MOBILE DEVICES BUSINESS

PRODUCT SAFETY AND COMPLIANCE
EMC LABORATORY

EMC TEST REPORT

Test Report Number – 23634-1

Report Date – March 16, 2010

The test results contained herein relate only to the model(s) identified. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics.

As the responsible EMC Engineer, I hereby declare that the equipment tested as specified in this report conforms to the requirements indicated.

Signature:  Name: Albert J. Patapack

Title: EMC Engineer Date: March 16, 2010

A2LA Certificate Number: 2518-02

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Test Report Details

Tests Performed By:	Motorola Mobile Devices business (MDb) Product Safety and Compliance Group 600 North US Hwy 45 Libertyville, IL 60048 PH (847) 523-6167 Fax (847) 523-4538 Motorola MDb FRN: 0004321311 FCC Registration Number: 316588 Industry Canada Number: 109O-1
Tests Requested By:	Motorola Inc. Mobile Devices Business 600 North US Hwy 45 Libertyville, IL 60048
Product Type:	Cellular Phone
Signaling Capability:	WCDMA 850/1900, GSM 850/900/1800/1900, HSDPA 3.6Mbps (Category 5/6), EDGE Class 10, aGPS , Bluetooth Class 2, Version 2.1+EDR
FCC ID:	IHDT56LA1
Serial Numbers:	358343030000253, 358343030000279
Testing Complete Date:	March 11, 2010

Applicable Standards

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:

__X__ Part 2
__X__ Part 22 Subpart H - Public Mobile Services
__X__ Part 24 Subpart E – Personal Communications Services

Applicable Standards: ANSI 63.4 2003, ANSI/TIA-603-C-2004,
RSS-Gen Issue 2, RSS-132 Issue 2, RSS-133 Issue 5

Summary of Testing

Note that the GSM and EDGE Field Strength of Spurious Emissions testing was performed in the Motorola (China) Technologies Ltd. EMC lab. All other testing was performed in the Motorola Mobile Devices business EMC lab.

Test #	Test Name	Pass/Fail
1	RF Power Output	NA
2	ERP (Effective Radiated Power)	Pass
3	EIRP (Effective Isotropic Radiated Power)	Pass
4	Occupied Bandwidth	Pass
5	Spurious Emissions at Antenna Terminal	Pass
6	Field Strength of Spurious Emissions	Pass
7	Frequency Stability	Pass
8	AC Line Conducted Emissions	Pass

Test #	Test Name	Margin with respect to the Limit
1	RF Power Output	NA
2	ERP (Effective Radiated Power)	See results
3	EIRP (Effective Isotropic Radiated Power)	See results
4	Occupied Bandwidth	See Plots
5	Spurious Emissions at Antenna Terminal	See results
6	Field Strength of Spurious Emissions	See results
7	Frequency Stability	See results
8	AC Line Conducted Emissions	See Plots

The margin with respect to the limit is the minimum margin for all modes and bands.

General and Special Conditions

The EUT was tested using a fully charged battery when applicable. Where a battery could not be used due to the need for a controlled variation of input voltage, an external power supply was utilized.

The temperature and the relative humidity were maintained within the ANSI C63.4 2003 Standard requirements during the entire duration of testing.

Equipment and Cable Configurations

The EUT was tested in a stand-alone configuration that is representative of typical use.

Manufacturer	Equipment Type	Model No.	Serial Number	Calibration Due Date
Rohde & Schwarz	Receiver	ESI26	100001	12/02/2010
Hewlett Packard	EMC Analyzer	E7405	US40240219	4/24/2010
Agilent	MXA Signal Analyzer	N9020A	US46470586	12/18/2010
Hewlett Packard	Signal Generator	83623B	3844A00935	4/24/2011
A. H. Systems	DRG Horn Antenna	SAS 200/571	265	4/29/2010
ETS	DRG Horn Antenna	3115	6222	10/02/2010
ETS	Log-Periodic Antenna	3148	1189	6/12/2010
ETS	Biconical Antenna	3110B	3370	10/02/2010
Attenuator	Weinschel	AS-6	6675	NCR
Attenuator	Weinschel	AS-6	6677	NCR
Thermotron	Environmental Chamber	S-4	31580	1/19/2011
Agilent	Power Meter	E4416A	GB41293263	9/11/2010
Agilent	Power Sensor	E9323A	US40412067	9/11/2010
Agilent	Microwave Preamplifier	8449B	3008A01442	2/25/2010
Agilent	Microwave Preamplifier	8449B	3008A00535	10/05/2011

Note that the Agilent power meter and microwave preamplifier are on a two-year calibration cycle. All other equipment is on a one-year calibration cycle. All testing was performed using equipment that was within calibration at the time that the test was performed. No equipment listed in the table above was used after the specified calibration due date. If, during the course of product testing, a piece of equipment went out of calibration and that piece of equipment was needed to complete product testing, a similar piece of calibrated equipment was substituted. If a substitution was made, that new piece of equipment would be listed in the above table along with the piece that was removed from service.

Measurement Procedures and Data

RF POWER OUTPUT

Measurement Procedure

The RF output port of the equipment under test is directly coupled to the input of an Agilent power meter through a 20dB passive attenuator, adaptor (if needed), and specialized RF connector. The average power output is measured for all channels.

Measurement Results

GSM 850

Frequency (MHz)	Power (dBm)
824.2	32.62
836.6	32.59
848.8	32.54

GSM 1900

Frequency (MHz)	Power (dBm)
1850.2	29.39
1880.0	29.33
1909.8	29.23

EDGE 850

Frequency (MHz)	Power (dBm)
824.2	27.19
836.6	27.07
848.8	27.03

EDGE 1900

Frequency (MHz)	Power (dBm)
1850.2	26.04
1880.0	25.95
1909.8	25.89

WCDMA Modes

Band	Channel	Conducted power (dBm) for WCDMA modes		Conducted Power (dBm) for WCDMA – HSDPA (Rel 5) Modes				Conducted Power (dBm) for WCDMA – HSPA (HSUPA/HSDPA-Rel 6) Modes				
		RMC	AMR	Subtest 1	Subtest 2	Subtest 3	Subtest 4	Subtest 1	Subtest 2	Subtest 3	Subtest 4	Subtest 5
WCDMA 800	4132	23.01	22.82	23.06	23.11	23.10	23.09					
	4180	23.02	23.06	23.07	23.03	23.00	23.01					
	4233	23.18	23.57	23.29	23.24	23.27	23.27					
WCDMA 1900	9262	22.97	22.73	23.06	22.99	23.04	22.99					
	9400	23.17	23.42	23.16	23.16	23.06	23.09					
	9538	22.93	22.83	22.93	22.96	22.96	22.95					

Based on the power measurements, all WCDMA testing was performed in RMC mode.

RADIATED POWER (EIRP AND ERP)

Measurement Procedure

The phone was tested in a 16' anechoic chamber with a 2-axis position system that permits taking complete spherical scans of the EUT's radiation patterns. For all tests, the phone was supported in a free space type environment, vertically oriented in the chamber.

All measurements were made with the phone placed in a call using a mobile station test set. The phone was weakly coupled to the test set and configured to transmit in full data rate mode. Radiated power was measured at each 15 degree step. The radiated power was measured using a peak detector. From these measurements, the software calculates the angle at which maximum radiated power occurs for each case, and the radiated power at this angle was extracted from the data. To get ERP (effective radiated power referenced to a half-wave dipole), subtract 2.1 dB from these numbers.

Measurement Results: The appropriate maximum is highlighted

Frequency (MHz)	EIRP (dBm)	ERP (dBm)
GSM 850		
128	31.54	29.44
190	32.39	**30.29**
251	32.31	30.21
EDGE 850		
128	28.18	**26.08**
190	26.78	24.68
251	27.48	25.38
WCDMA 850		
4132	22.78	20.68
4183	21.75	19.65
4233	23.50	**21.40**
GSM 1900		
512	28.58	26.48
661	28.84	26.74
810	**29.39**	27.29
EDGE 1900		
512	28.44	26.34
661	28.65	26.55
810	**29.29**	27.19
WCDMA 1900		
9262	**27.67**	25.57
9400	25.46	23.36
9538	25.06	22.96

OCCUPIED BANDWIDTH

Measurement Procedure

The RF output port of the equipment under test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. The amplitude of the spectrum analyzer is corrected for the attenuator and any other applicable losses. The analyzer is set for Peak Detector and each trace is set for Max Hold. A fully charged battery was used for the supply voltage.

The middle channel within the designated frequency block was measured. For digital modulation, the lower and upper band edge plots are displayed.

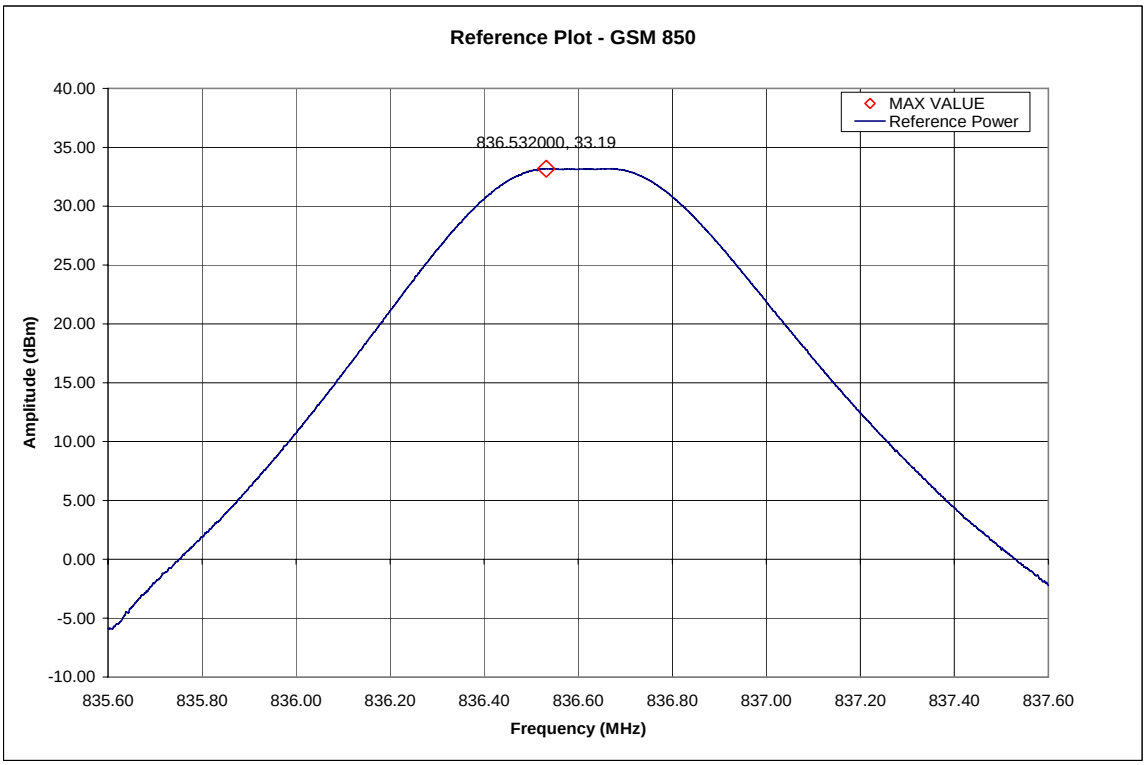
Measurement Results
Attached

	Equipment Settings					
Plot	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Sweep Points (#)	Trace Mode	Detector	Samples (≥ #)
Reference Plot - GSM 850	300	Auto	1001	Max Hold	Peak	30
OCBW - GSM 850	3	Auto	1001	Max Hold	Peak	30
Lower Band Edge - GSM 850	1	Auto	2004	Max Hold	Peak	30
Upper Band Edge - GSM 850	1	Auto	2004	Max Hold	Peak	30
Reference Plot - GSM 1900	300	Auto	1001	Max Hold	Peak	30
OCBW - GSM 1900	3	Auto	1001	Max Hold	Peak	30
Lower Band Edge - GSM 1900	1	Auto	2004	Max Hold	Peak	30
Upper Band Edge - GSM 1900	1	Auto	2004	Max Hold	Peak	30

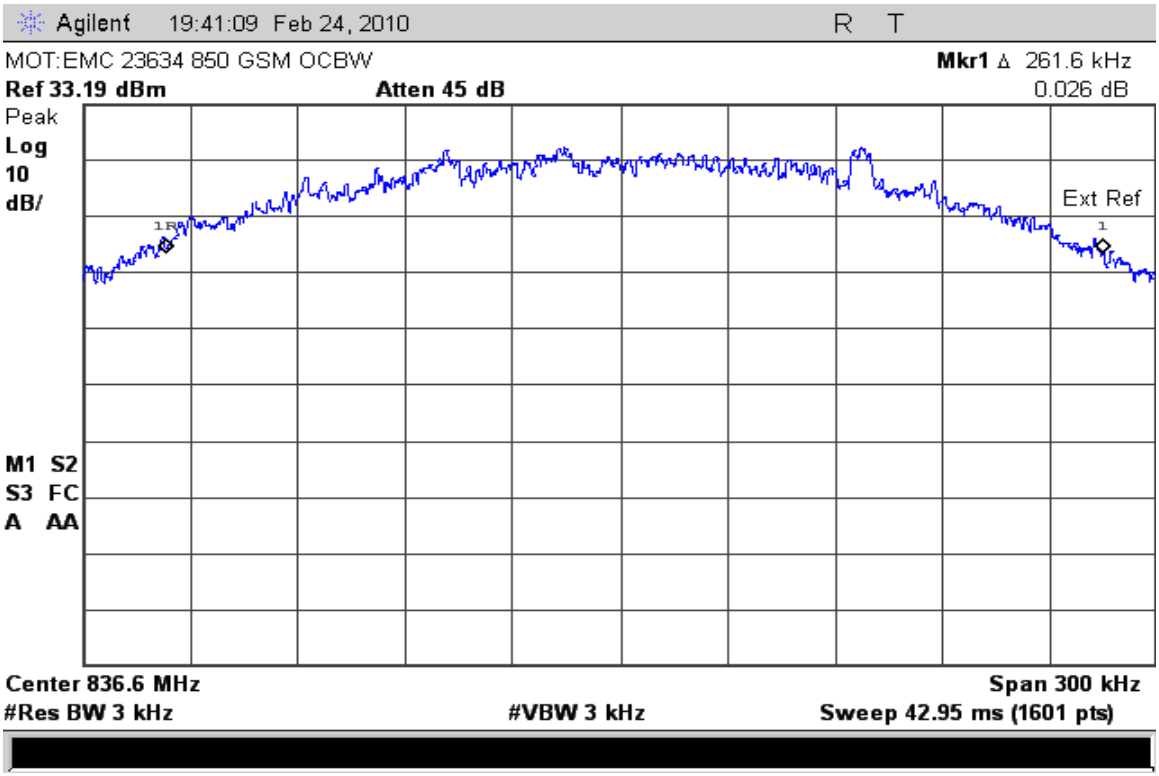
Notes: 1) When the video bandwidth is set to Auto the video bandwidth self adjusts for ³ the resolution bandwidth.

