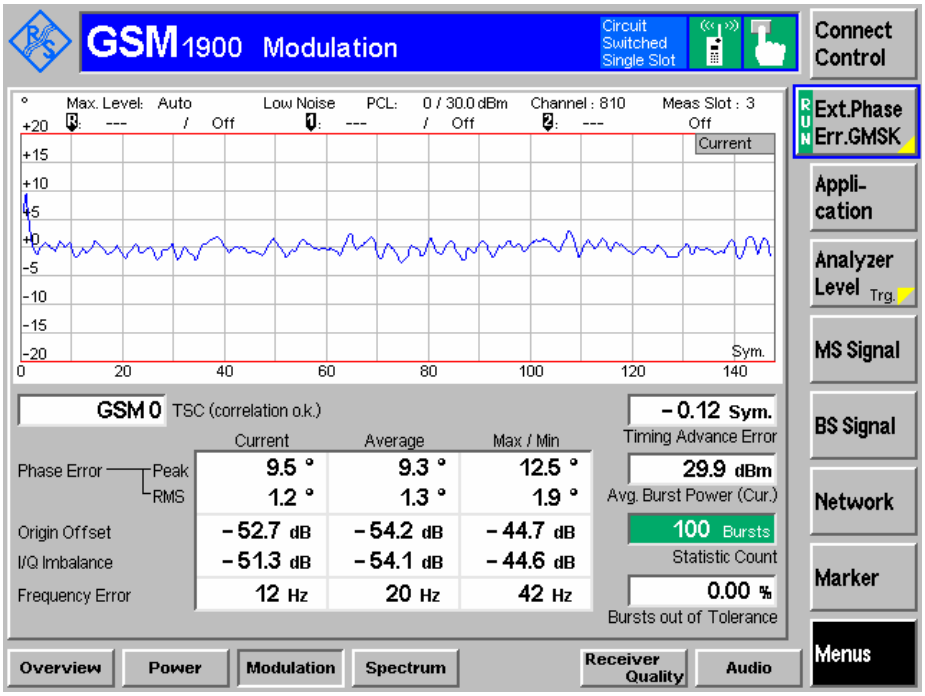
Low Channel



Middle Channel



High Channel



§2.1049, §22.917, §22.905, & §24.238 - OCCUPIED BANDWIDTH

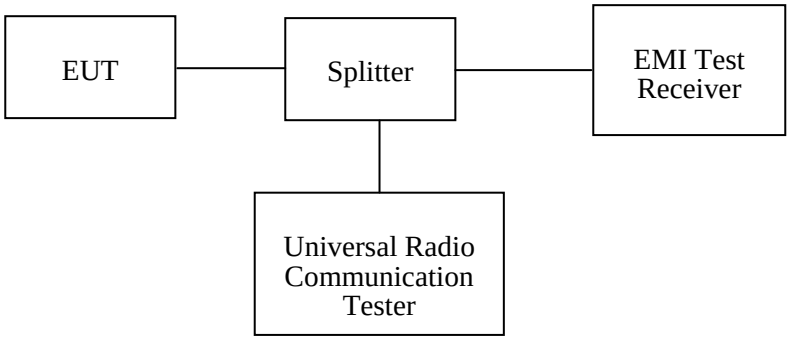
Applicable Standards

CFR 47 §2.1049, §22.917, §22.905 and §24.238.

Test Procedure

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 30 kHz (Cellular /PCS) and the 26 dB & 99% bandwidth was recorded.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2007-10-16	2008-10-16
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	1100.0008.02	2008-06-21	2009-06-21

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

** The testing was performed by Bruce Zhang on 2008-08-29 to 2008-09-08.*

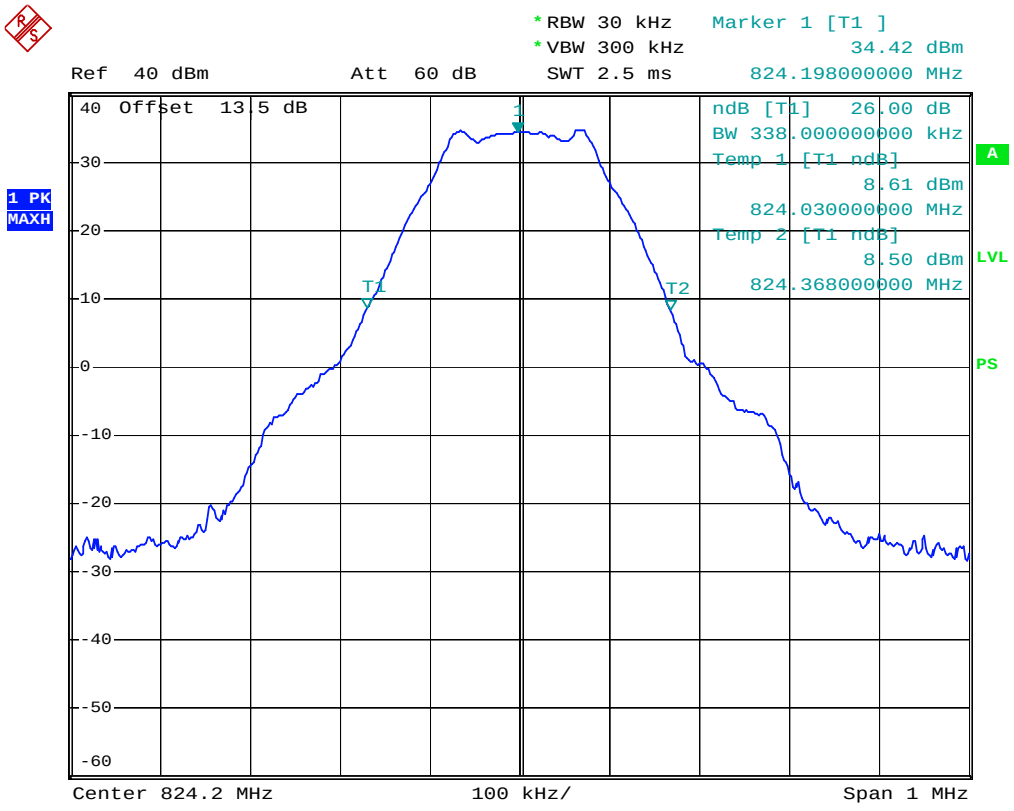
GSM850 Band:

Channel	Channel Frequency (MHz)	99% Power Bandwidth (kHz)	-26 dB Bandwidth (kHz)
Channel 128	824.2	248	338
Channel 190	836.6	248	334
Channel 251	848.8	246	332

Please refer to the following plots.

-26 dB Bandwidth of GSM850 Band

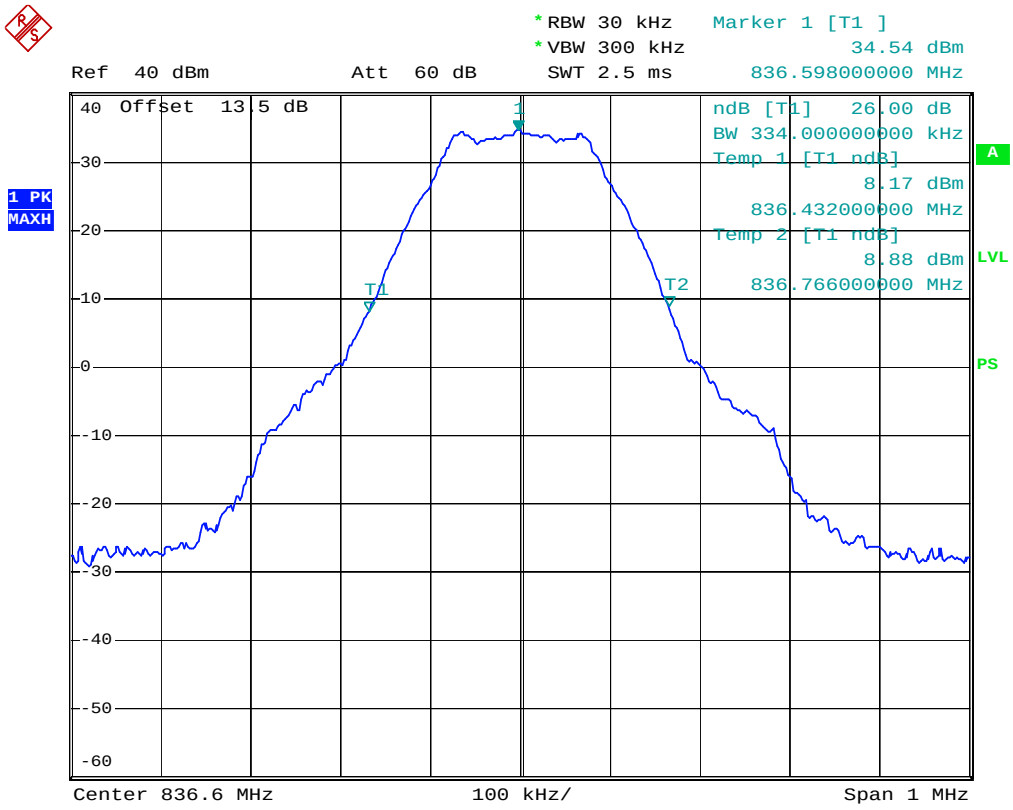
Low Channel



Occupied Bandwidth

Date: 29.AUG.2008 16:32:32

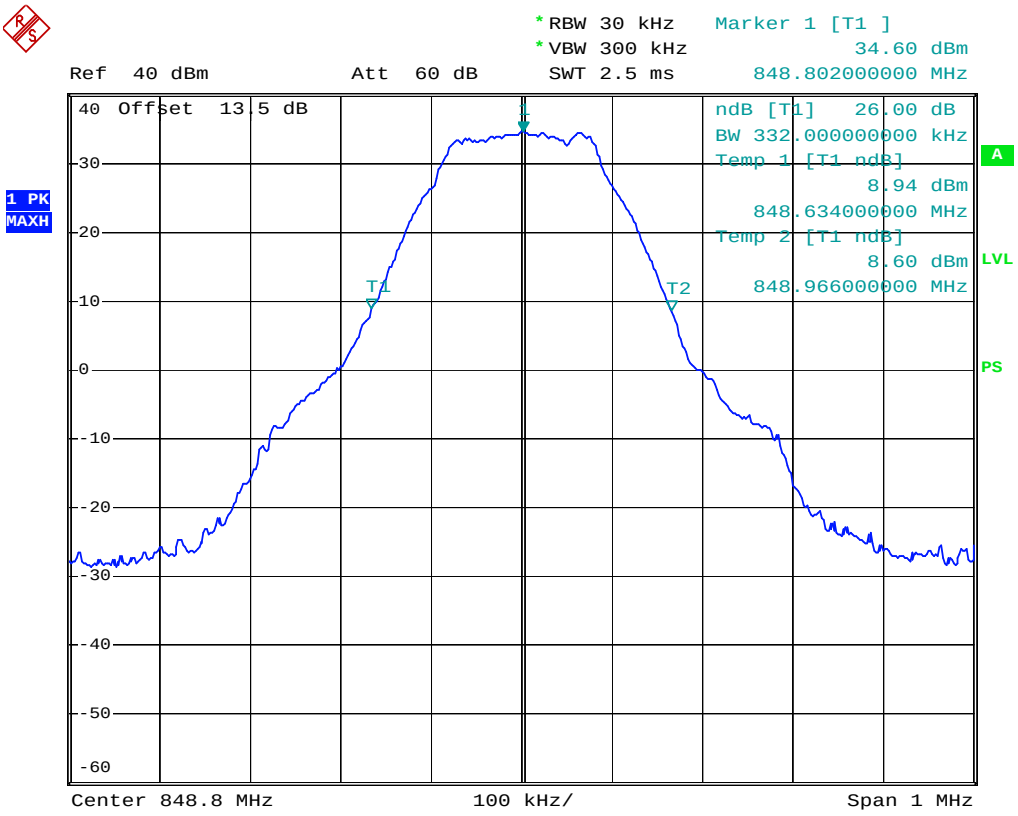
Middle Channel



Occupied Bandwidth

Date: 29.AUG.2008 16:33:33

High Channel



Occupied Bandwidth

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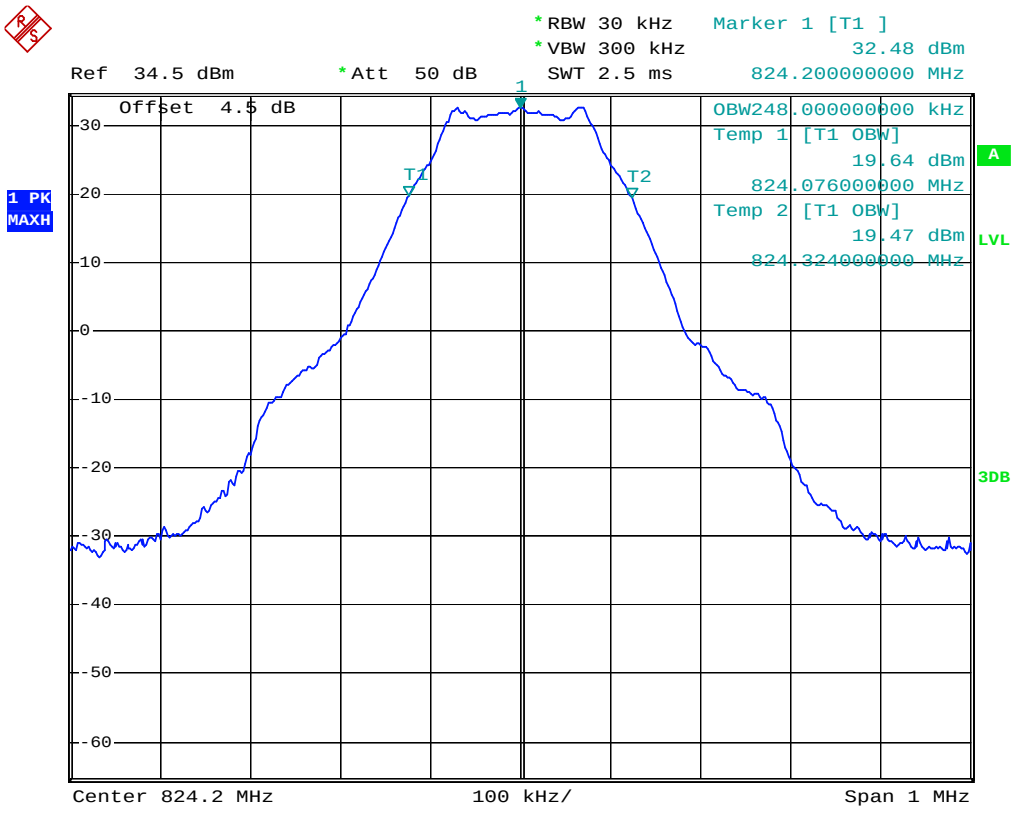
99% Bandwidth of GSM850 Band