2) The plotted data shown for the band edge measurements is representative of data taken with a true 3 kHz resolution bandwidth filter. The raw data was taken using a 1 kHz resolution bandwidth and was integrated to produce a response representative of data taken using a true 3 kHz resolution bandwidth filter.

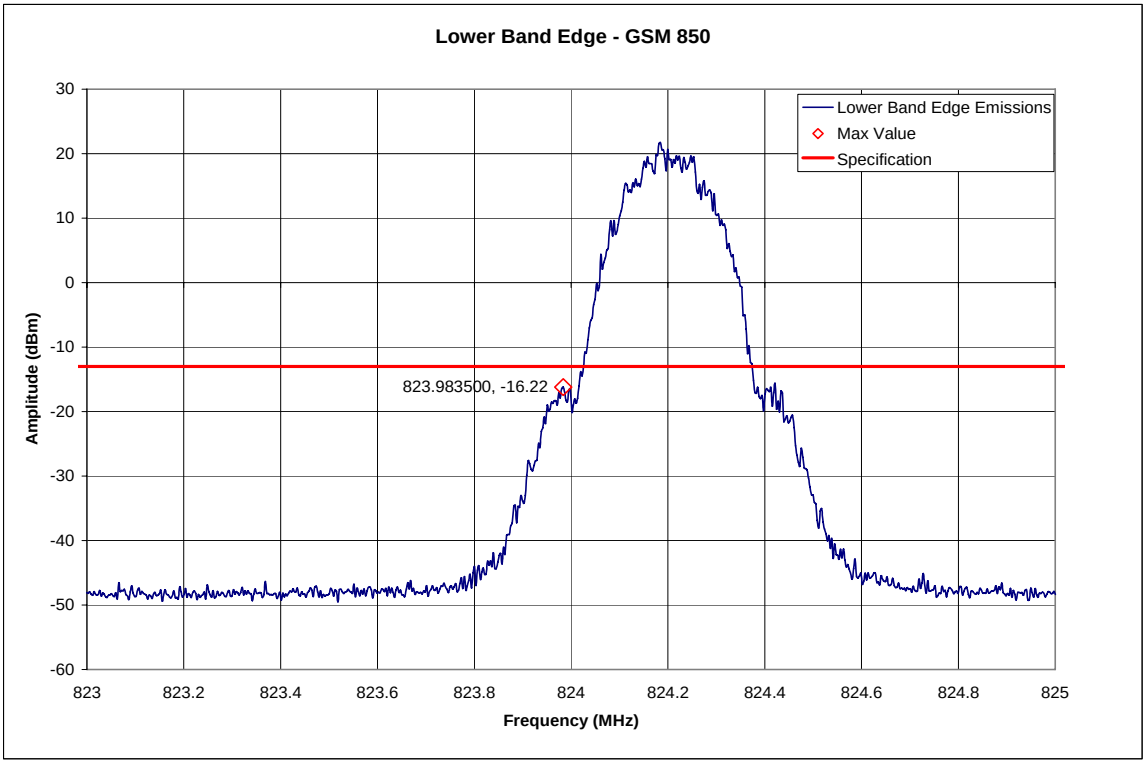
Measurement Results – GSM 850



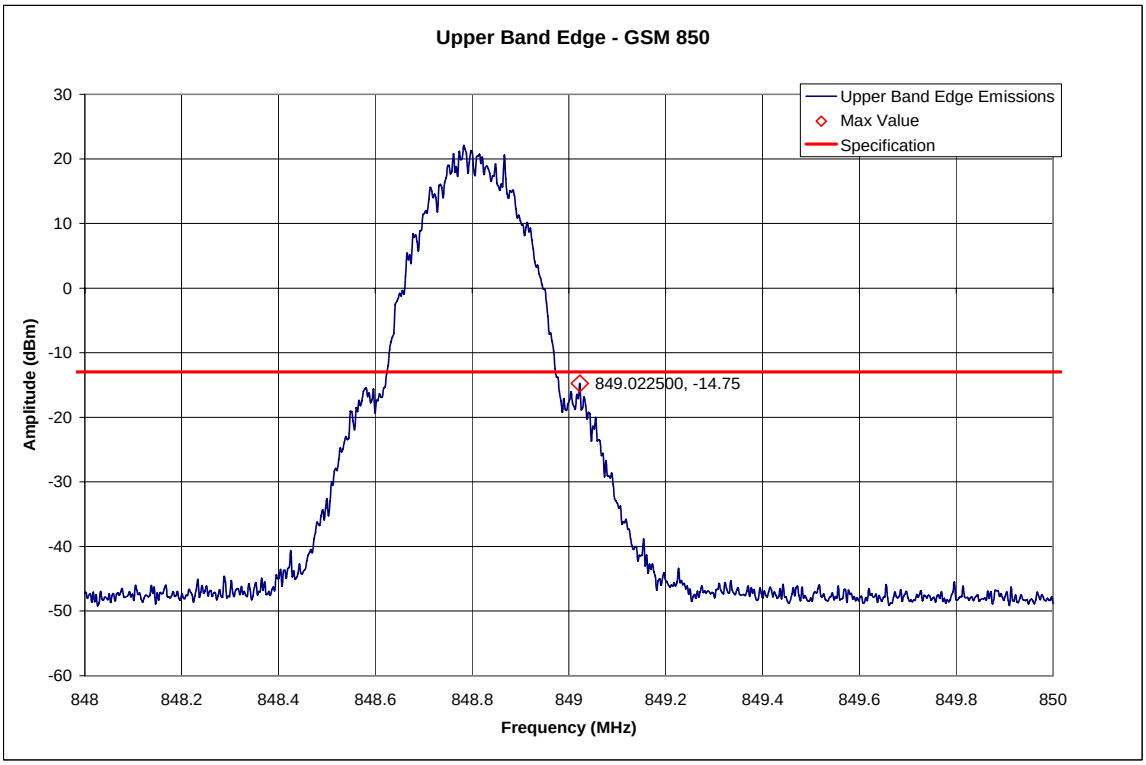
GSM 850 – Reference Level Plot – Channel 190 (836.60 MHz)



GSM 850 – Channel 190 (836.60 MHz) – Occupied Bandwidth

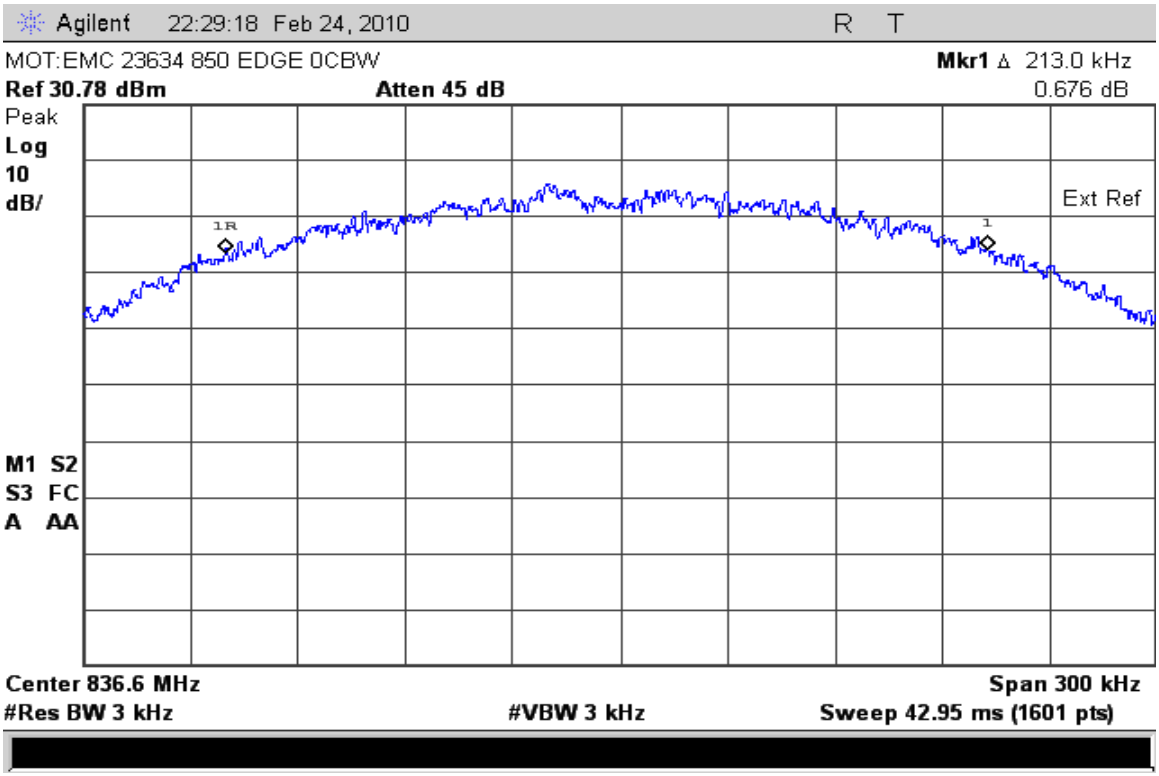


GSM 850 – Lower Band Edge – Channel 128 (824.2 MHz)

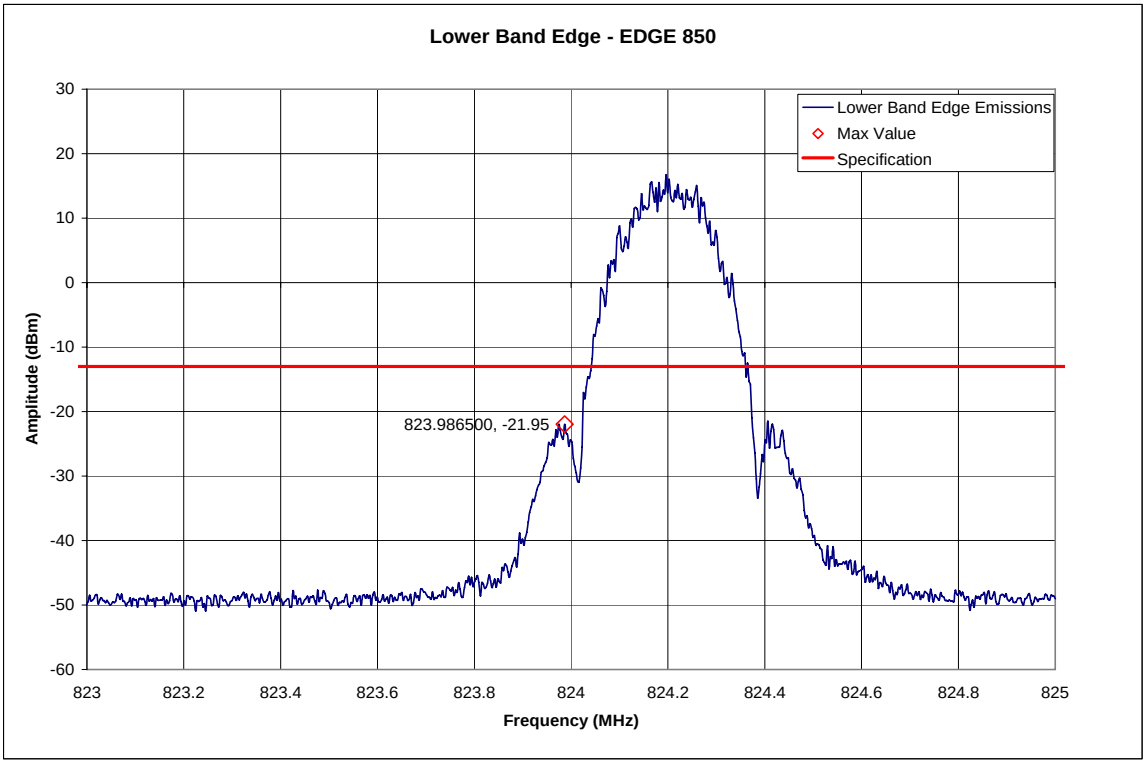


GSM 850 – Upper Band Edge – Channel 251 (848.8 MHz)