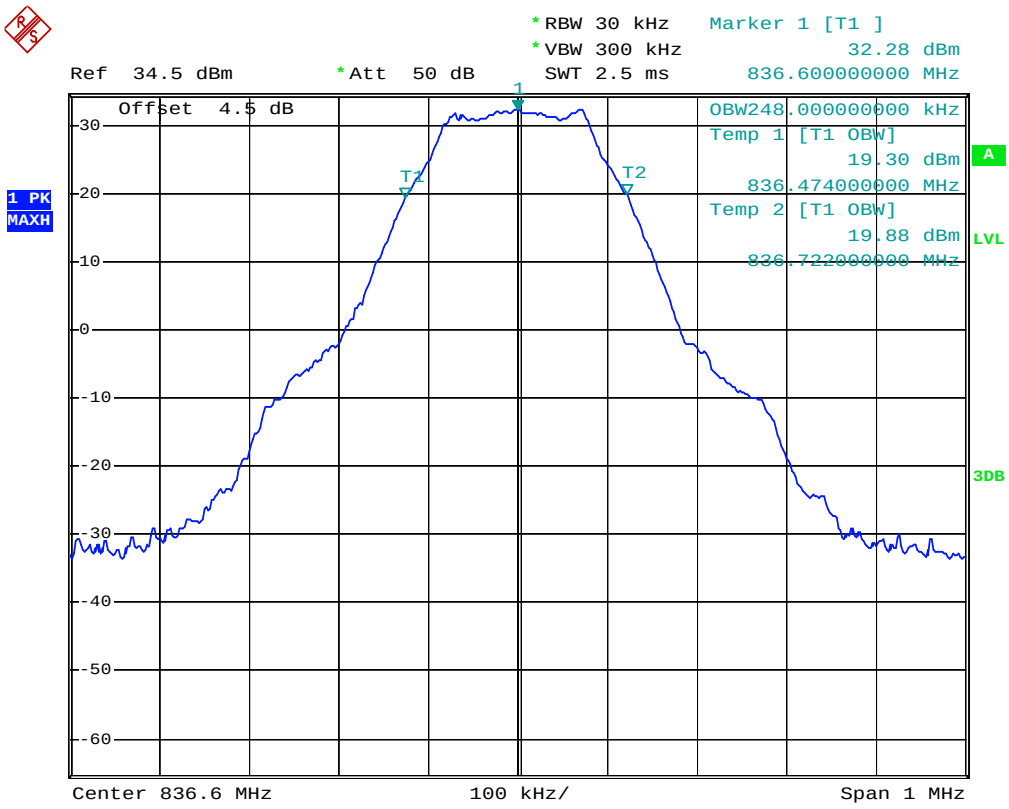
Low Channel



99% Band width

Date: 4.SEP.2008 15:02:47

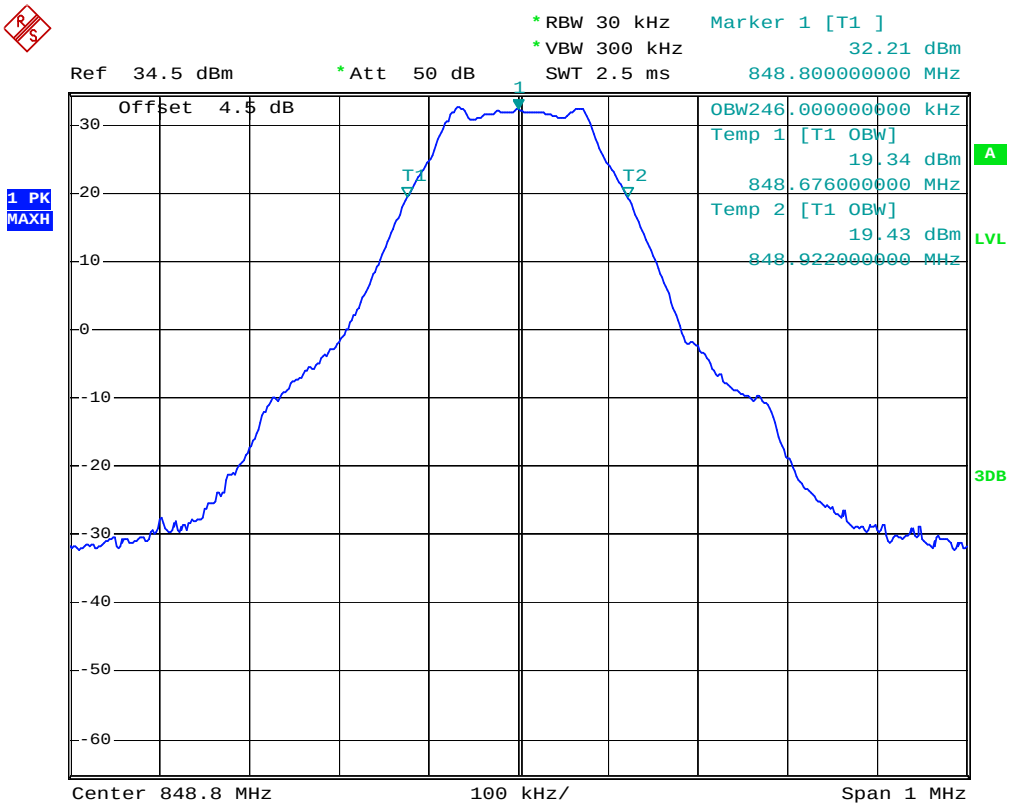
Middle Channel



99% Band width

Date: 4.SEP.2008 15:04:01

High Channel



99% Band width

Date: 4.SEP.2008 15:08:44

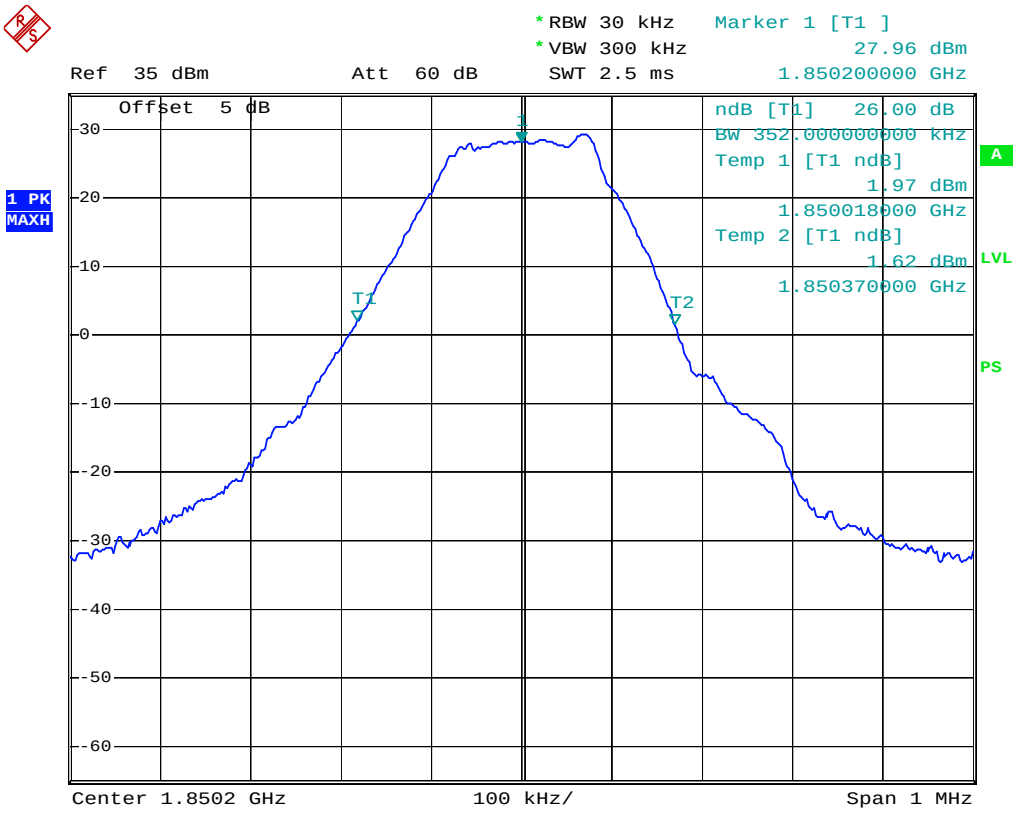
PCS1900 Band:

Channel	Channel Frequency (MHz)	99% Power Bandwidth (kHz)	-26 dB Bandwidth (kHz)
Channel 512	1850.2	252.0	352.0
Channel 661	1880.0	248.0	338.0
Channel 810	1909.8	246.0	334.0

Please refer to the following plots.

-26 dB Bandwidth of PCS 1900 Band:

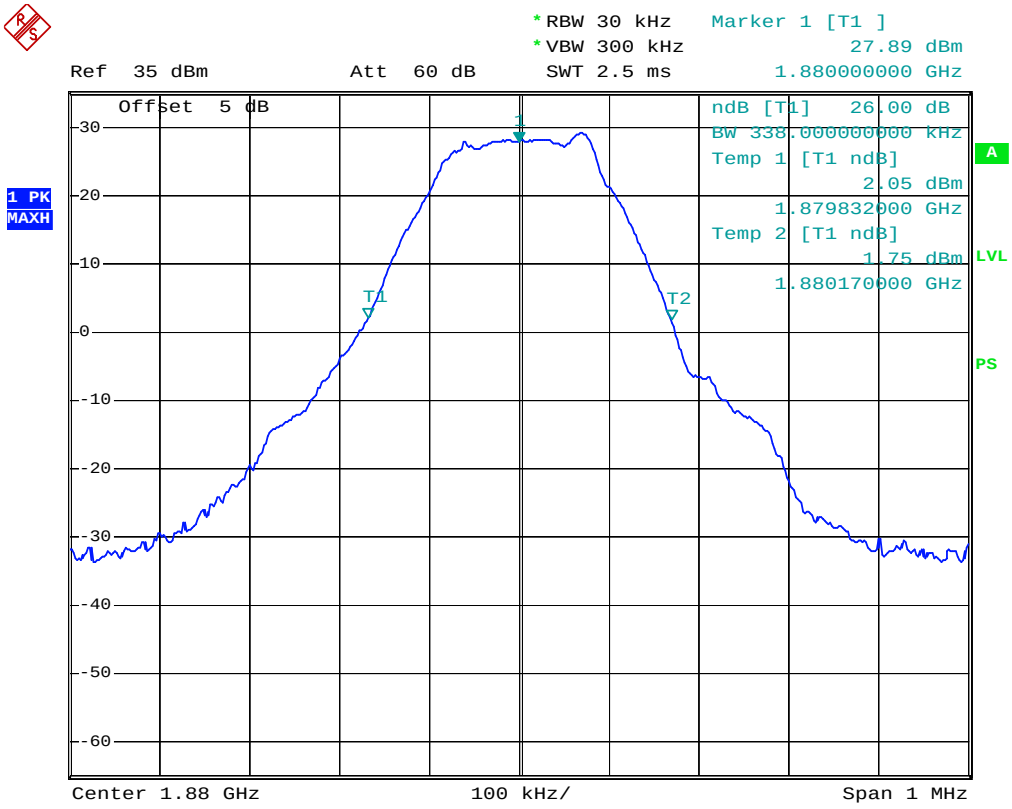
Low Channel



Occupied Bandwidth

Date: 8.SEP.2008 14:03:53

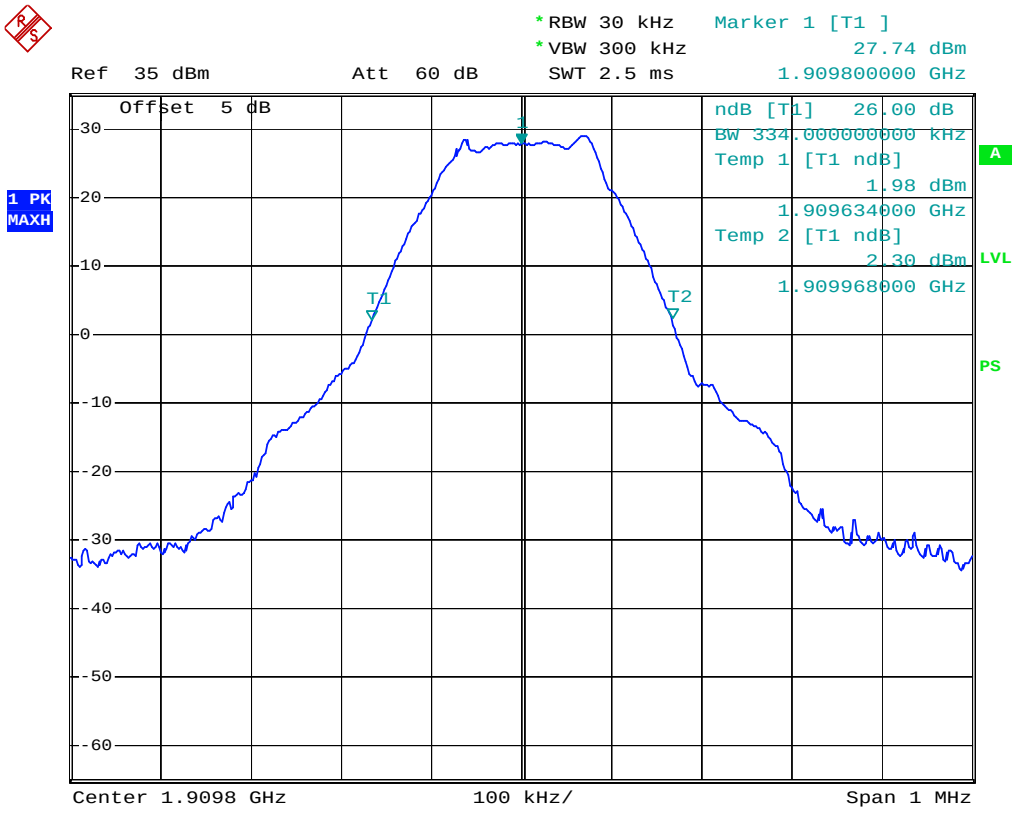
Middle Channel



Occupied Bandwidth

Date: 8.SEP.2008 14:07:01

High Channel

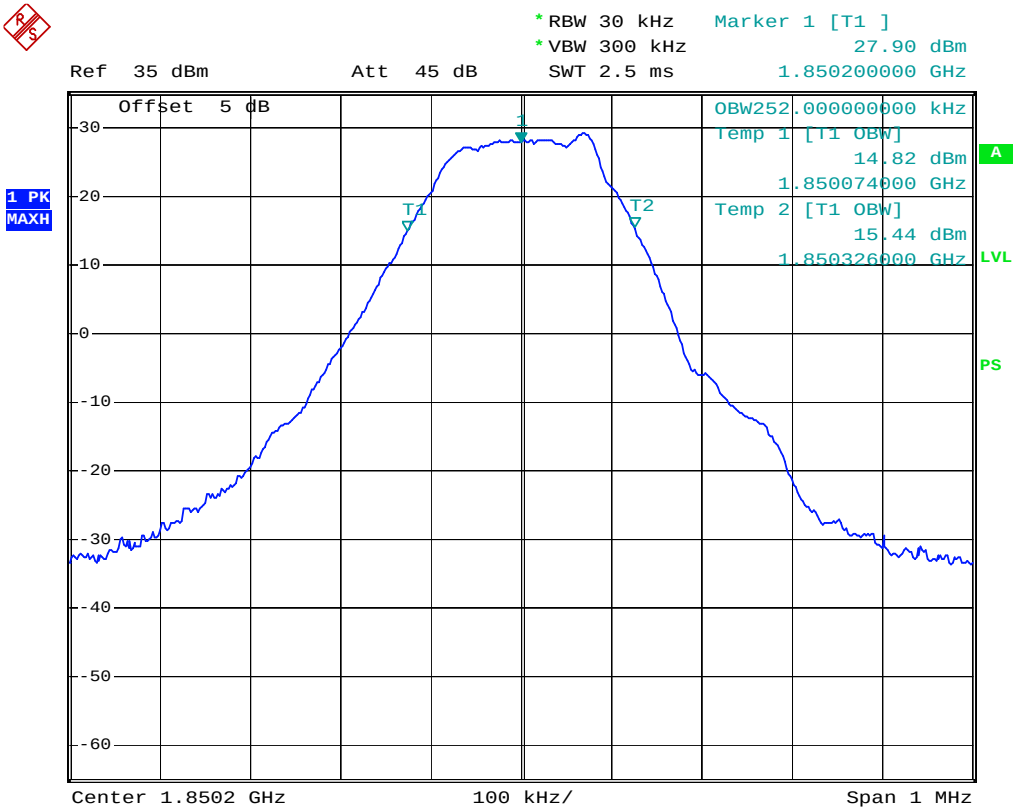


Occupied Bandwidth

Date: 8.SEP.2008 14:08:43

99% Bandwidth of PCS 1900 Band

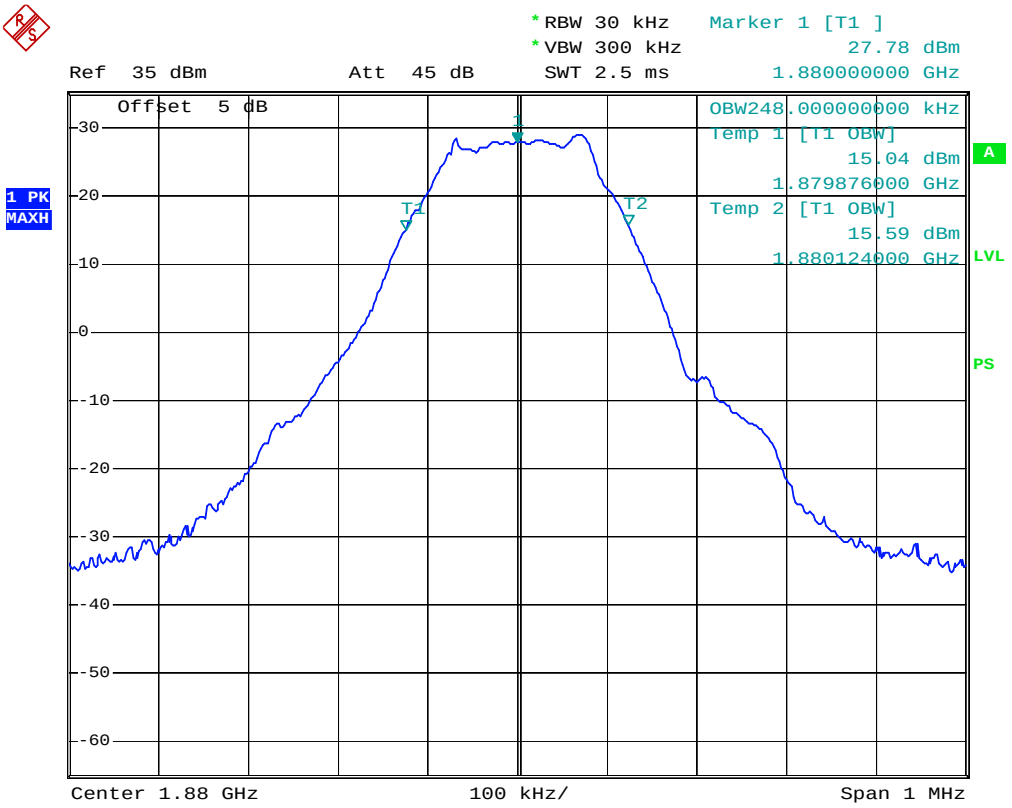
Low Channel



Occupied Bandwidth

Date: 8.SEP.2008 14:18:00

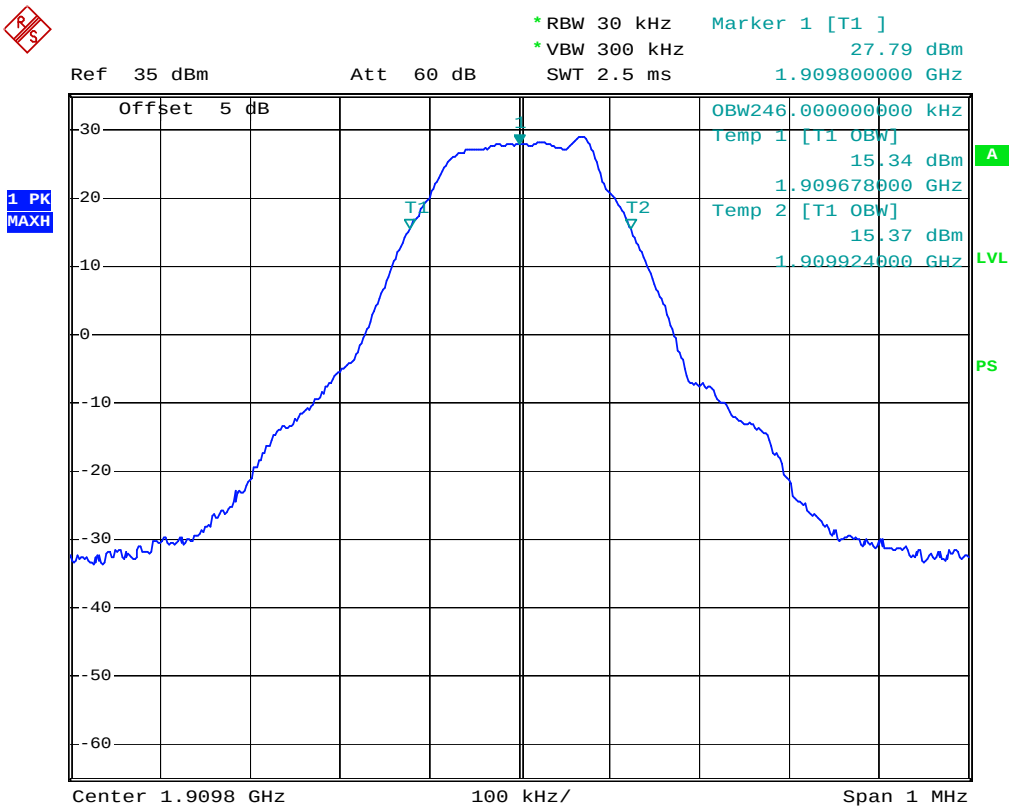
Middle Channel



Occupied Bandwidth

Date: 8.SEP.2008 14:13:54

High Channel



Occupied Bandwidth

Date: 8.SEP.2008 14:11:11

§2.1051, §22.917(a), & §24.238(a) - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

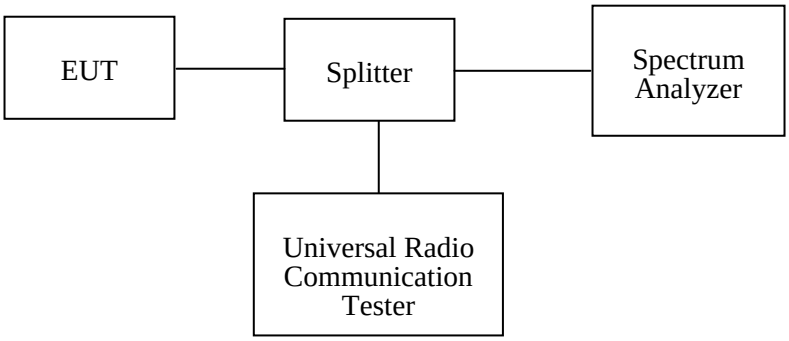
Applicable Standards

CFR 47 §2.1051, §22.917(a) and §4.238(a).

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1051.

Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz. Sufficient scans were taken to show any out of band emissions up to 10^{th} harmonic.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2008-05-09	2009-05-09
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	1100.0008.02	2008-06-21	2009-06-21

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

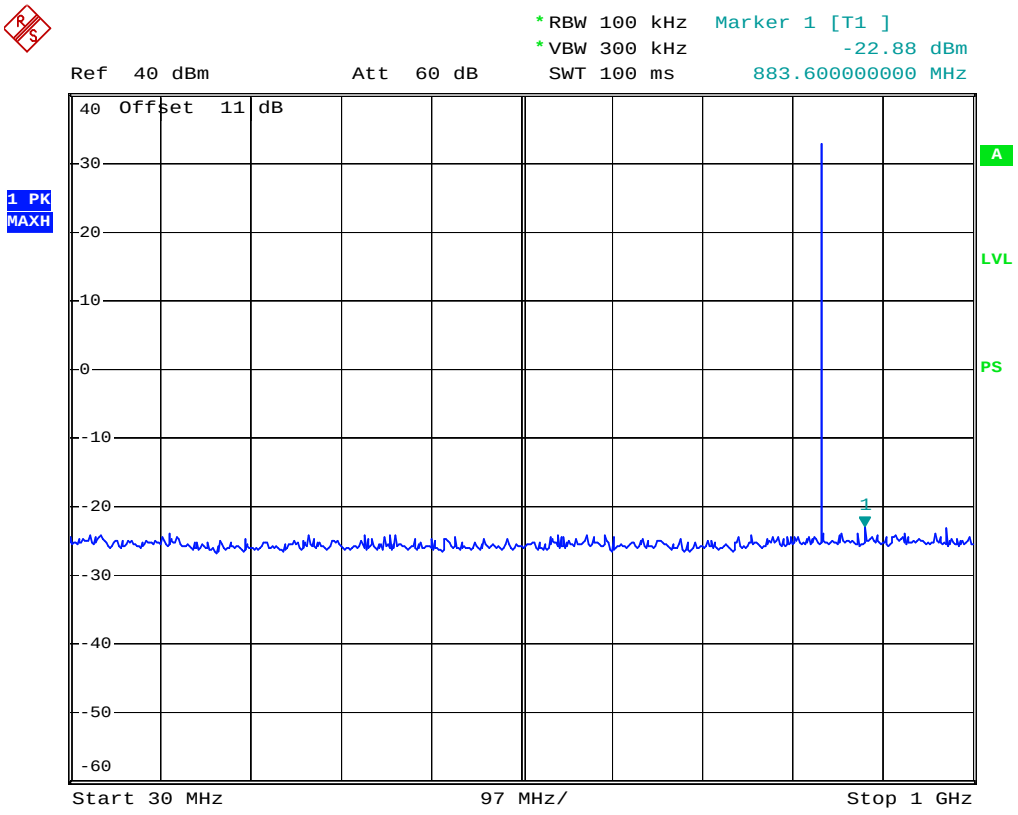
Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

** The testing was performed by Bruce Zhang on 2008-08-29, 2008-08-30 and 2008-09-05.*

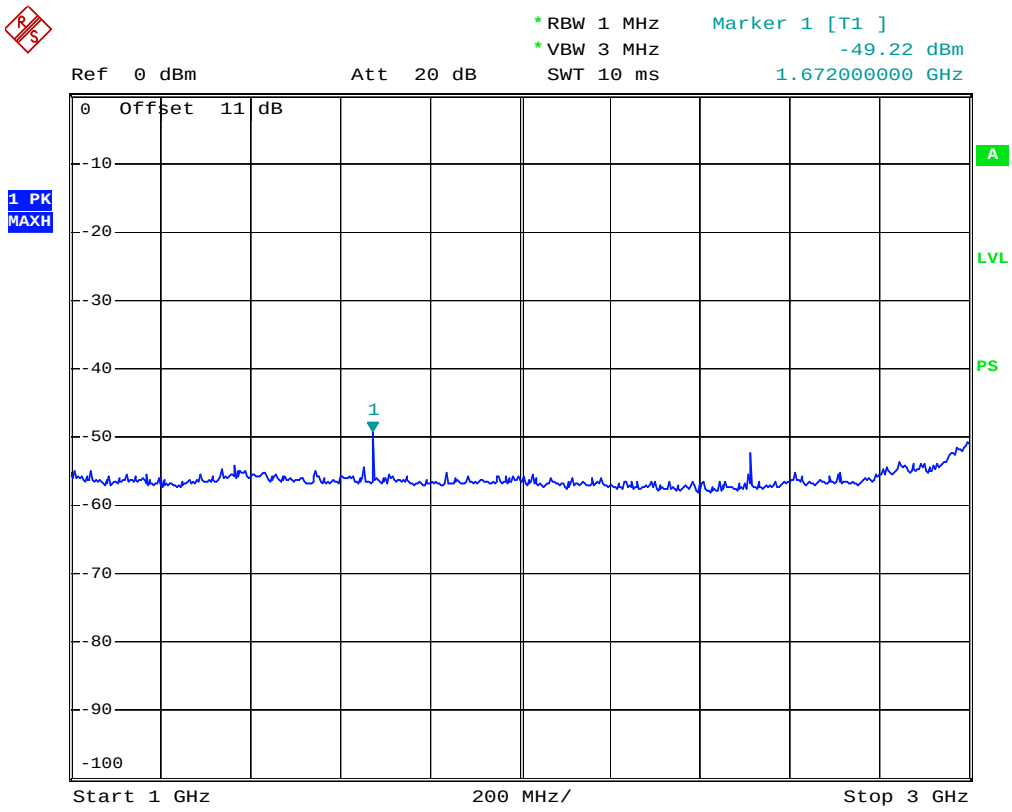
Please refer to the hereinafter plots.

GSM 850 Band Middle Channel:



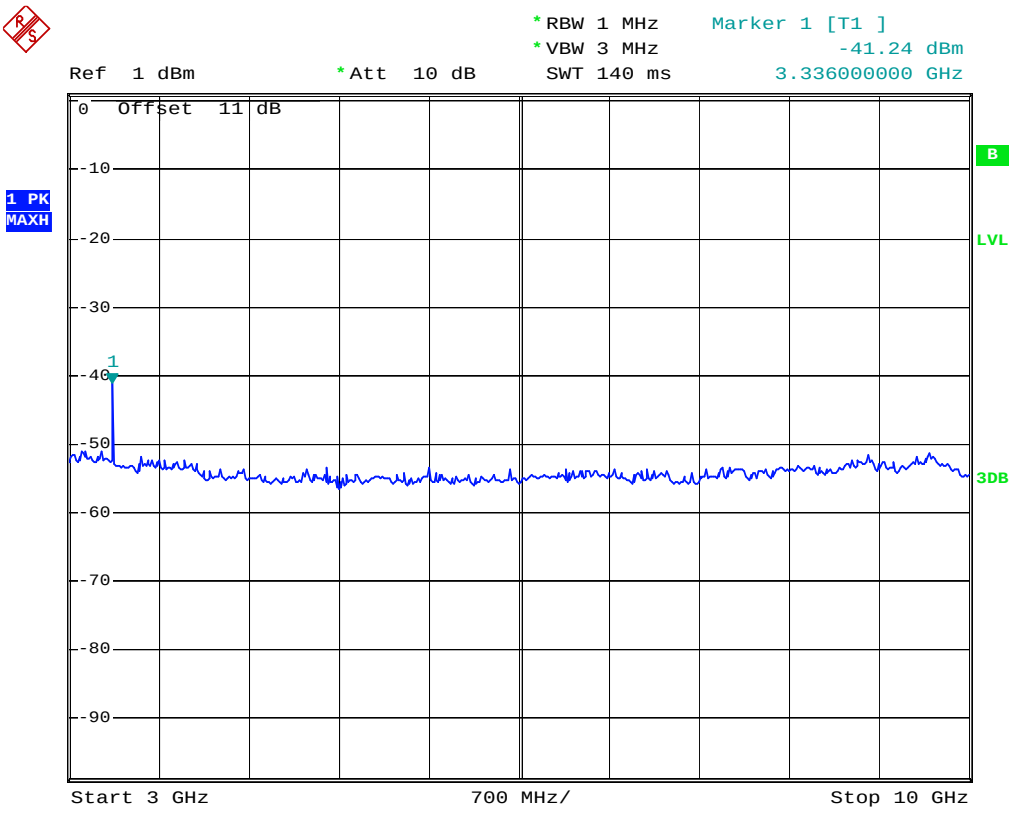
Spurious Emissions at Atenna terminals

Date: 29.AUG.2008 15:38:22



Spurious Emissions at Atenna terminals

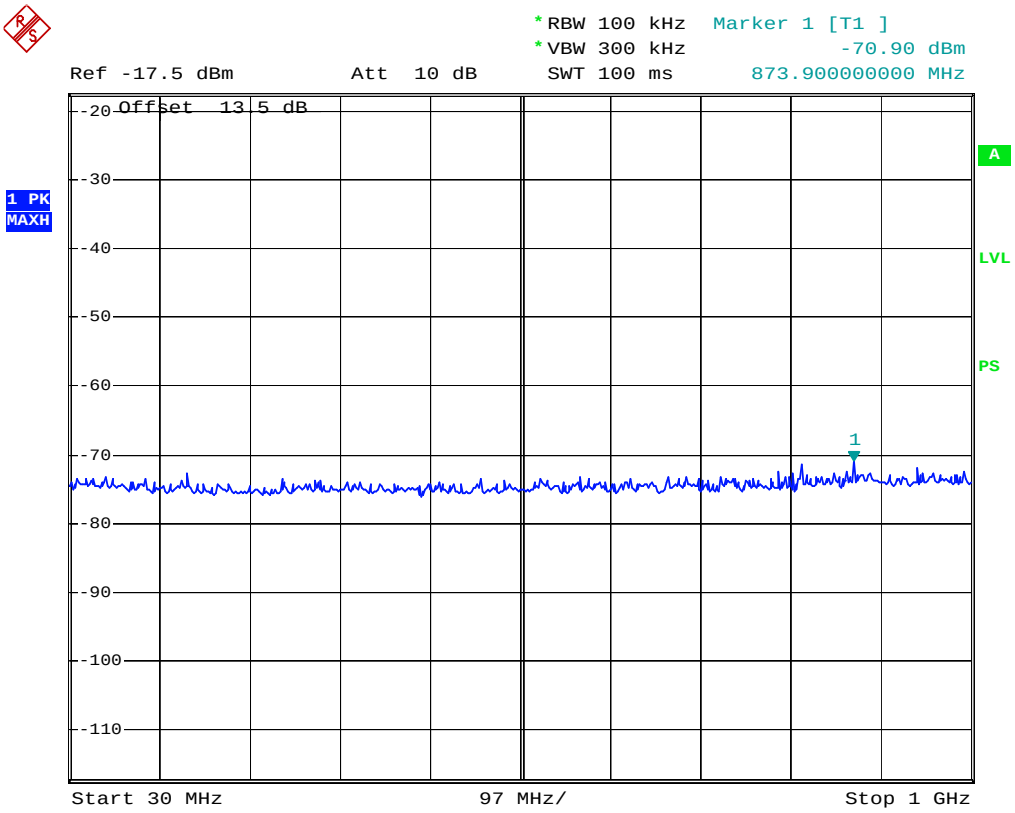
Date: 29.AUG.2008 15:43:21



Spurious Emission At Antenna terminals

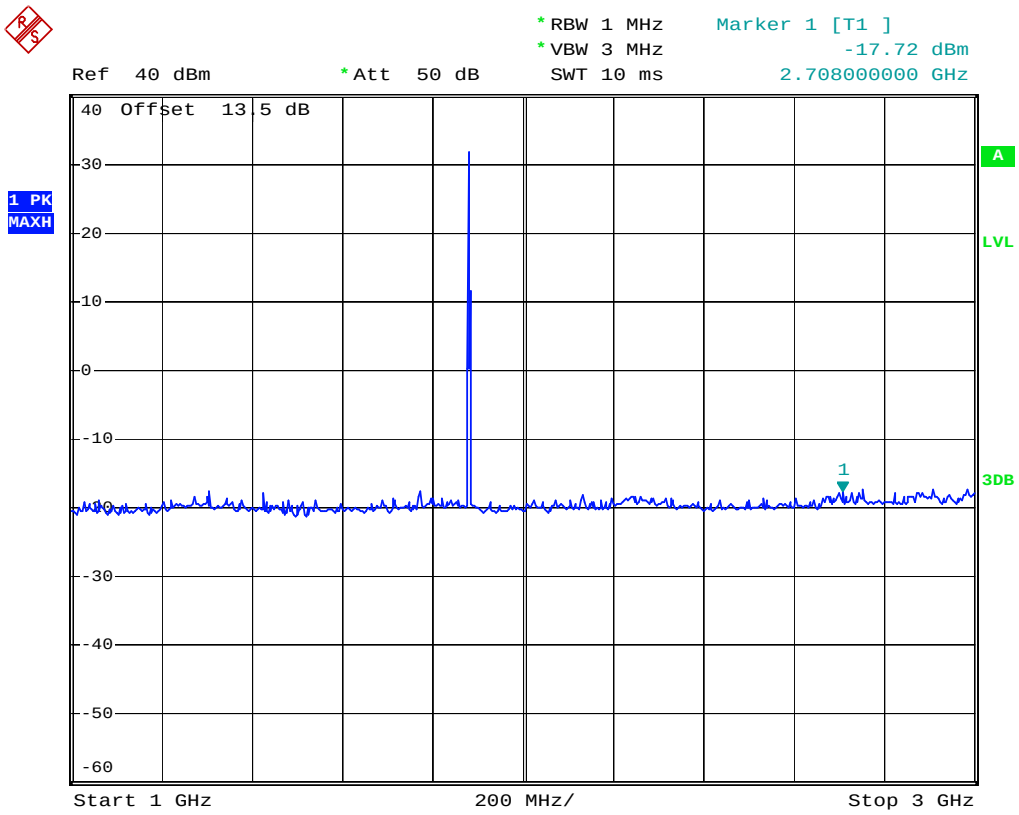
Date: 5.SEP.2008 17:23:44

PCS 1900 Band Middle:



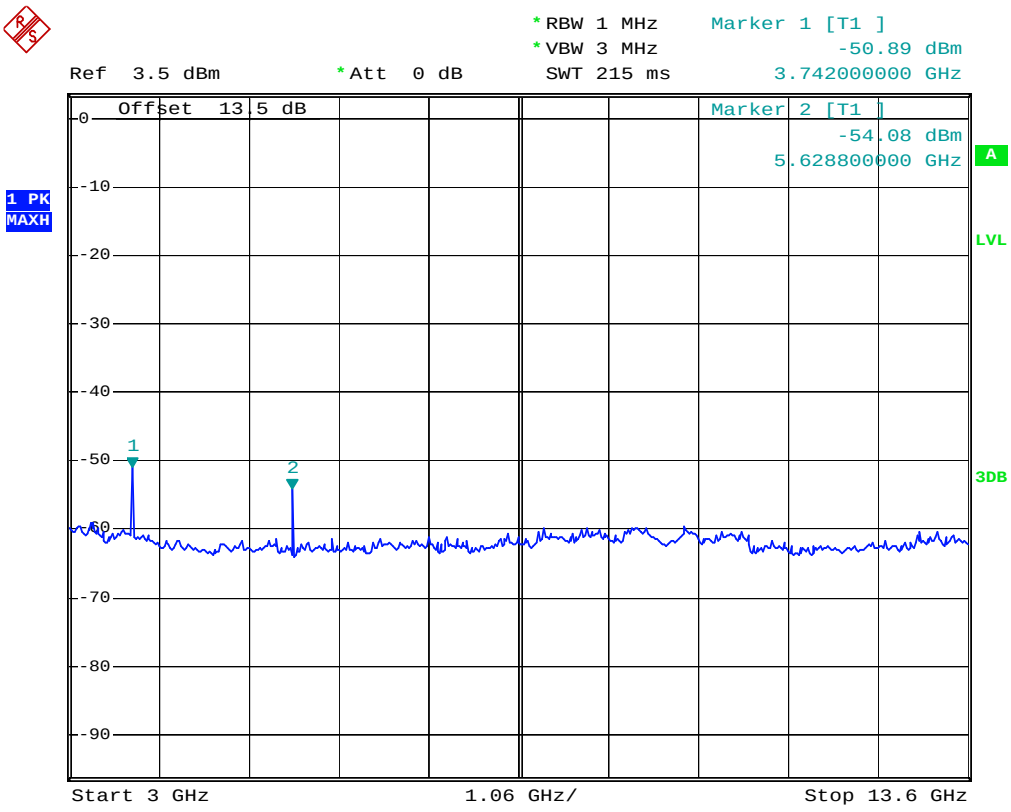
Spurious Emissions at Atenna terminals

Date: 29.AUG.2008 16:14:09



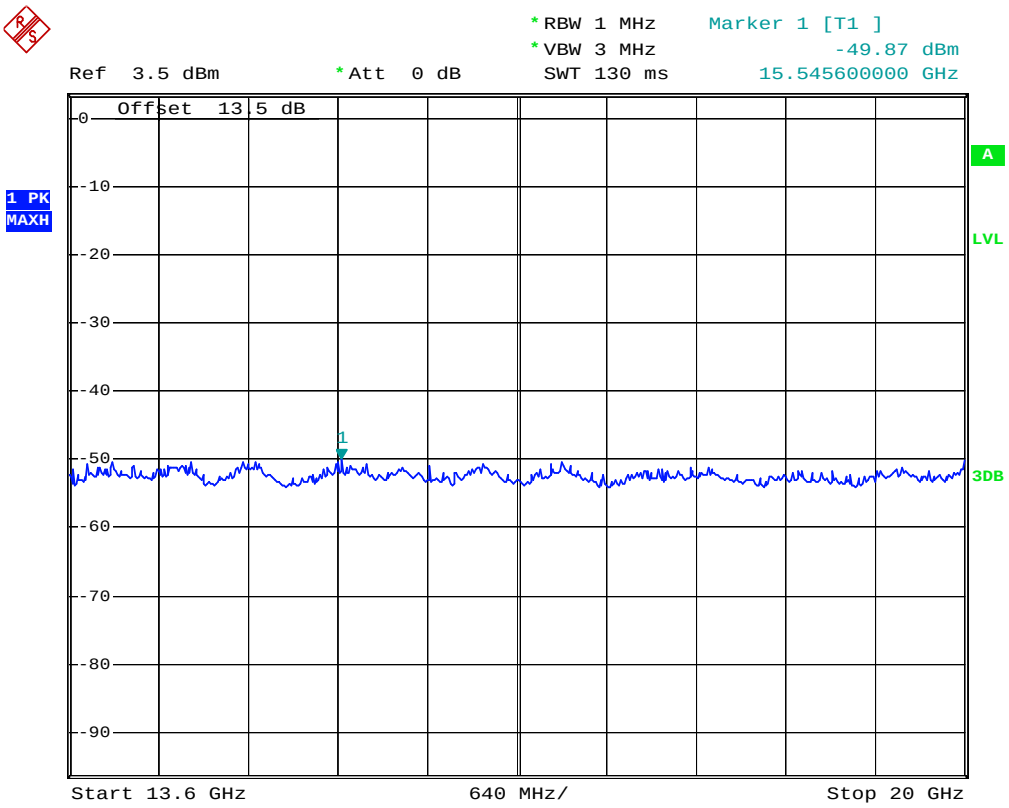
Spurious Emission At Antenna Terminals

Date: 4.SEP.2008 16:19:56



Spurious Emissions at Antenna Terminal

Date: 30.AUG.2008 09:41:55



Spurious Emissions at Antenna Terminal

Date: 30.AUG.2008 09:58:41

§2.1053 - SPURIOUS RADIATED EMISSIONS

Applicable Standards

CFR 47 § 2.1053, 22.917 and § 24.238.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TXpwr in Watts/0.001) – the absolute level