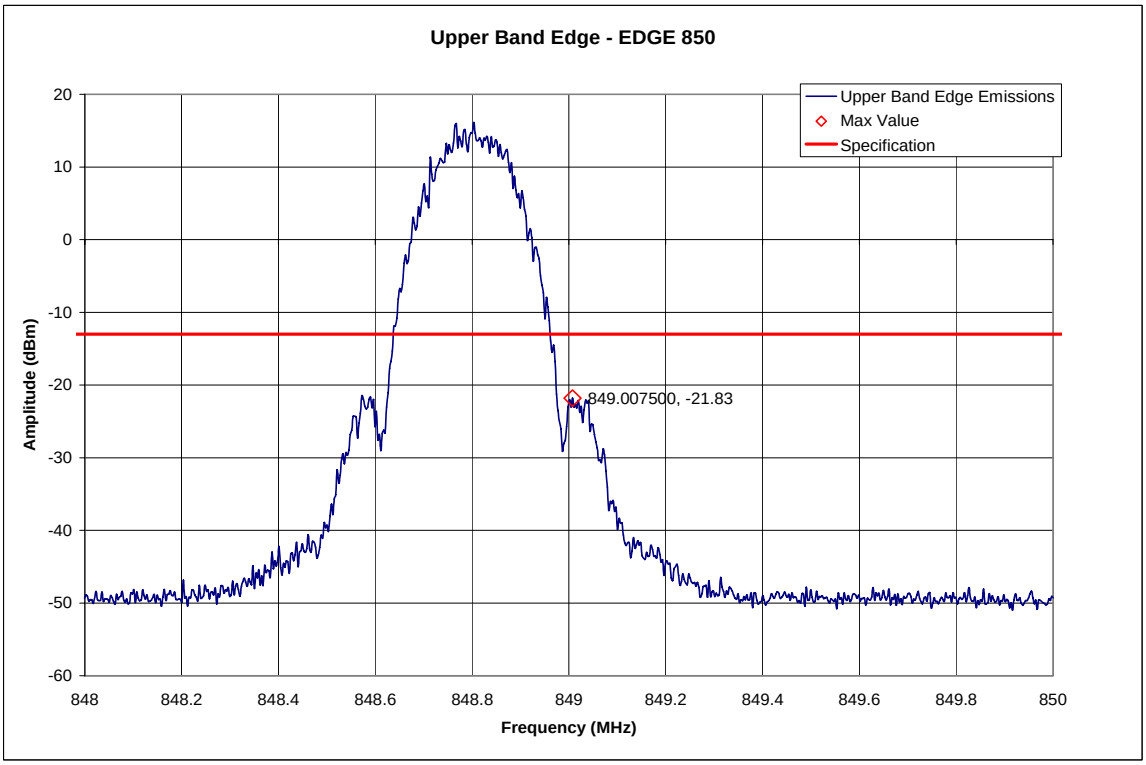
Measurement Results – EDGE 850



EDGE 850 – Channel 190 (836.60 MHz) – Occupied Bandwidth

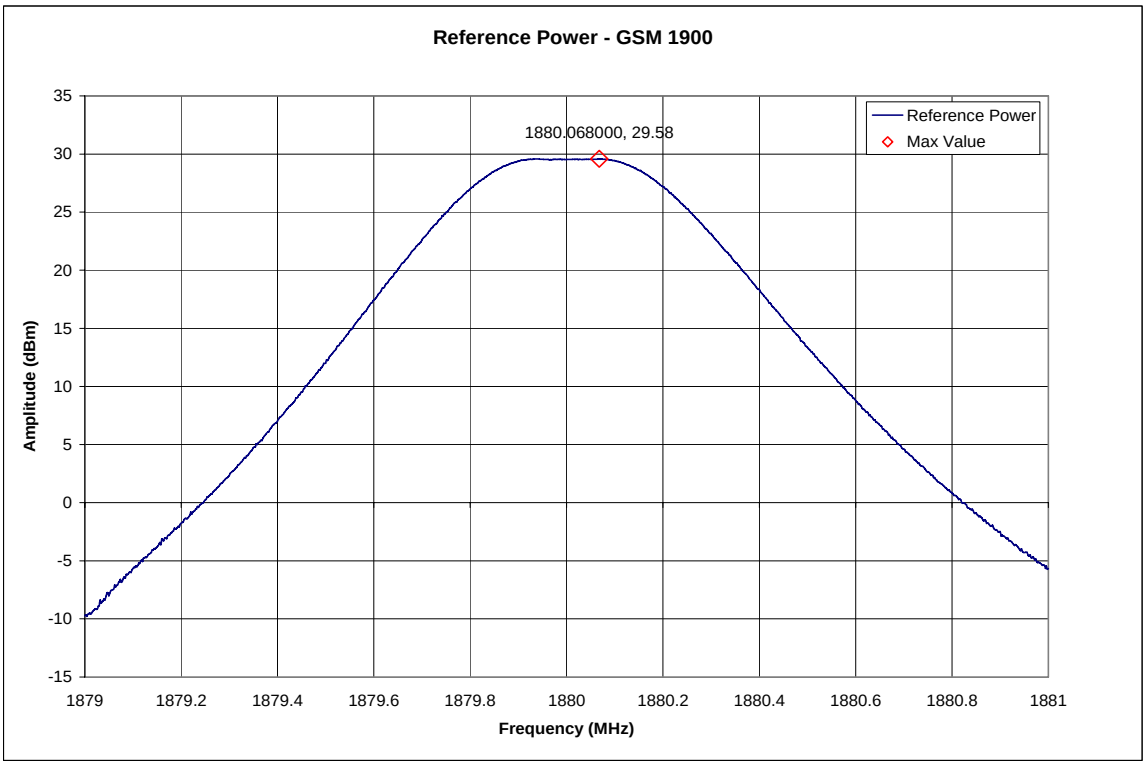


EDGE 850 – Lower Band Edge – Channel 128 (824.2 MHz)

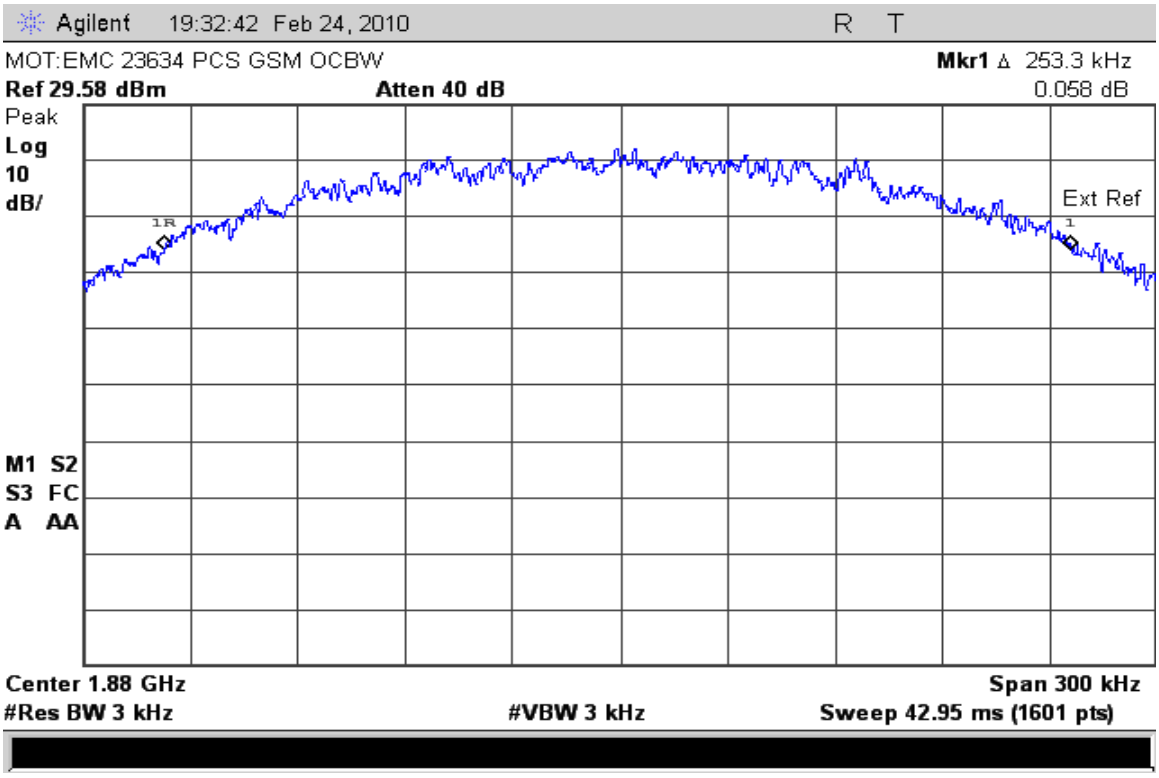


EDGE 850 – Upper Band Edge – Channel 251 (848.8 MHz)

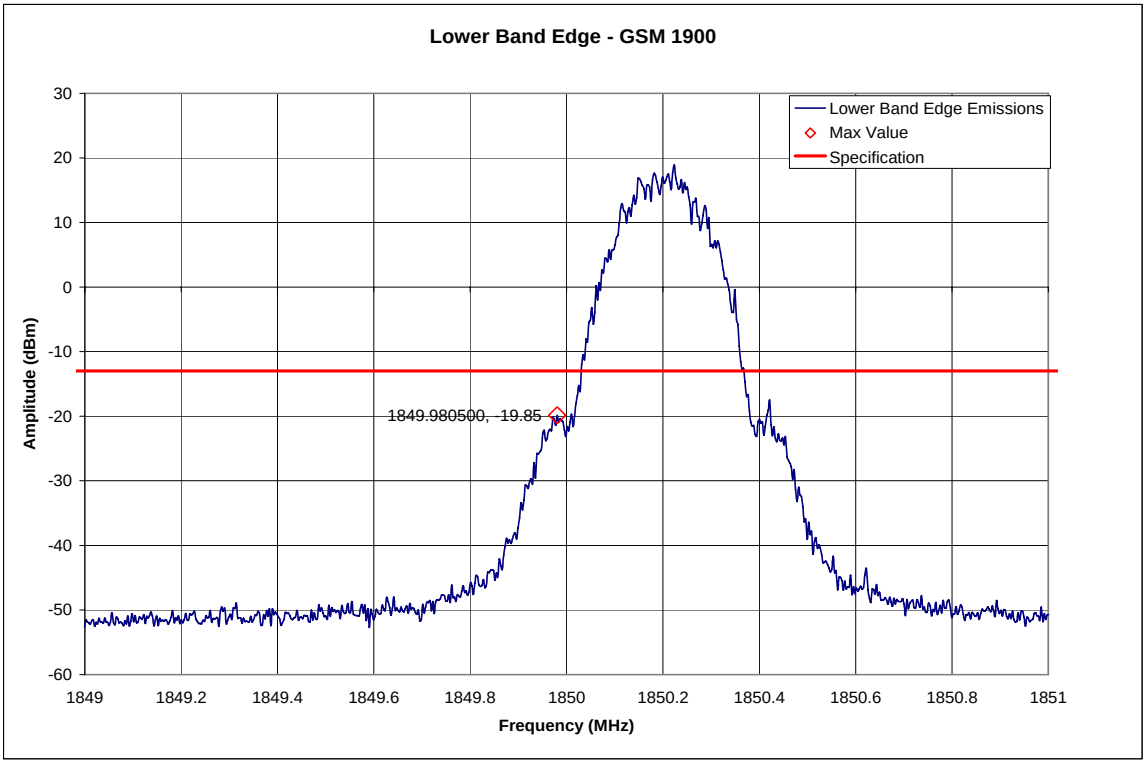
Measurement Results – GSM 1900



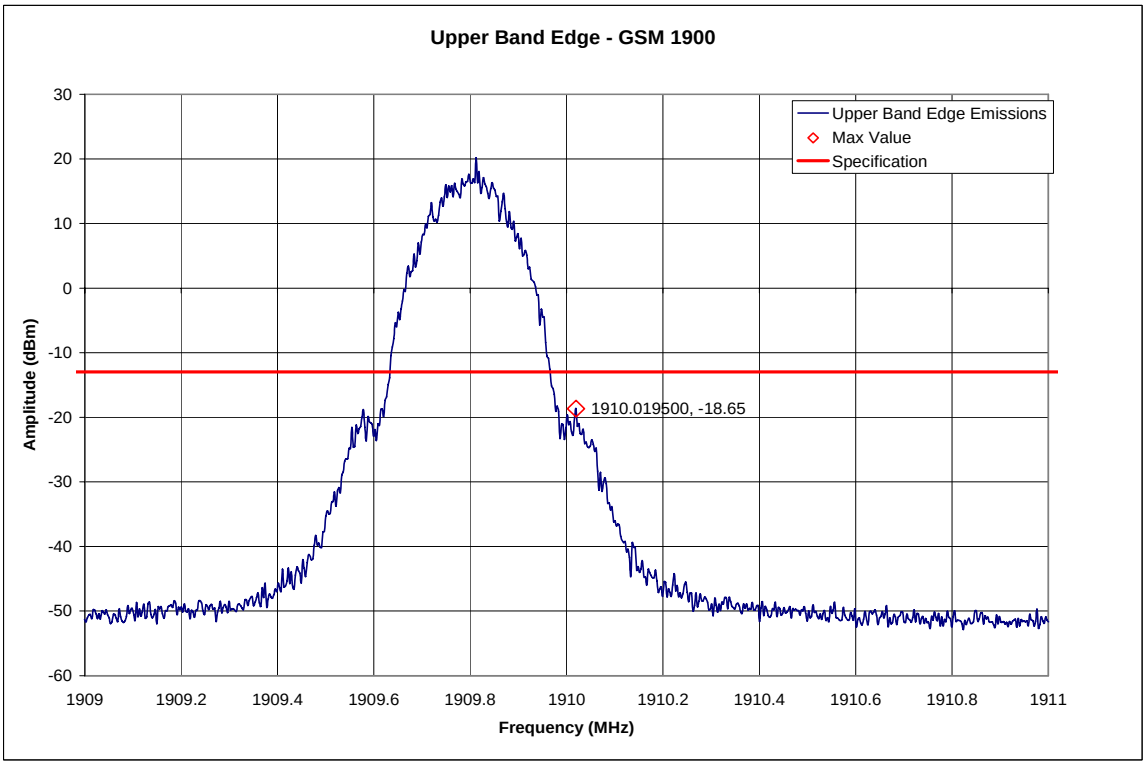
GSM 1900 – Reference Level Plot – Channel 661 (1880.00MHz)



GSM 1900 – Occupied Bandwidth – Channel 661 (1880.00MHz)

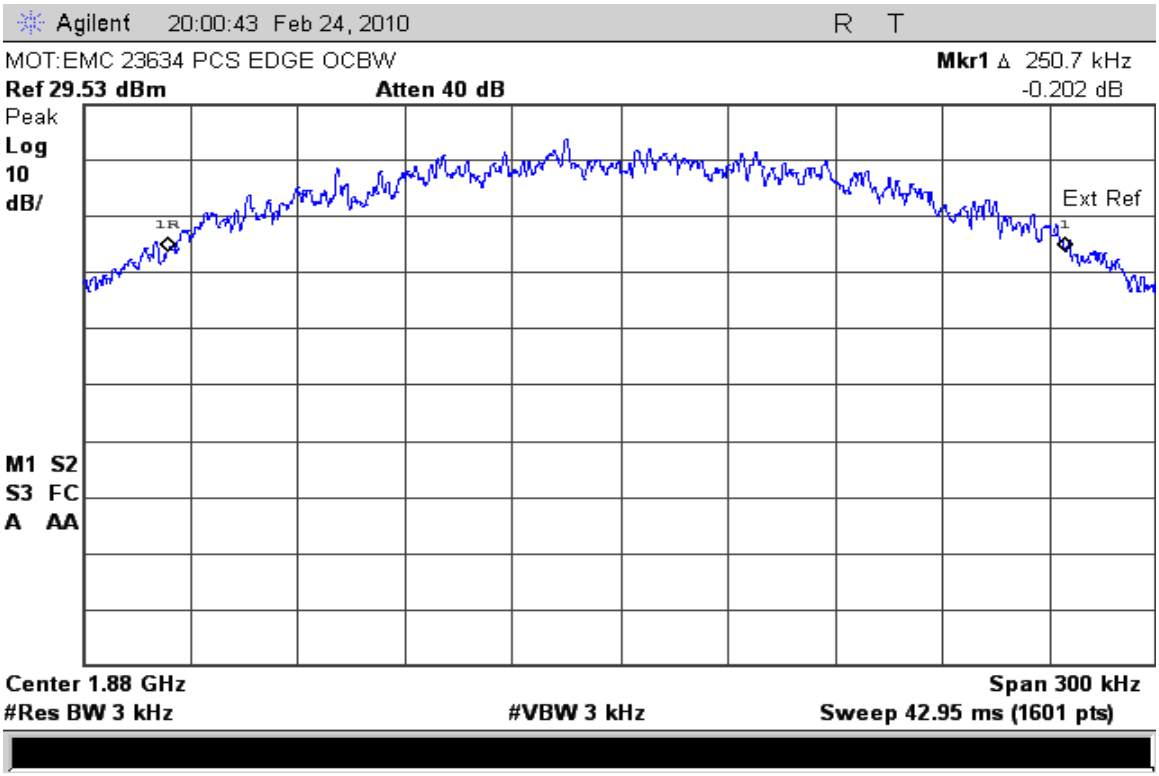


GSM 1900 – Lower Band Edge – Channel 512 (1850.2MHz)

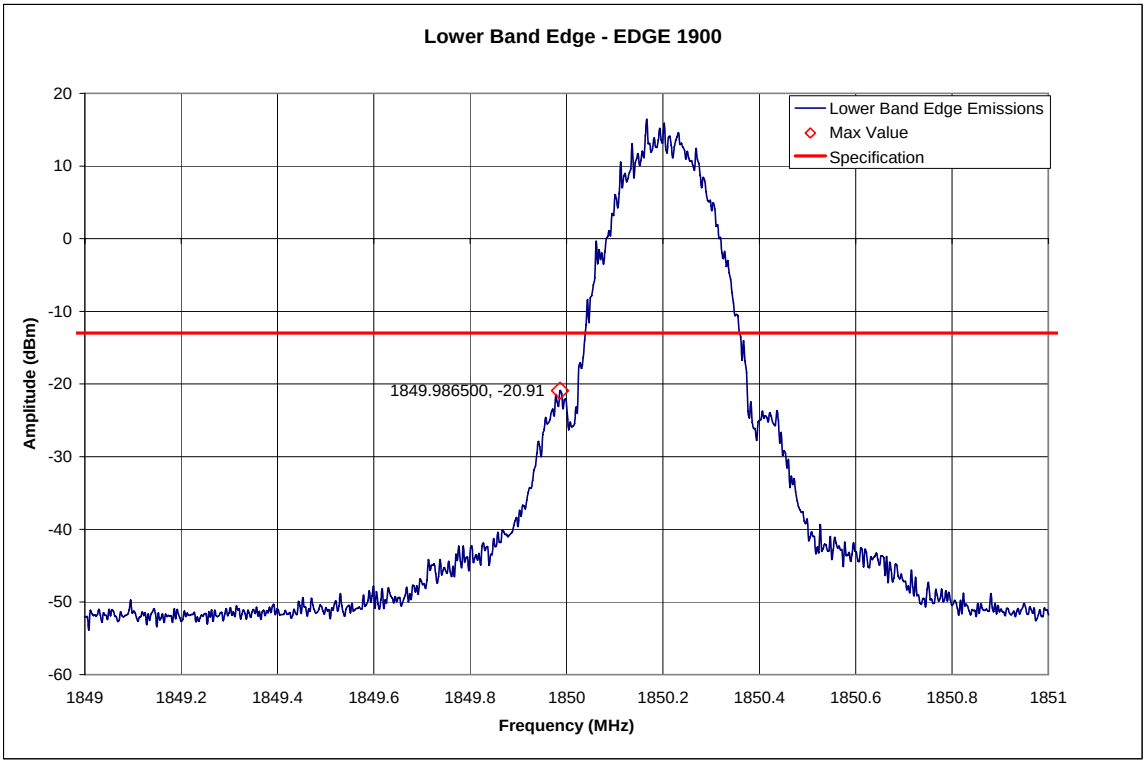


GSM 1900 – Upper Band Edge – Channel 810 (1909.8MHz)

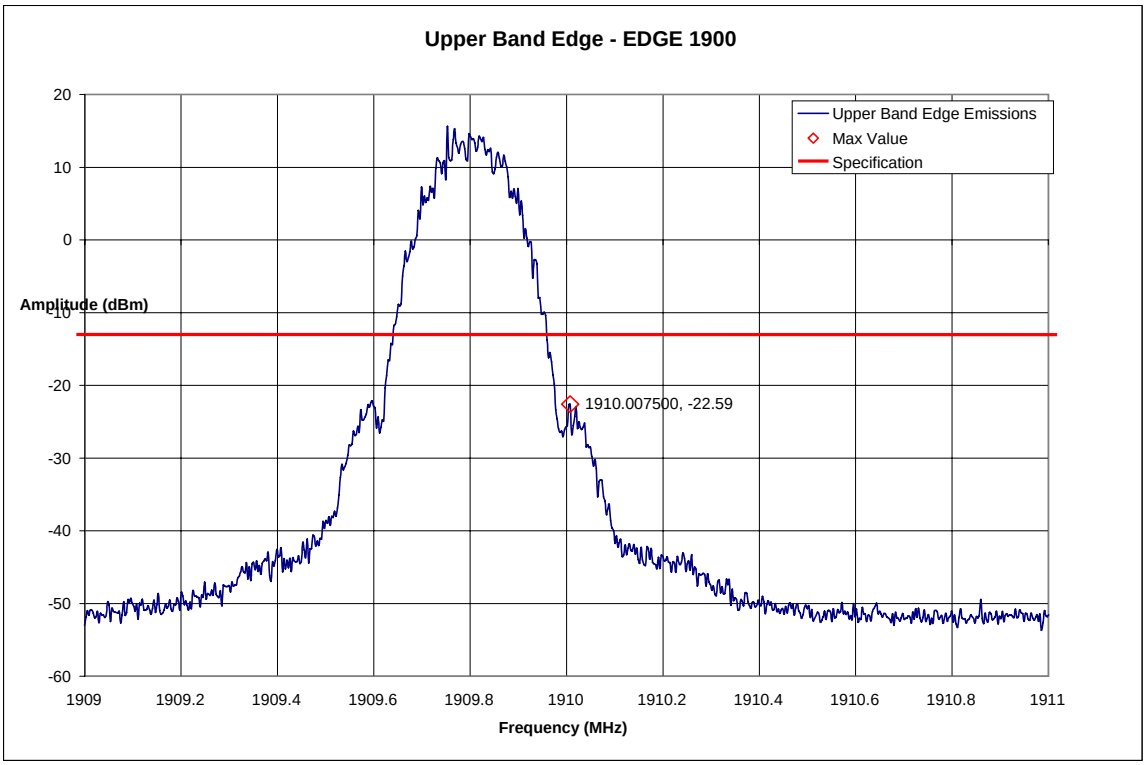
Measurement Results – EDGE 1900



GSM 1900 EDGE – Occupied Bandwidth – Channel 661 (1880.00MHz)



GSM 1900 EDGE – Lower Band Edge – Channel 512 (1850.2MHz)

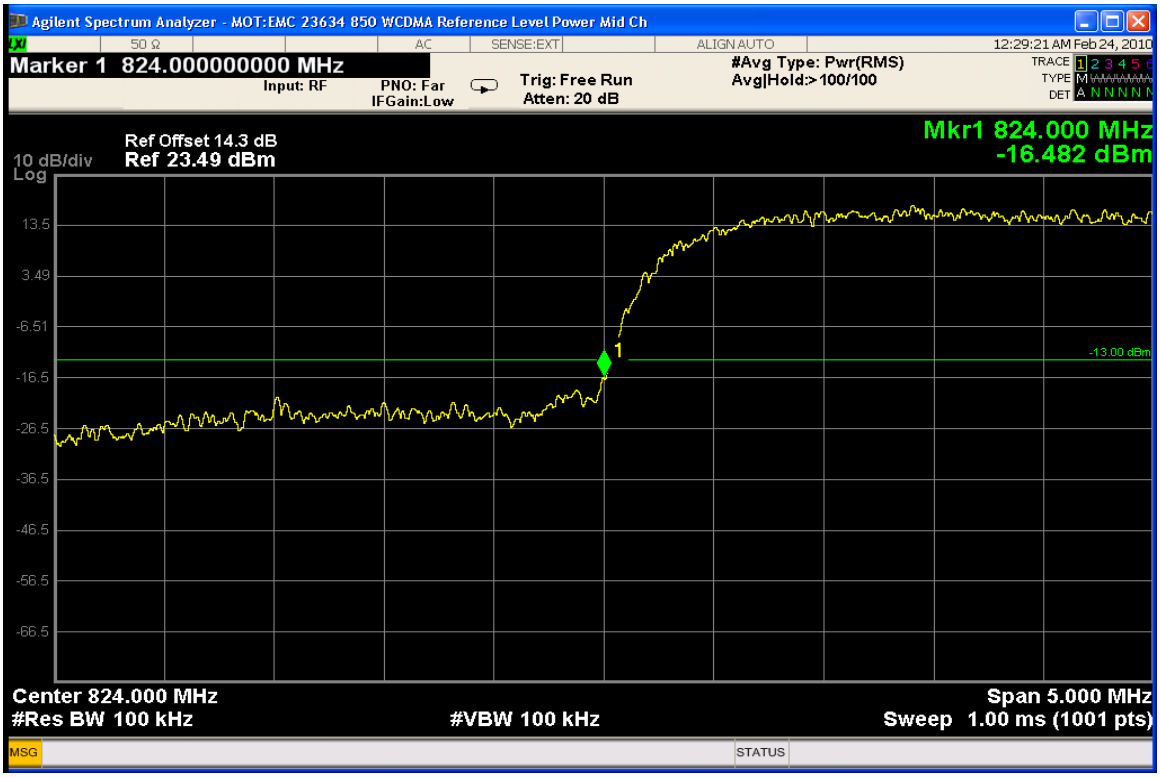


GSM 1900 EDGE – Upper Band Edge – Channel 810 (1909.8MHz)

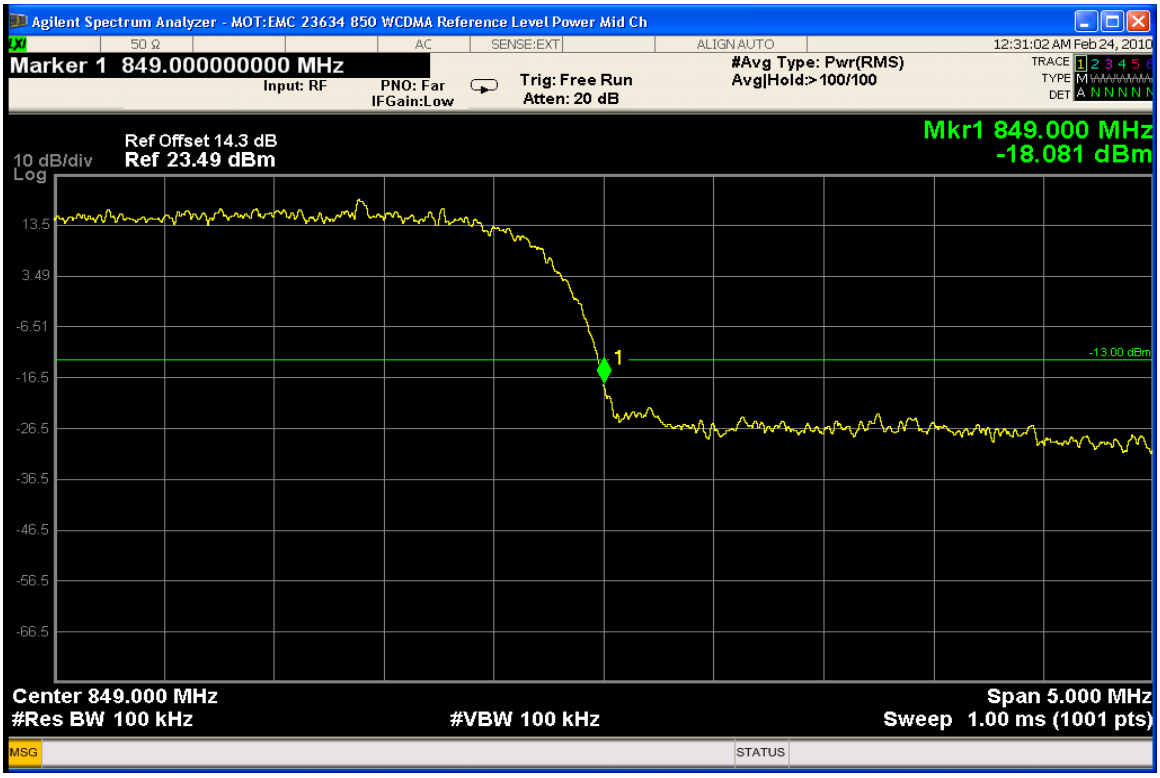
Measurement Results – WCDMA 850

WCDMA 850 – Reference Level Plot – Channel 4180 (836.00 MHz)

WCDMA 850 – Occupied Bandwidth – Channel 4180 (836.00 MHz)

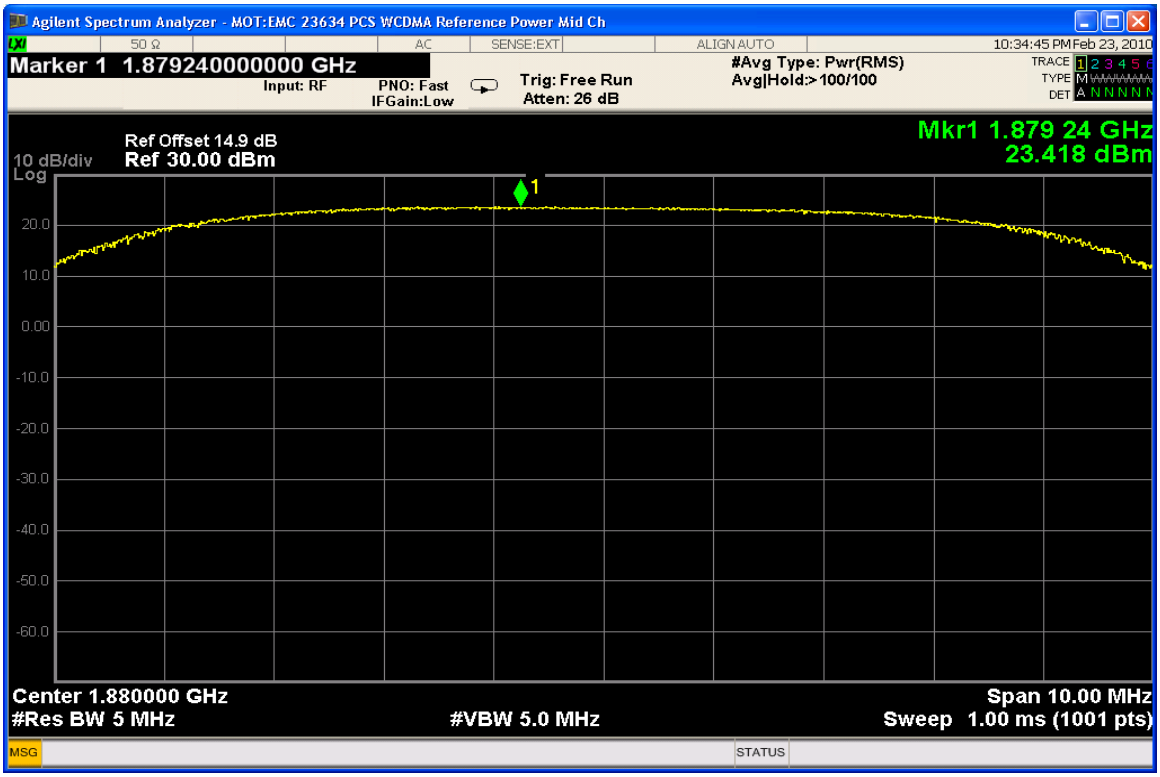


WCDMA 850 – Lower Band Edge – Channel 4132 (826.40 MHz)