Spurious attenuation limit in dB = 43 + 10 Log_{10} (power out in Watts)

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Horn Antenna	DRH-118	A052604	2007-09-25	2008-09-25
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2008-03-11	2009-03-11
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2008-05-09	2009-05-09
HP	Preamplifier	8449B	3008A00277	2007-09-29	2008-09-29
HP	Signal Generator	HP8657A	2849U00982	2007-10-16	2008-10-16
HP	Amplifier	HP8447D	2944A09795	2007-11-15	2008-11-15
Giga-tronics	Signal Generator	1026	270801	2007-09-29	2008-09-29
COM POWER	Dipole Antenna	AD-100	041000	2007-09-25	2008-09-25
A.H. System	Horn Antenna	SAS-200/571	135	2008-05-17	2009-05-17
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	1100.0008.02	2008-06-21	2009-06-21

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

** The testing was performed by Bruce Zhang on 2008-08-26.*

GSM 850 Band:

Indicated		Table Angle Degree	Test Antenna		Substituted			Antenna Gain (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
Freq. (MHz)	Reading (dBμV)		Height (m)	Polar (H/V)	Freq. (MHz)	Level (dBm)	Polar (H/V)					
30 MHz-10 GHz: Middle Channel												
3346.6	56.34	0	1.5	H	3346.6	-47.6	H	7.1	1.44	-41.94	-13	28.94
1673.2	53.79	120	1.5	V	1673.2	-52.3	V	6.2	0.98	-47.08	-13	34.08
1673.2	48.37	120	1.2	H	1673.2	-55.6	H	6.2	0.98	-50.38	-13	37.38
2509.8	48.05	180	1.5	V	2509.8	-56.5	V	7.3	1.19	-50.39	-13	37.39
3346.6	46.90	180	1.8	V	3346.6	-56.4	V	6.9	1.35	-50.85	-13	37.85
2509.8	47.26	200	1.6	H	2509.8	-57.7	H	7.3	1.19	-51.59	-13	38.59
877.3	43.40	70	2.8	H	897.3	-56.8	H	0	4.90	-61.70	-13	48.70
698.3	33.80	242	2.5	H	698.3	-66.7	H	0	4.15	-70.85	-13	57.85

PCS 1900 MHz Band:

Indicated		Table Angle Degree	Test Antenna		Substituted			Antenna Gain (dBi)	Cable Loss (dB)	Absolute Level (dBm)	Limit (dBm)	Margin (dB)
Freq. (MHz)	Reading (dBμV)		Height (m)	Polar (H/V)	Freq. (MHz)	Level (dBm)	Polar H/V					
30 MHz-20 GHz: Middle Channel												
3760	54.12	180	1.8	H	3760	-49.8	H	6.8	1.37	-44.37	-13	31.37
3760	52.29	200	1.6	V	3760	-50.7	V	7.5	1.30	-44.50	-13	31.50
5640	45.81	120	1.6	H	5640	-53.2	H	8.2	1.65	-44.65	-13	31.65
5640	45.04	80	1.5	V	5640	-58.6	V	8.3	1.76	-51.06	-13	38.06
2500	42.35	180	1.5	H	2500	-58.6	H	7.3	1.19	-52.49	-13	39.49
887.2	41.10	37.0	1.2	H	887.2	-58.2	H	0	4.73	-62.93	-13	49.93
755.9	38.80	199.0	1.3	V	755.9	-60.5	V	0	4.40	-64.90	-13	51.90

§22.917(a) & §24.238(a) - BAND EDGES

Applicable Standards

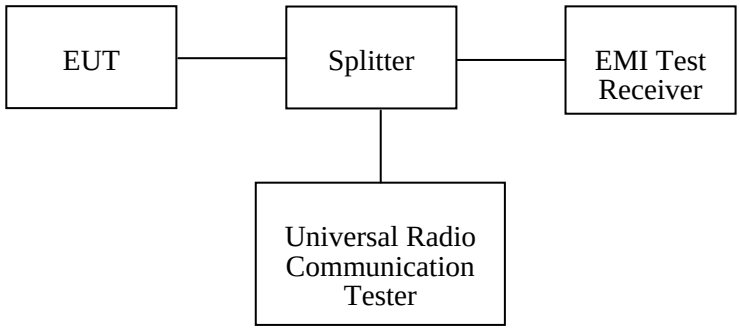
According to § 22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency, RBW set to 10 kHz.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100224	2007-10-16	2008-10-16
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	1100.0008.02	2008-06-21	2009-06-21

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

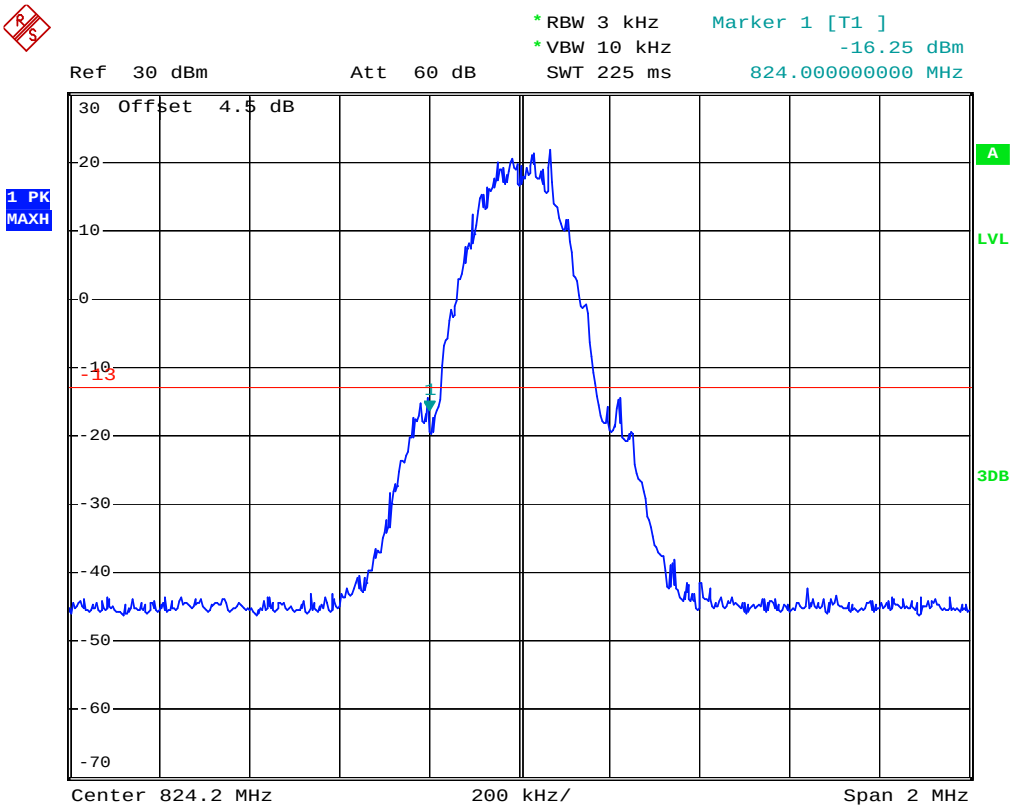
** The testing was performed by Bruce Zhang on 2008-09-09.*

Please refer to the following tables and plots.

GSM850 Band:

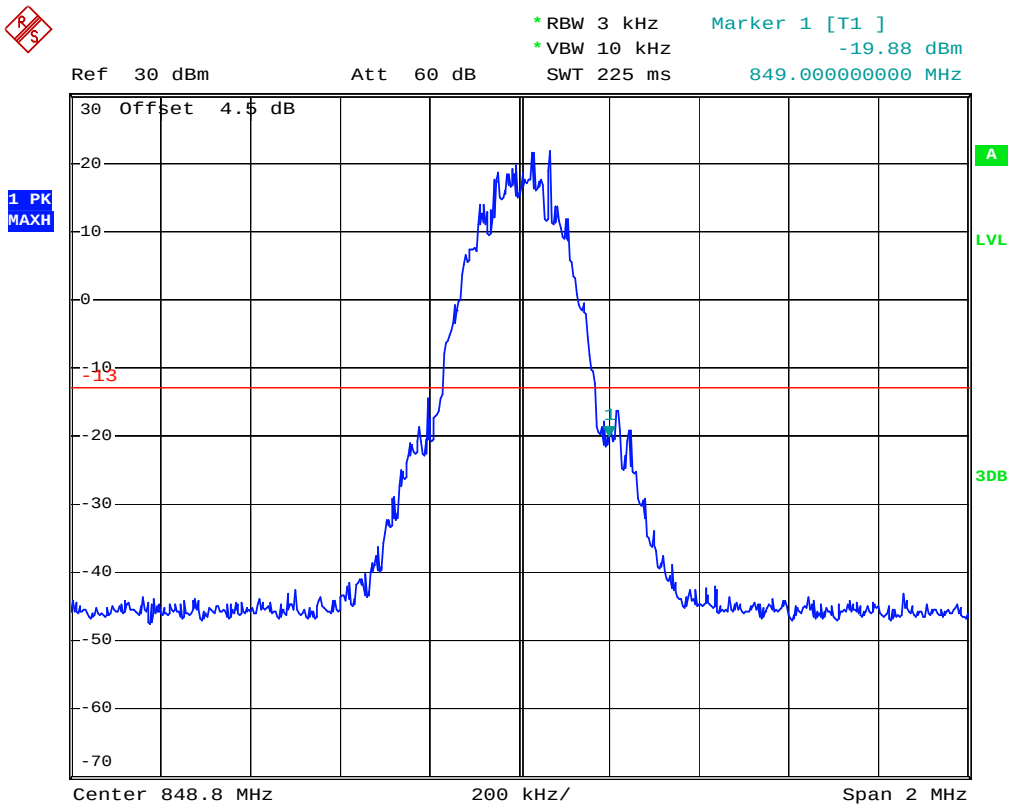
Frequency (MHz)	Emission (dBm)	Limit (dBm)
824	-16.25	-13
849	-19.88	-13