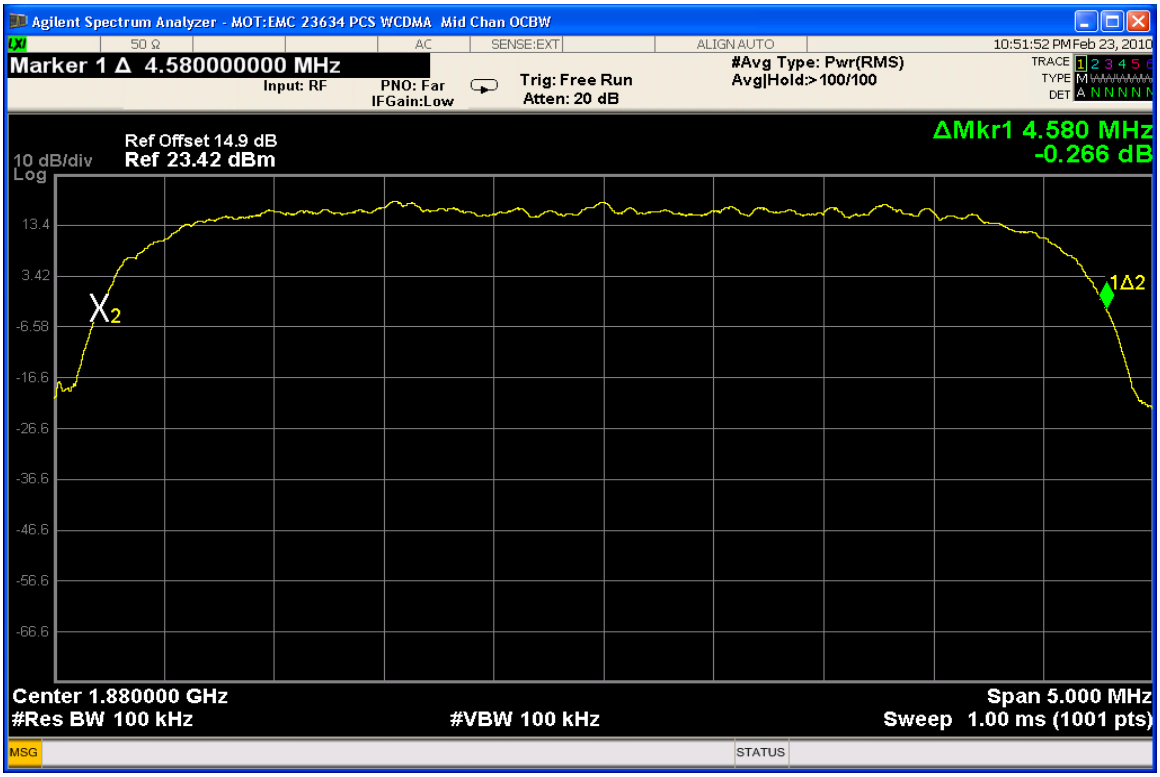


WCDMA 850 – Upper Band Edge – Channel 4233 (846.60 MHz)

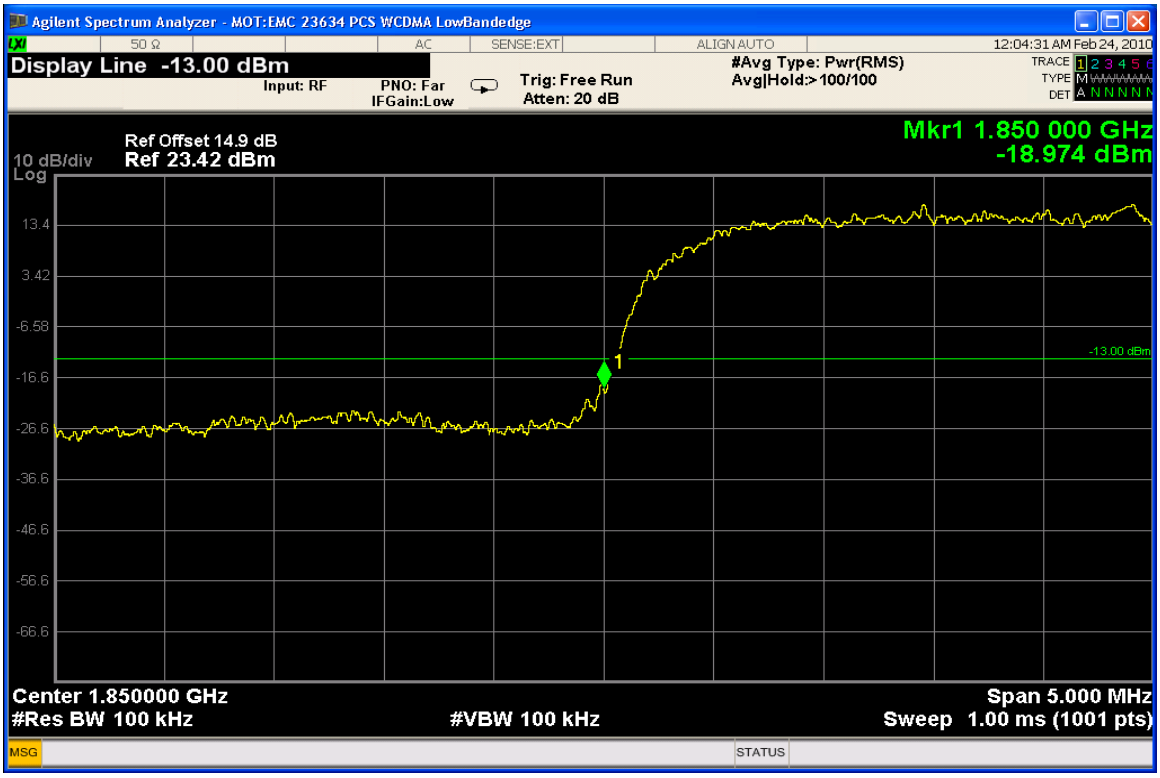
Measurement Results – WCDMA 1900



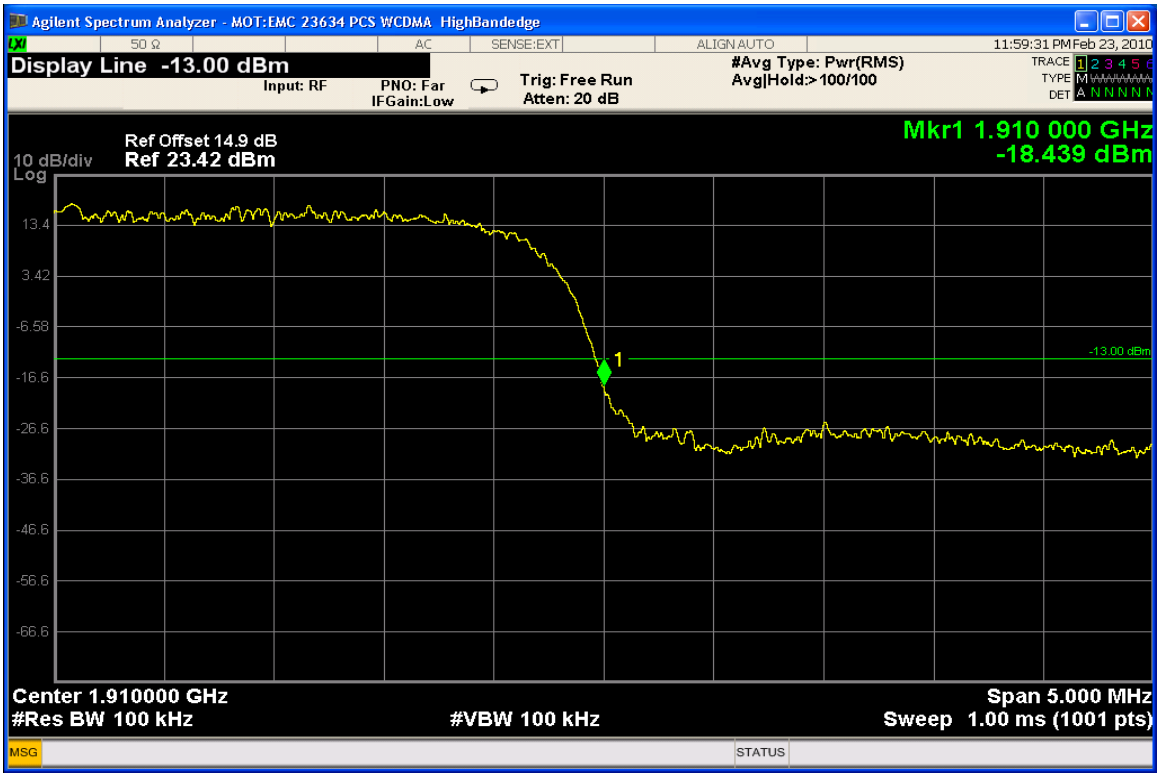
WCDMA 1900 – Reference Level Plot – Channel 9400 (1880.00 MHz)



WCDMA 1900 – Occupied Bandwidth – Channel 9400 (1880.00 MHz)



WCDMA 1900 – Lower Band Edge – Channel 9262 (1852.40 MHz)



WCDMA 1900 – Upper Band Edge – Channel 9538 (1907.60 MHz)

SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Measurement Procedure

The RF output port of the Equipment Under Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage.

The spectrum was investigated from the lowest frequency signal generated, without going below 9 kHz, up to at least the tenth harmonic of the fundamental or 40 GHz, whichever is lower.

The spectrum analyzer settings were as follows:

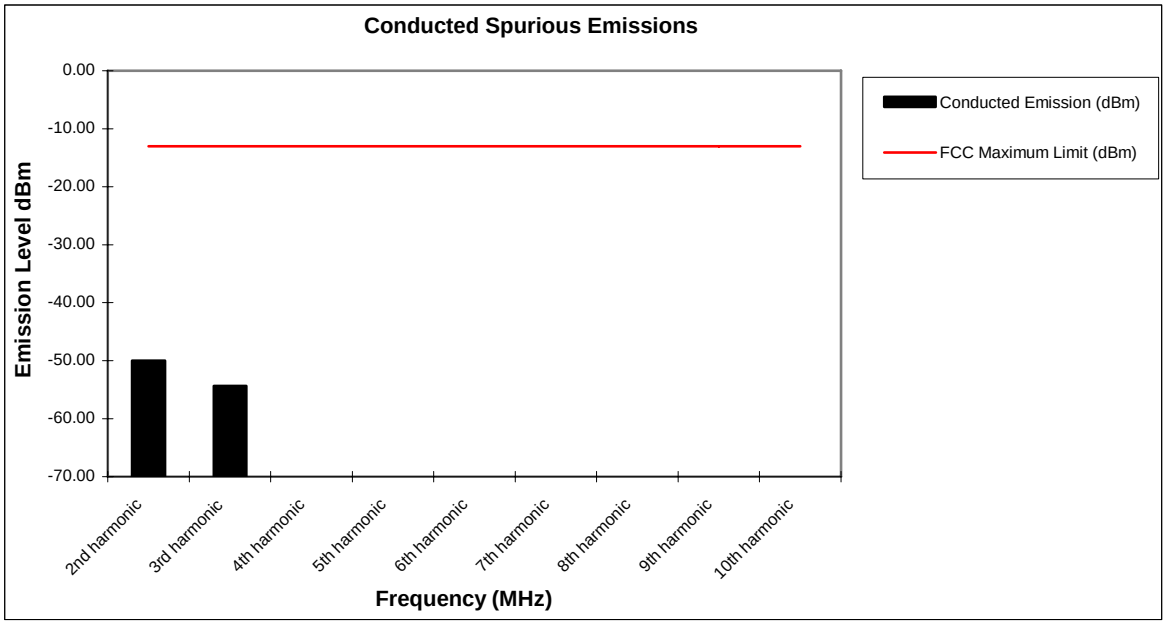
Units	dBm
Divisions	10 dB
Detector	Peak Detector
Resolution Bandwidth	1 MHz
Video Bandwidth (AVG)	Auto
Sweep Time	Auto

Measurement Results

Attached

Measurement Results
Modulation: GSM 850

Harmonic of Fundamental	FCC Maximum Limit (dBm)	Conducted Emission (dBm)
2nd harmonic	-13	-49.98
3rd harmonic	-13	-54.38
4th harmonic	-13	*
5th harmonic	-13	*
6th harmonic	-13	*
7th harmonic	-13	*
8th harmonic	-13	*
9th harmonic	-13	*
10th harmonic	-13	*

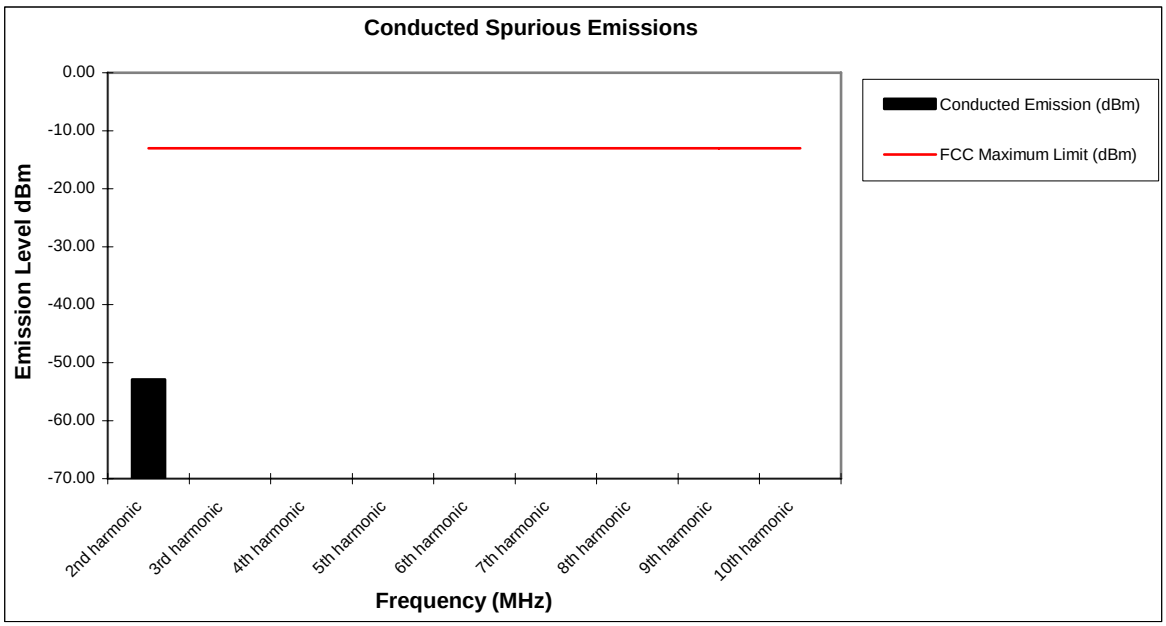


Notes:
1. * Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
3. The Spectrum was investigated from 9 kHz to the tenth harmonic of the fundamental.

The margin with respect to the limit is the minimum margin for all modes and bands.

Measurement Results
Modulation: EDGE 850

Harmonic of Fundamental	FCC Maximum Limit (dBm)	Conducted Emission (dBm)
2nd harmonic	-13	-52.88
3rd harmonic	-13	*
4th harmonic	-13	*
5th harmonic	-13	*
6th harmonic	-13	*
7th harmonic	-13	*
8th harmonic	-13	*
9th harmonic	-13	*
10th harmonic	-13	*

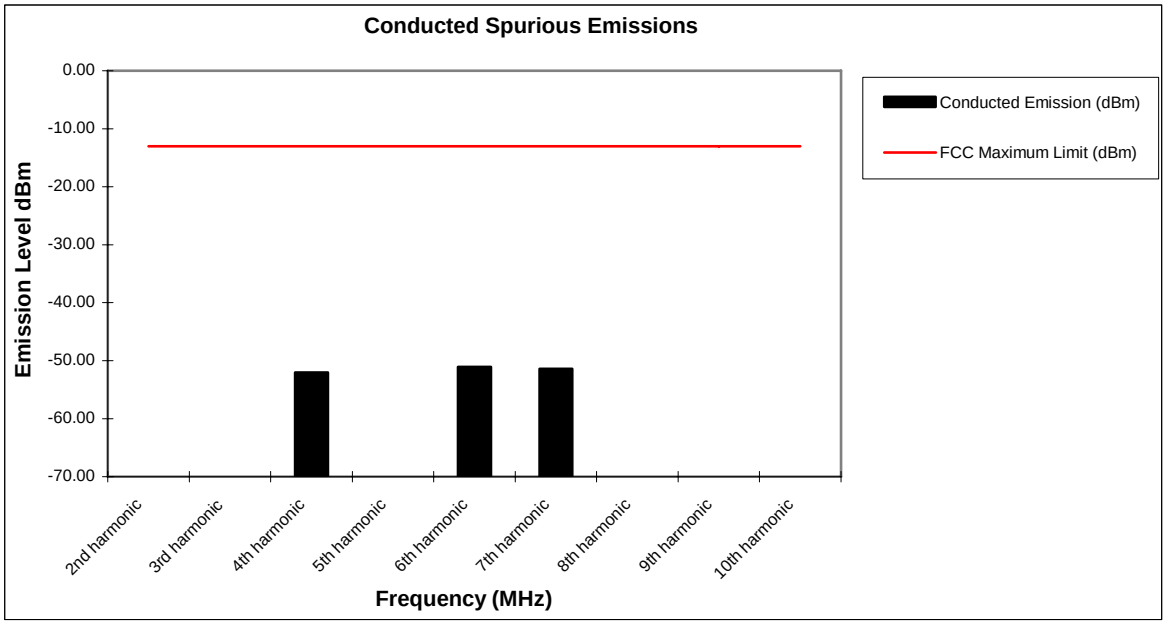


Notes:
1. * Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
3. The Spectrum was investigated from 9 kHz to the tenth harmonic of the fundamental.

The margin with respect to the limit is the minimum margin for all modes and bands.

Measurement Results
Modulation: GSM 1900

Harmonic of Fundamental	FCC Maximum Limit (dBm)	Conducted Emission (dBm)
2nd harmonic	-13	*
3rd harmonic	-13	*
4th harmonic	-13	-52.05
5th harmonic	-13	*
6th harmonic	-13	-51.06
7th harmonic	-13	-51.41
8th harmonic	-13	*
9th harmonic	-13	*
10th harmonic	-13	*

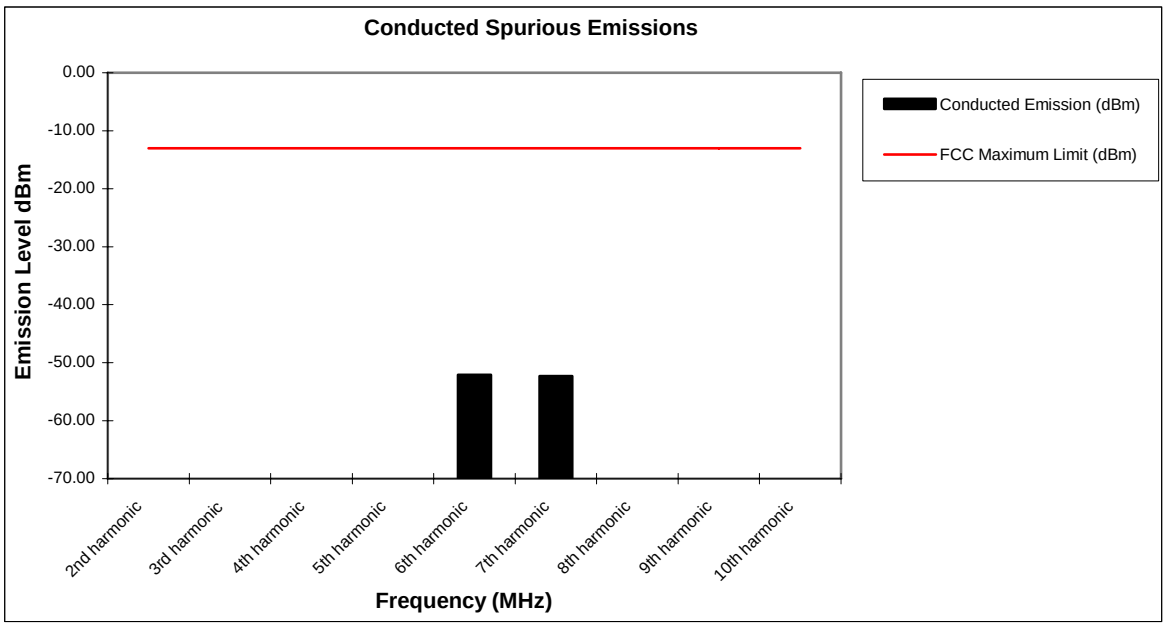


Notes:
1. * Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
3. The Spectrum was investigated from 9 kHz to the tenth harmonic of the fundamental.

The margin with respect to the limit is the minimum margin for all modes and bands.

Measurement Results
Modulation: EDGE 1900

Harmonic of Fundamental	FCC Maximum Limit (dBm)	Conducted Emission (dBm)
2nd harmonic	-13	*
3rd harmonic	-13	*
4th harmonic	-13	*
5th harmonic	-13	*
6th harmonic	-13	-52.11
7th harmonic	-13	-52.32
8th harmonic	-13	*
9th harmonic	-13	*
10th harmonic	-13	*

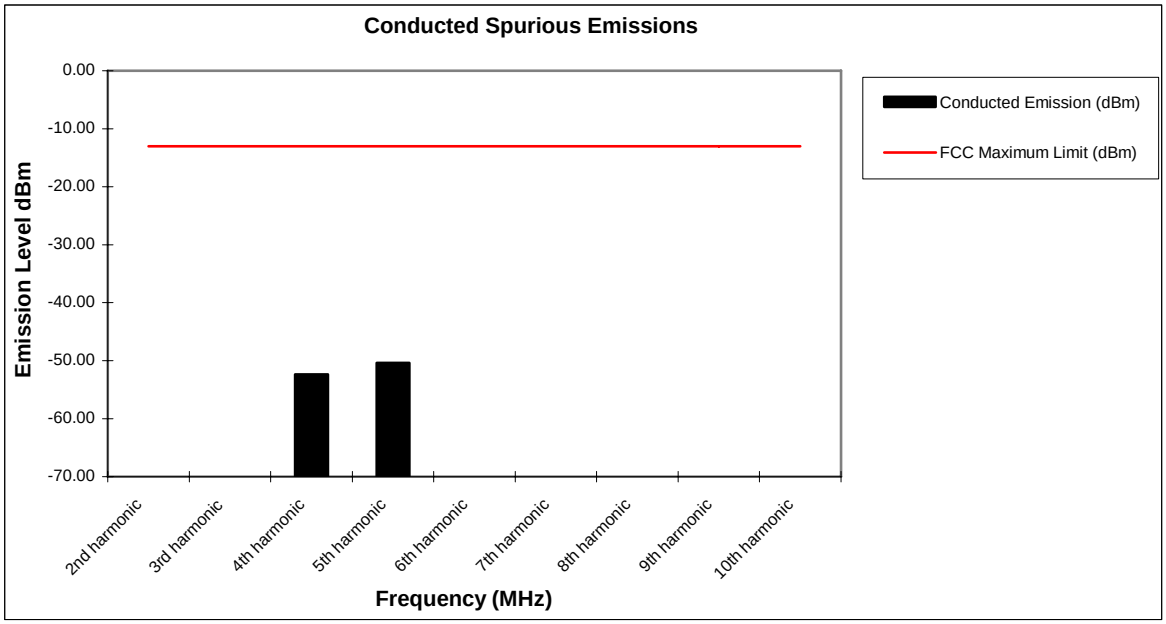


Notes:
1. * Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
3. The Spectrum was investigated from 9 kHz to the tenth harmonic of the fundamental.

The margin with respect to the limit is the minimum margin for all modes and bands.

Measurement Results
Modulation: WCDMA 850

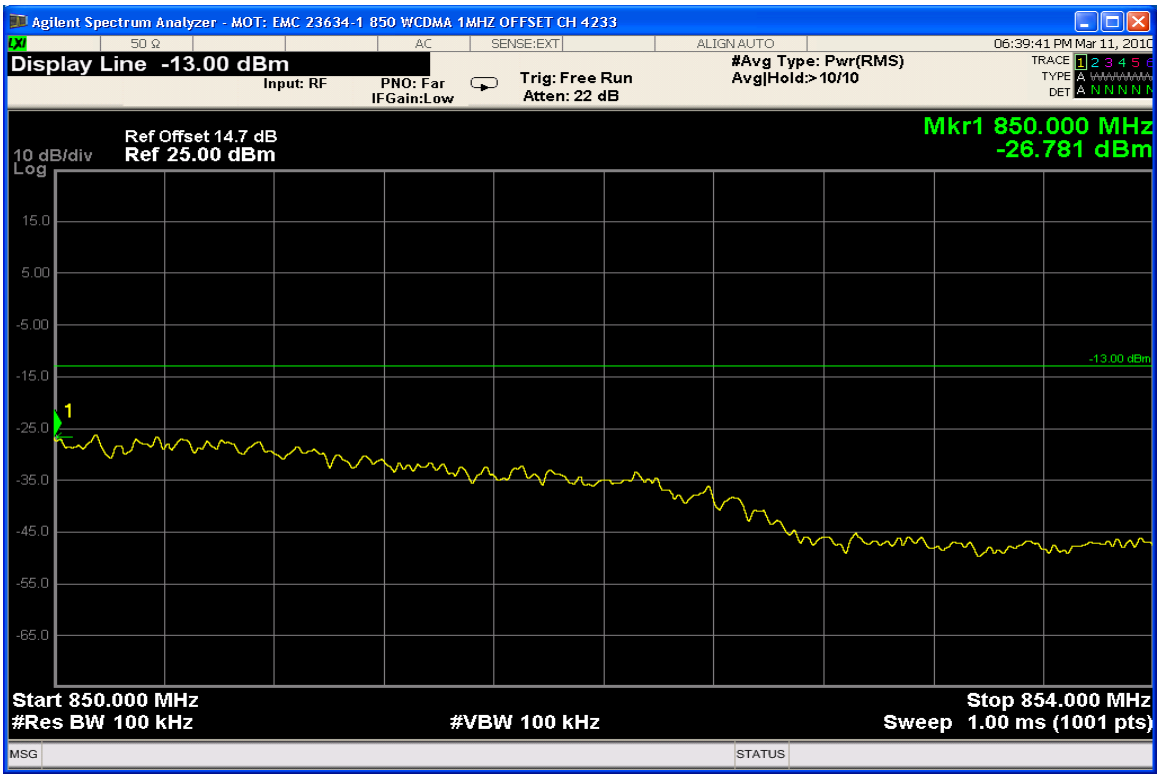
Harmonic of Fundamental	FCC Maximum Limit (dBm)	Conducted Emission (dBm)
2nd harmonic	-13	*
3rd harmonic	-13	*
4th harmonic	-13	-52.38
5th harmonic	-13	-50.40
6th harmonic	-13	*
7th harmonic	-13	*
8th harmonic	-13	*
9th harmonic	-13	*
10th harmonic	-13	*



Notes:
1. * Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
3. The Spectrum was investigated from 9 kHz to the tenth harmonic of the fundamental.

The margin with respect to the limit is the minimum margin for all modes and bands.

850 WCDMA Conducted Spurious Emissions (Lower adjacent 1 MHz band)

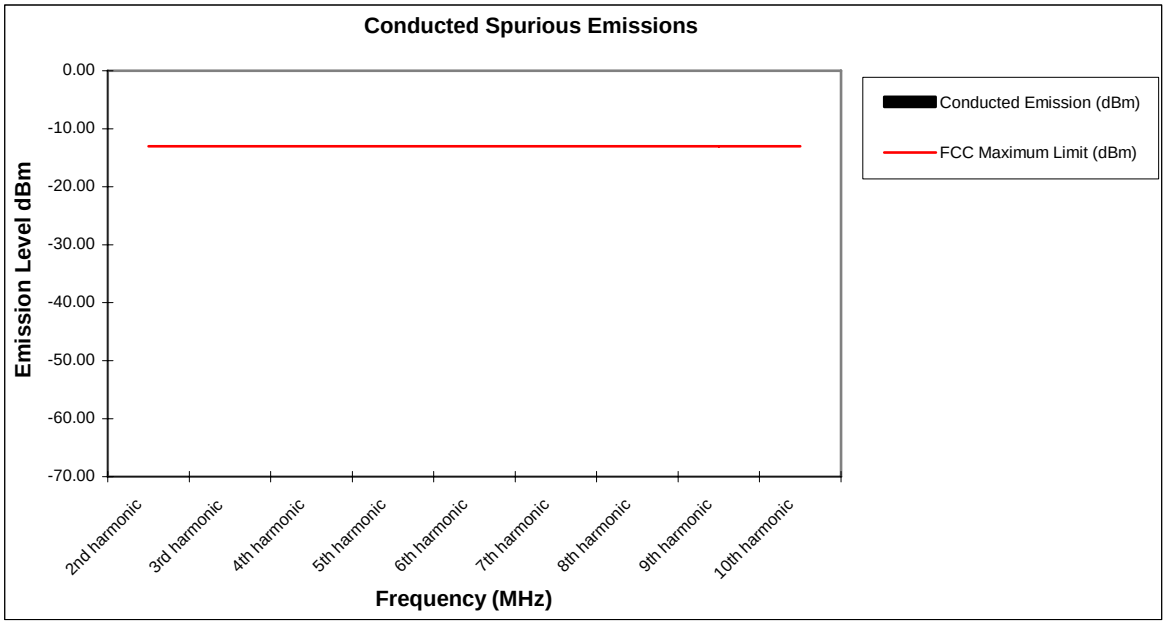


850 WCDMA Conducted Spurious Emissions (Upper adjacent 1 MHz band)

Measurement Results

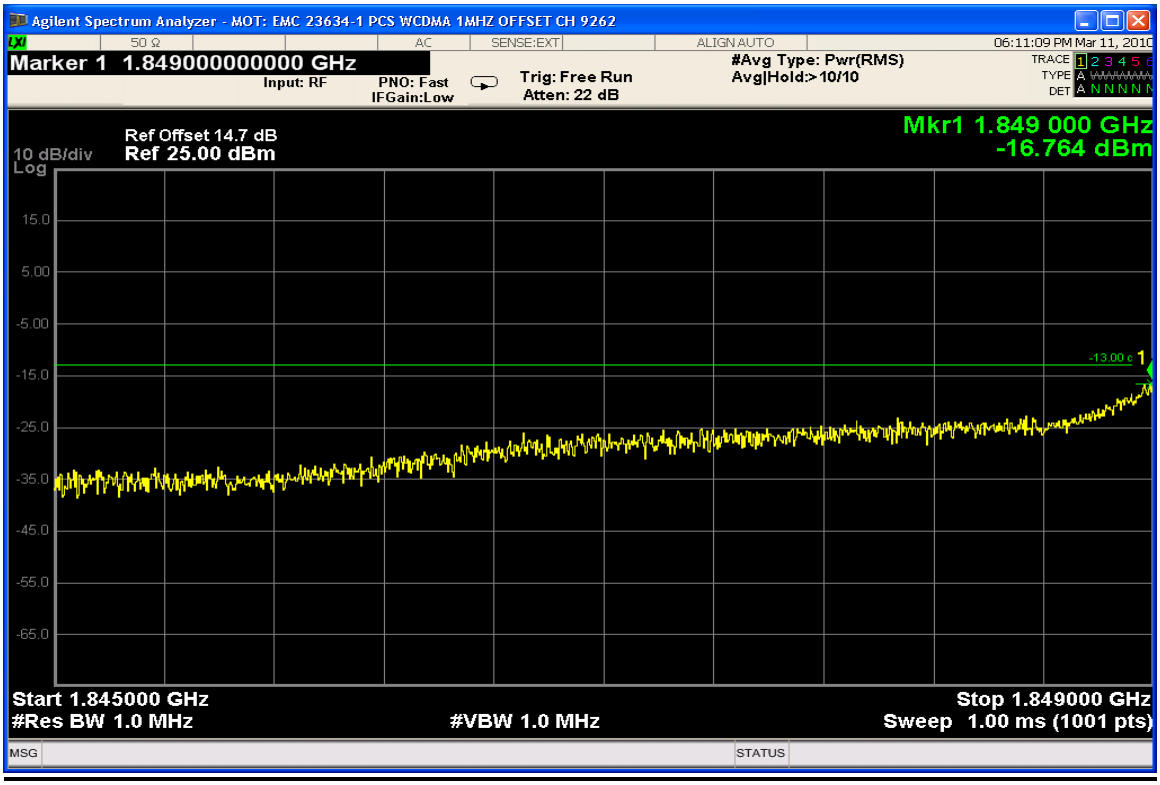
Modulation: WCDMA 1900

Harmonic of Fundamental	FCC Maximum Limit (dBm)	Conducted Emission (dBm)
2nd harmonic	-13	*
3rd harmonic	-13	*
4th harmonic	-13	*
5th harmonic	-13	*
6th harmonic	-13	*
7th harmonic	-13	*
8th harmonic	-13	*
9th harmonic	-13	*
10th harmonic	-13	*