Lowest Channel



Date: 9.SEP.2008 11:04:37

Highest Channel

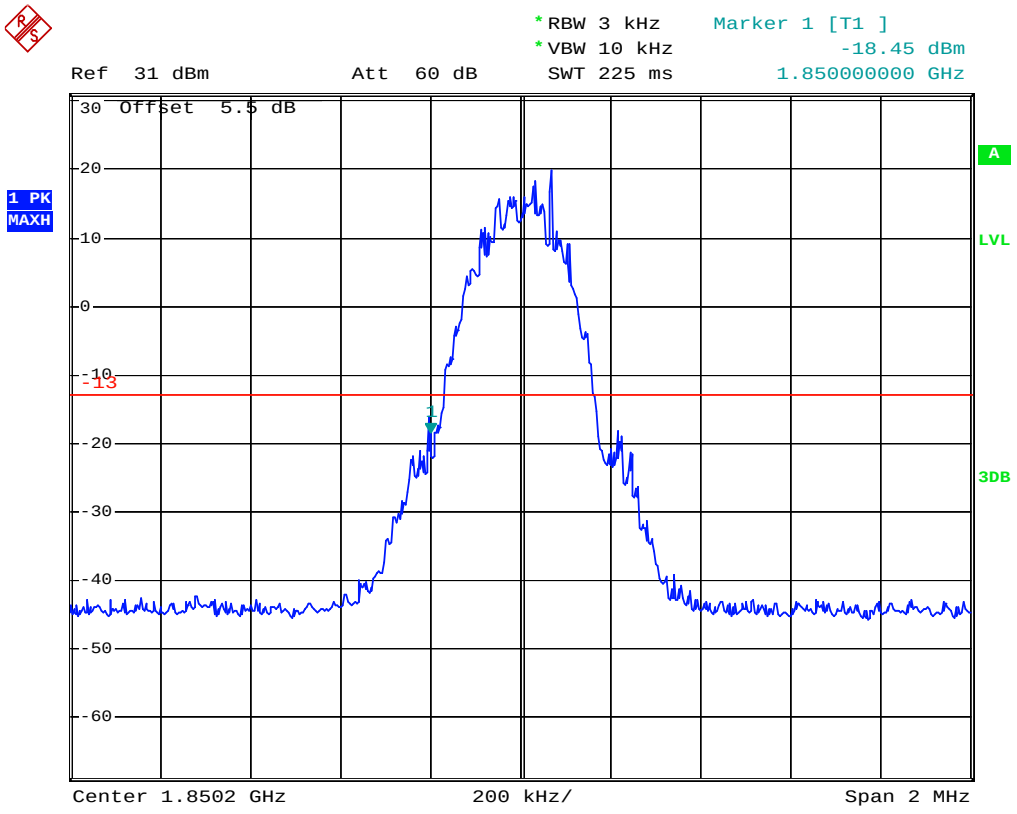


Date: 9.SEP.2008 11:06:09

PCS1900 Band:

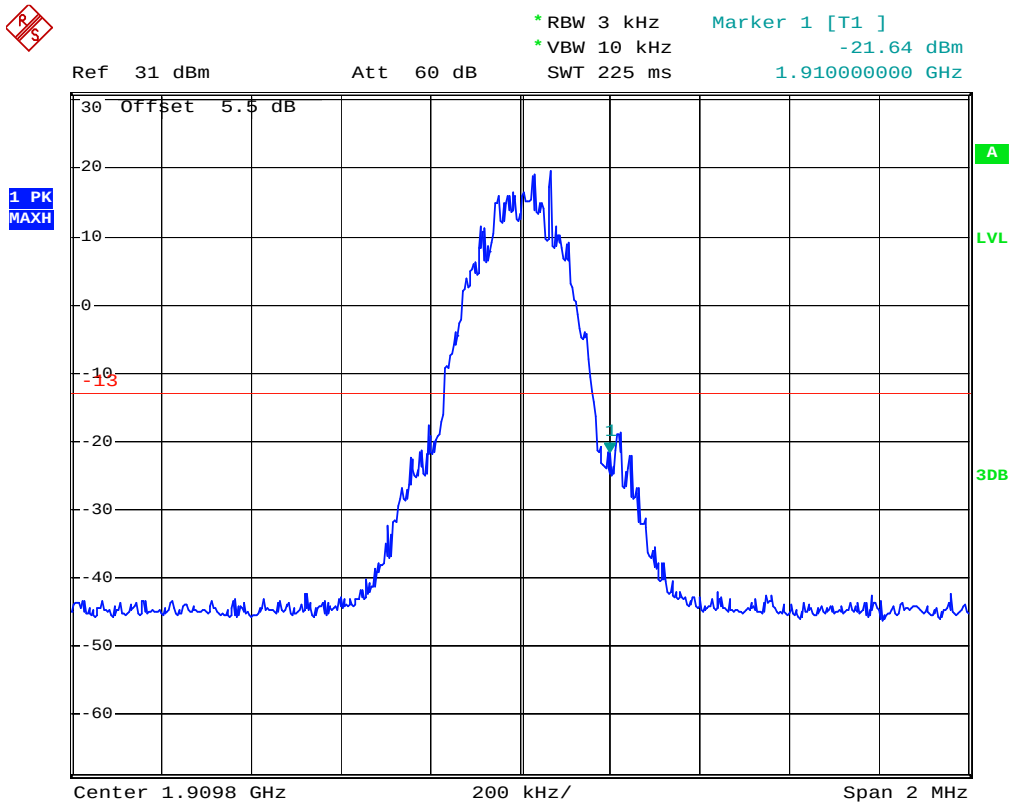
Frequency (MHz)	Emission (dBm)	Limit (dBm)
1850	-18.45	-13
1910	-21.64	-13

Lowest Channel



Date: 9.SEP.2008 11:09:25

High Channel



Date: 9.SEP.2008 11:11:19

§2.1055, §22.355, & §24.235 - FREQUENCY STABILITY

Applicable Standard

CFR47 § 2.1055 (a), § 2.1055 (d), §22.355, §24.235

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile ≤ 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929.	5.0	N/A	N/A
929 to 960.	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: An external variable DC power supply was connected to the battery terminals of the equipment under test. The voltage was set to 115% of the nominal value and was then decreased until the transmitter light no longer illuminated; i.e., the battery end point. The output frequency was recorded for each battery voltage.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
WUHUAN	Temperature & Humidity Chamber	HTP205	20021115	2007-12-28	2008-12-28
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	1100.0008.02	2008-06-21	2009-06-21

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

** The testing was performed by Bruce Zhang on 2008-08-26.*

GSM850 Band:

Middle Channel (fo = 836.6MHz)				
Temperature (^{O}C)	**Power Supplied (Vdc)**	**Frequency Error (Hz)**	**Error (ppm)**	**Limit (ppm)**
-20	3.70	-2	-0.0024	2.5
	3.45	-5	-0.0060	2.5
-10	3.70	-5	-0.0060	2.5
	3.45	-6	-0.0072	2.5
0	3.70	-10	-0.0120	2.5
	3.45	-8	-0.0096	2.5
10	3.70	-10	-0.0120	2.5
	3.45	-12	-0.0143	2.5
20	3.70	-6	-0.0072	2.5
	3.45	-11	-0.0131	2.5
30	3.70	-11	-0.0131	2.5
	3.45	-9	-0.0108	2.5
40	3.70	-9	-0.0108	2.5
	3.45	-7	-0.0084	2.5
50	3.70	-3	-0.0036	2.5
	3.45	-4	-0.0048	2.5
55	3.70	-6	-0.0072	2.5
	3.45	-7	-0.0084	2.5

PCS 1900 Band:

Middle Channel (fo = 1880.0 MHz)				
Temperature (^{O}C)	**Power Supplied (Vdc)**	**Frequency Error (Hz)**	**Error (ppm)**	**Limit (ppm)**
-20	3.70	23	0.0122	2.5
	3.45	38	0.0202	2.5
-10	3.70	16	0.0085	2.5
	3.45	28	0.0149	2.5
0	3.70	28	0.0149	2.5
	3.45	22	0.0117	2.5
10	3.70	24	0.0128	2.5
	3.45	25	0.0133	2.5
20	3.70	21	0.0112	2.5
	3.45	21	0.0112	2.5
30	3.70	20	0.0106	2.5
	3.45	20	0.0107	2.5
40	3.70	26	0.0138	2.5
	3.45	26	0.0138	2.5
50	3.70	22	0.0117	2.5
	3.45	31	0.0165	2.5
55	3.70	18	0.0096	2.5
	3.45	26	0.0138	2.5

*******END OF REPORT*******