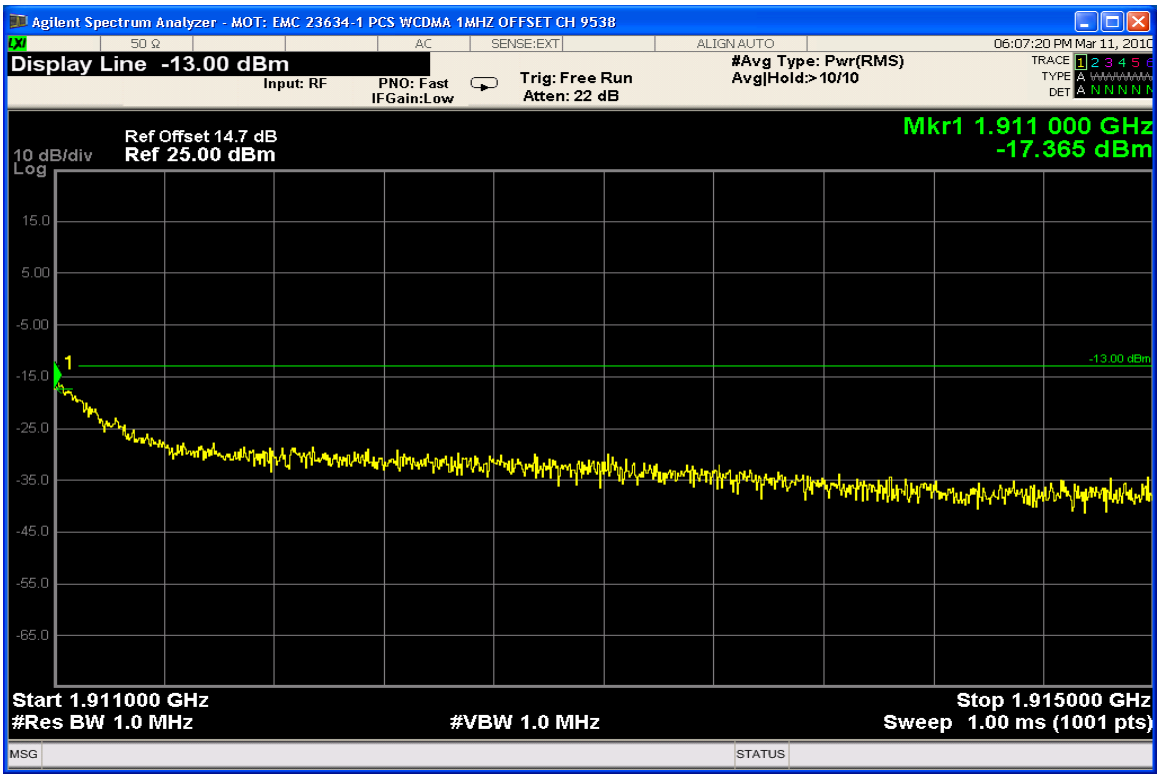


Notes:
1. * Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
3. The Spectrum was investigated from 9 kHz to the tenth harmonic of the fundamental.

The margin with respect to the limit is the minimum margin for all modes and bands.



1900 WCDMA Conducted Spurious Emissions (Lower adjacent 1 MHz band)



1900 WCDMA Conducted Spurious Emissions (Upper adjacent 1 MHz band)

FIELD STRENGTH OF SPURIOUS EMISSIONS

Measurement Procedure

The equipment under test is placed inside the semi-anechoic chamber on a wooden table at the turntable center. For each spurious frequency, the antenna mast is raised and lowered from 1 to 4 meters and the turntable is rotated 360 degrees to obtain a maximum reading on the spectrum analyzer. This is repeated for both horizontal and vertical polarizations of the receive antenna.

The equipment under test is then replaced with a substitution antenna fed by a signal generator. With the signal generator tuned to a particular spurious frequency, the antenna mast is raised and lowered from 1 to 4 meters to obtain a maximum reading at the spectrum analyzer. The output of the signal generator is then adjusted until a reading identical to that obtained with the actual transmitter is achieved.

The power in dBm of each spurious emission is calculated by correcting the signal generator level for cable loss and gain of the substitution antenna referenced to a dipole. A fully charged battery was used for the supply voltage.

The settings of the receiver were as follows:

Units	dBm
Divisions	5 dB
Detector	Peak Detector
Resolution Bandwidth	1 MHz
Video Bandwidth (AVG)	Auto
Sweep Time	Auto

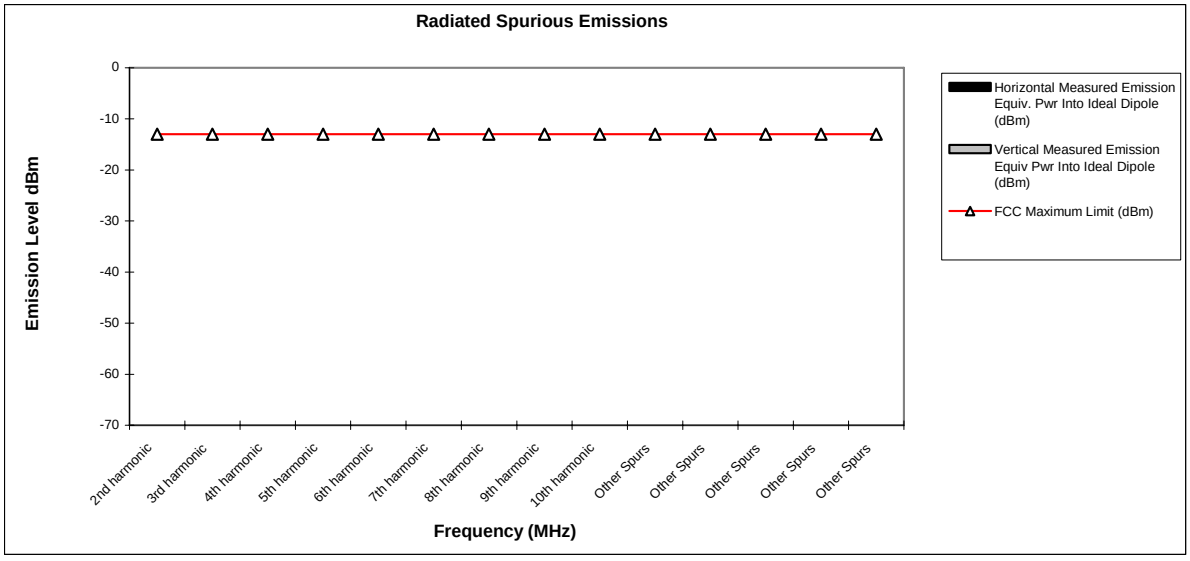
Measurement Results

Attached

Measurement Results – All operational modes

Radiated Spurious and Harmonic Emissions

Frequency (MHz)	FCC Maximum Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
2nd harmonic	-13	*	*
3rd harmonic	-13	*	*
4th harmonic	-13	*	*
5th harmonic	-13	*	*
6th harmonic	-13	*	*
7th harmonic	-13	*	*
8th harmonic	-13	*	*
9th harmonic	-13	*	*
10th harmonic	-13	*	*
Other Spurs	-13	*	*
Other Spurs	-13	*	*
Other Spurs	-13	*	*
Other Spurs	-13	*	*
Other Spurs	-13	*	*



Notes:

1. * Indicates the spurious emission could not be detected due to noise limitations or ambients.
2. Each emission reported reflects the highest absolute level at the specific harmonic for the low, mid, and high channels at maximum power.
3. The Spectrum was investigated from 30 MHz to the tenth harmonic of the fundamental.

The margin with respect to the limit is the minimum margin for all modes and bands.

FREQUENCY STABILITY

Measurement Procedure

The equipment under test is placed in an environmental chamber. The antenna port of the Equipment Under Test is directly coupled to the input of the measurement equipment through a specialized RF connector. A power supply is attached as the primary voltage supply.

Frequency measurements are made at the extremes of the temperature range -30º C to +60º C and at intervals of 10º C with the primary supply voltage set to the nominal battery operating voltage. A period of time sufficient to stabilize all components of the equipment is allowed at each frequency measurement. The maximum variation of frequency is measured.

At room temperature, the primary supply voltage is reduced to the battery operating endpoint of the equipment under test. The maximum variation of frequency is measured. A battery eliminator was used for the input supply voltage.

Measurement Results

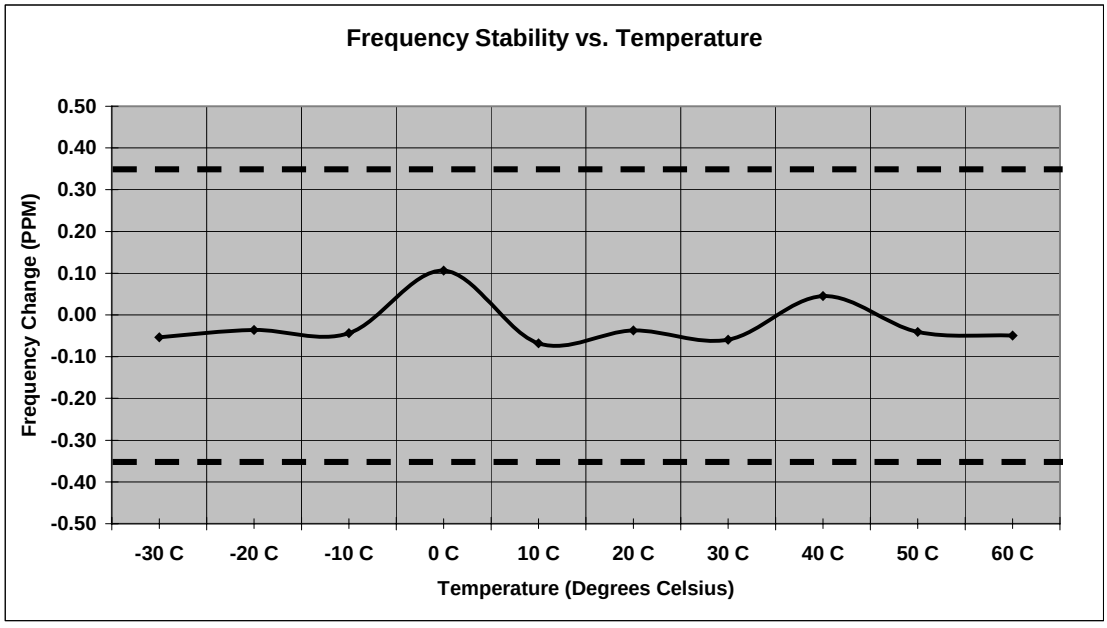
Attached

Measurement Results
Modulation: GSM 850

Frequency Stability

Mode: GSM 850 **Operating Frequency:** 836.6 MHz
Channel: 190 **Deviation Limit (PPM):** 0.359ppm (+/-300Hz)

Temperature	Frequency Error	Frequency Error	Voltage	Voltage
C	HZ	(PPM)	(%)	(VDC)
-30 C	**-44.56**	**-0.053**	100%	3.80
-20 C	**-30.14**	**-0.036**	100%	3.80
-10 C	**-36.50**	**-0.044**	100%	3.80
0 C	**88.88**	**0.106**	100%	3.80
10 C	**-56.75**	**-0.068**	100%	3.80
20 C	**-30.88**	**-0.037**	100%	3.80
30 C	**-49.33**	**-0.059**	100%	3.80
40 C	**37.83**	**0.045**	100%	3.80
50 C	**-34.03**	**-0.041**	100%	3.80
60 C	**-41.15**	**-0.049**	100%	3.80
20 C	**-32.90**	**-0.039**	Battery Endpoint	3.20

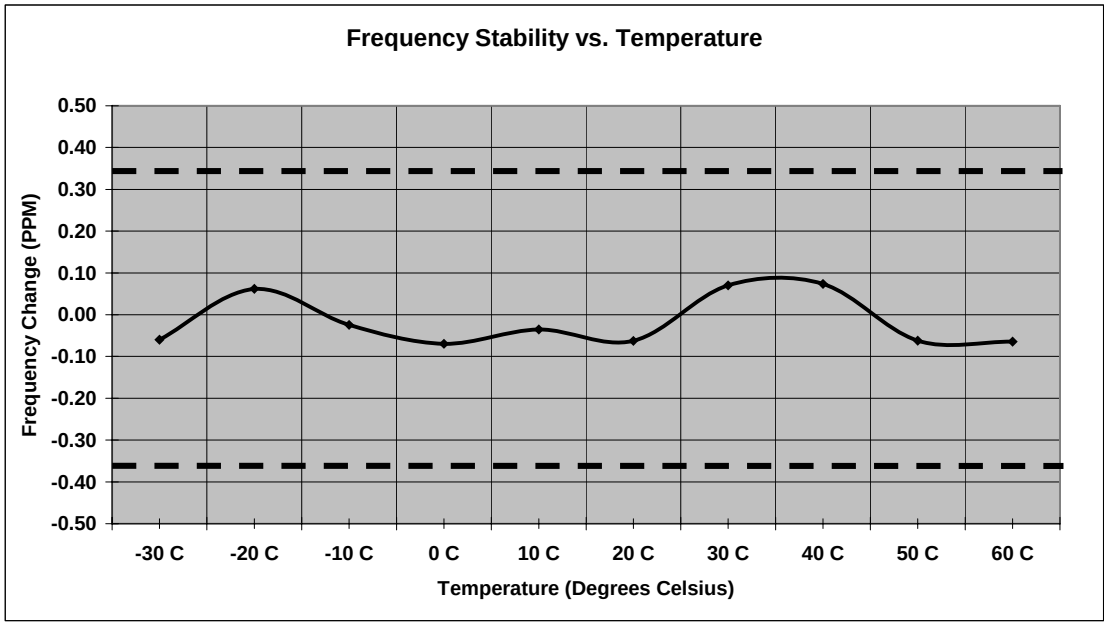


Measurement Results
Modulation: EDGE 850

Frequency Stability

Mode: EDGE 850 **Operating Frequency:** 836.6
Channel: 190 **Deviation Limit (PPM):** 0.359ppm (+/-300Hz)

Temperature	Frequency Error	Frequency Error	Voltage	Voltage
C	HZ	(PPM)	(%)	(VDC)
-30 C	**-49.91**	**-0.060**	100%	3.80
-20 C	**51.74**	**0.062**	100%	3.80
-10 C	**-20.38**	**-0.024**	100%	3.80
0 C	**-58.04**	**-0.069**	100%	3.80
10 C	**-29.62**	**-0.035**	100%	3.80
20 C	**-52.61**	**-0.063**	100%	3.80
30 C	**58.61**	**0.070**	100%	3.80
40 C	**61.63**	**0.074**	100%	3.80
50 C	**-51.83**	**-0.062**	100%	3.80
60 C	**-53.92**	**-0.064**	100%	3.80
20 C	**-44.38**	**-0.053**	Battery Endpoint	3.20

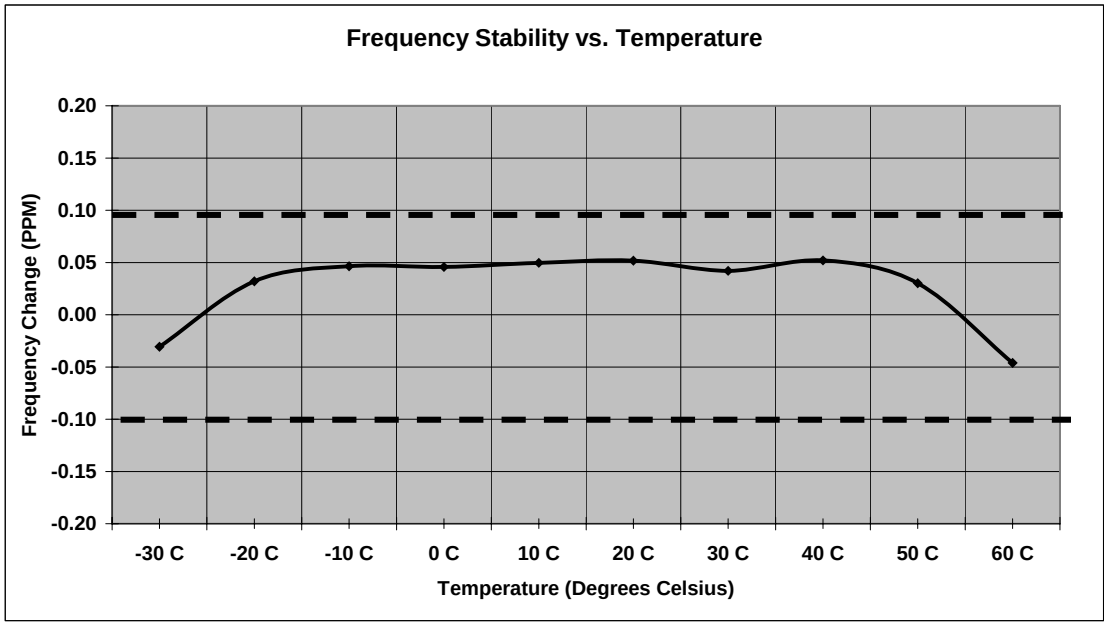


Measurement Results
Modulation: GSM 1900

Frequency Stability

Mode: GSM 1900 **Operating Frequency:** 1880.0 MHz
Channel: 661 **Deviation Limit (PPM):** 0.1ppm (+/-188Hz)

Temperature	Frequency Error	Frequency Error	Voltage	Voltage
C	HZ	(PPM)	(%)	(VDC)
-30 C	**-57.43**	**-0.031**	100%	3.80
-20 C	**60.19**	**0.032**	100%	3.80
-10 C	**87.42**	**0.047**	100%	3.80
0 C	**86.08**	**0.046**	100%	3.80
10 C	**93.41**	**0.050**	100%	3.80
20 C	**97.35**	**0.052**	100%	3.80
30 C	**78.91**	**0.042**	100%	3.80
40 C	**97.79**	**0.052**	100%	3.80
50 C	**56.49**	**0.030**	100%	3.80
60 C	**-86.97**	**-0.046**	100%	3.80
20 C	**-52.05**	**-0.028**	Battery Endpoint	3.20

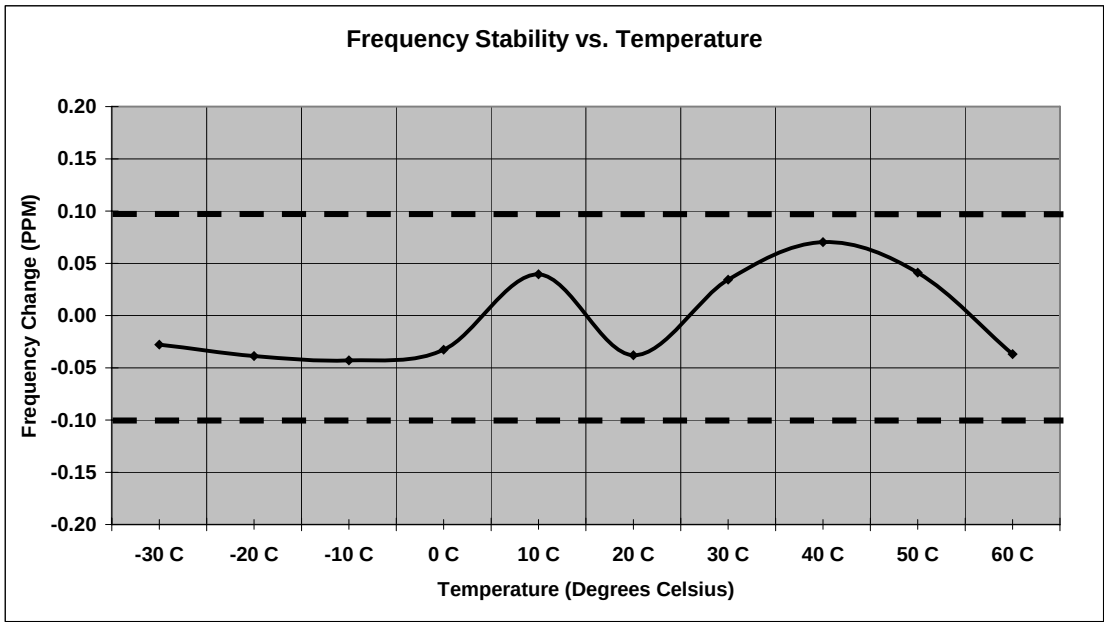


Measurement Results
Modulation: EDGE 1900

Frequency Stability

Mode: EDGE 1900 **Operating Frequency:** 1880.0 MHz
Channel: 661 **Deviation Limit (PPM):** 0.1ppm (+/-188Hz)

Temperature	Frequency Error	Frequency Error	Voltage	Voltage
C	HZ	(PPM)	(%)	(VDC)
-30 C	**-52.25**	**-0.028**	100%	3.80
-20 C	**-72.64**	**-0.039**	100%	3.80
-10 C	**-80.91**	**-0.043**	100%	3.80
0 C	**-61.35**	**-0.033**	100%	3.80
10 C	**74.07**	**0.039**	100%	3.80
20 C	**-71.61**	**-0.038**	100%	3.80
30 C	**64.52**	**0.034**	100%	3.80
40 C	**131.95**	**0.070**	100%	3.80
50 C	**77.28**	**0.041**	100%	3.80
60 C	**-69.50**	**-0.037**	100%	3.80
20 C	**73.60**	**0.039**	Battery Endpoint	3.20

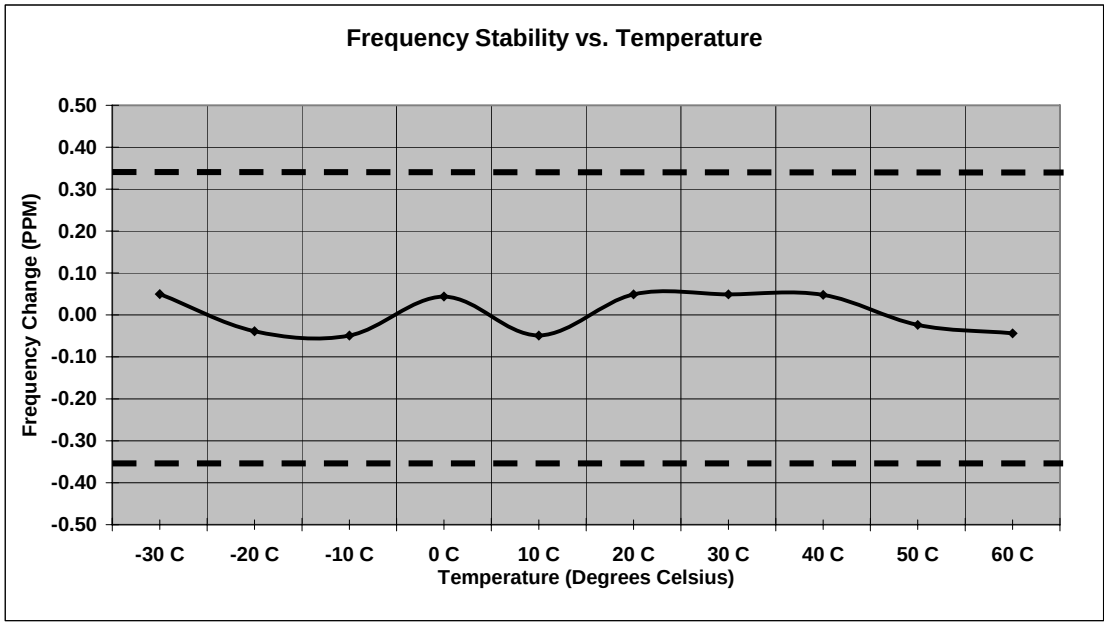


Measurement Results
Modulation: WCDMA 850

Frequency Stability

Mode: WCDMA 850 **Operating Frequency:** 836.00 MHz
Channel: 4180 **Deviation Limit (PPM):** 0.359ppm (+/-300Hz)

Temperature	Frequency Error	Frequency Error	Voltage	Voltage
C	HZ	(PPM)	(%)	(VDC)
-30 C	**41.78**	**0.050**	100%	3.80
-20 C	**-32.52**	**-0.039**	100%	3.80
-10 C	**-40.92**	**-0.049**	100%	3.80
0 C	**36.83**	**0.044**	100%	3.80
10 C	**-41.30**	**-0.049**	100%	3.80
20 C	**40.89**	**0.049**	100%	3.80
30 C	**41.04**	**0.049**	100%	3.80
40 C	**40.25**	**0.048**	100%	3.80
50 C	**-19.77**	**-0.024**	100%	3.80
60 C	**-36.90**	**-0.044**	100%	3.80
20 C	**37.04**	**0.044**	Battery Endpoint	3.20

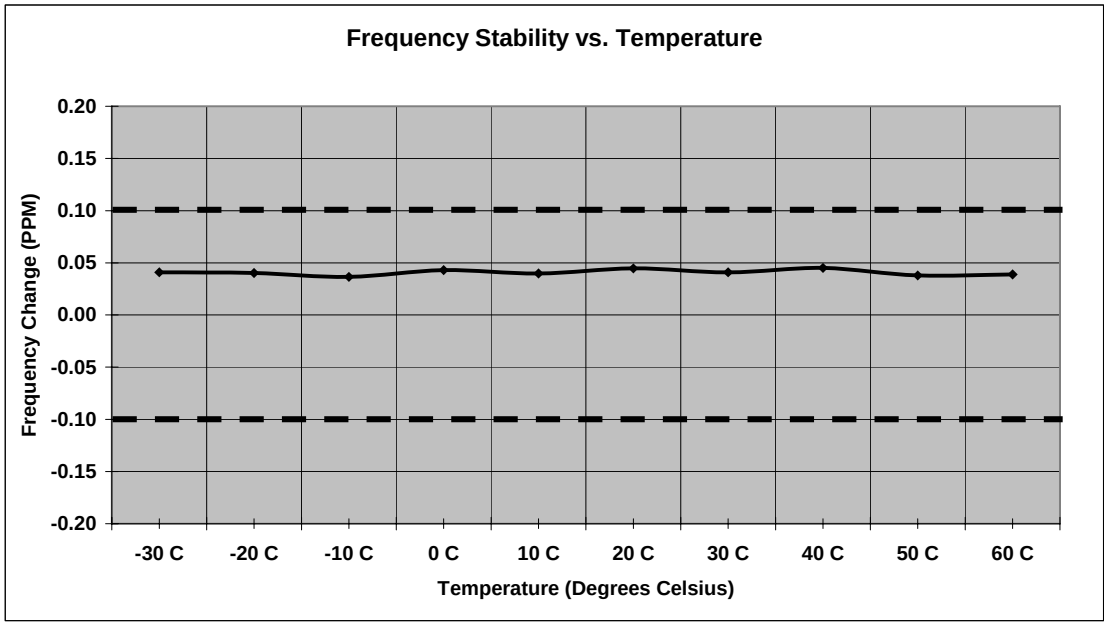


Measurement Results
Modulation: WCDMA 1900

Frequency Stability

Mode: WCDMA 1900 **Operating Frequency:** 1880 MHz
Channel: 9400 **Deviation Limit (PPM):** 0.1ppm (+/-188Hz)

Temperature	Frequency Error	Frequency Error	Voltage	Voltage
C	HZ	(PPM)	(%)	(VDC)
-30 C	**77.03**	**0.041**	100%	3.80
-20 C	**75.68**	**0.040**	100%	3.80
-10 C	**68.73**	**0.037**	100%	3.80
0 C	**80.84**	**0.043**	100%	3.80
10 C	**74.77**	**0.040**	100%	3.80
20 C	**83.98**	**0.045**	100%	3.80
30 C	**76.88**	**0.041**	100%	3.80
40 C	**84.93**	**0.045**	100%	3.80
50 C	**71.35**	**0.038**	100%	3.80
60 C	**72.86**	**0.039**	100%	3.80
20 C	**85.91**	**0.046**	Battery Endpoint	3.20



End of Test Report