Lab Code: 200167-0

FCC PART 22 TYPE APPROVALS
MEASUREMENT AND TEST REPORT

For

Hisense Communication Co., Ltd.

Hisense Information Industrial Park,
Economic and Technology Development District,
Qingdao 266510, Shandong, China

FCC ID: SARHISENSEC127
MODEL: HS-C127

Report Type:	**Product Type:**
☒ Original Report	CDMA 1X Cell phone

Test Engineer:	James Ma
Report Number:	R0706114
Report Date:	2007-06-25
Reviewed By:	Oscar Au, Test Engineer
Prepared By: (J8)	Bay Area Compliance Laboratories Corp. (BACL) 1274 Anvilwood Ave. Sunnyvale, CA 94089, USA Tel: (408) 732-9162 Fax: (408) 732 9164

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1 GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

The *Hisense Communication Co., Ltd.'s* product, *FCC ID: SARHISENSEC127* model: *HS-C127* or the "EUT" as referred to in this report is a 800 MHz CDMA-1X Cellular Telephone.

Item	Content
Mode	CDMA 1X
Frequency Bands	Tx: 824 ~ 849 MHz Rx: 869 ~ 894 MHz
Dimensions (L*W*D)	103 mm×45.5 mm×13.3 mm
Weight	80g
Frequency accuracy	＜± 300 Hz
Wave quality factor	>0.944
Channel bandwidth	1.25 MHz
Battery capacity	3.7 VDC/850 mAh

** The test data gathered are from typical production sample, serial number: B1250 provided by the manufacturer.*

1.2 EUT Photo

For Additional Photos please see Exhibit C

1.3 Objective

This type approval report is prepared on behalf of *Hisense Communication Co., Ltd.* in accordance with Part 2, Subpart J, Part 22 Subpart H of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC rules for RF output power, modulation characteristic, occupied bandwidth, spurious emission at antenna terminal, field strength of spurious radiation, frequency stability, and band edge.

1.4 Related Submittal(s)/Grant(s)

No Related Submittals

1.5 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

Applicable Standards: TIA/EIA 98-C, TIA603-C, ANSI C63.4-2003.

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

1.6 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the values ranging from +2.0 dB for Conducted Emissions tests and +4.0 dB for Radiated Emissions tests are the most accurate estimates pertaining to uncertainty of EMC measurements at BACL Corp.

Detailed instrumentation measurement uncertainties can be found in BACL Corp. report QAP-018.

1.7 Test Facility

The test site used by BACL Corp. to collect radiated and conducted emissions measurement data is located at its facility in Sunnyvale, California, USA.

The test sites at BACL have been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports has been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997 and Article 8 of the VCCI regulations on December 25, 1997. 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, Industry Canada, and Voluntary Control Council for Interference has the reports on file and is listed under FCC registration number: 90464, IC registration number: 3062A, and VCCI Registration Number: C-2463 and R-2698. The test site has been approved by the FCC, IC, and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200167-0). The current scope of accreditations can be found at http://ts.nist.gov/ts/htdocs/210/214/scopes/2001670.htm

2 SYSTEM TEST CONFIGURATION

2.1 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.

2.2 Block Diagram

Please refer to Exhibit D.

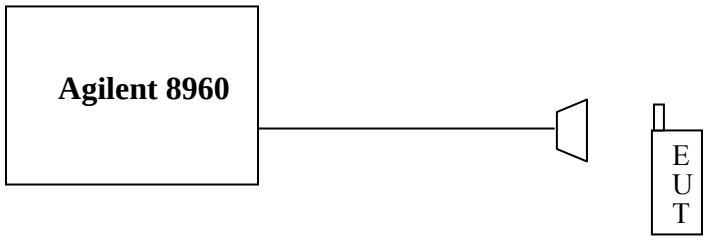
2.3 Equipment Modifications

No modifications were made to the EUT.

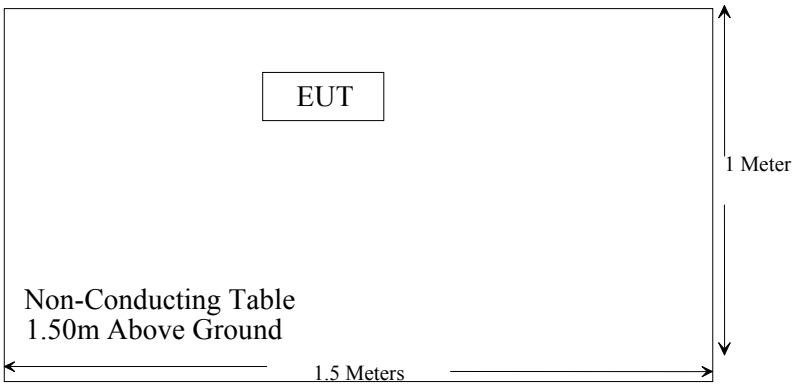
2.4 Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
Agilent	Communication test set	8960	GB44051221	DOC

2.5 Configuration of Test System



2.6 Test Setup Block Diagram



3 SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§ 2.1047	Modulation Characteristics	N/A
§2.1093	RF Exposure	SAR report
§ 2.1046, § 22.913 (a)	RF Output Power	Compliant
§ 2.1053	Field Strength of Spurious Radiation	Compliant
§ 15.109	Radiated Emission Limits	Compliant
§ 15.107	Conducted Limits	Compliant
§ 2.1051, § 22.917	Spurious Emissions at Antenna Terminals	Compliant
§ 2.1049 § 22.917 § 22.905	Out of Band Emission, Occupied Bandwidth	Compliant
§ 2.1055 (a) § 2.1055 (d) § 22.355	Frequency stability vs. temperature Frequency stability vs. voltage	Compliant
§ 22.917	Band Edge	Compliant

4 §2.1047 - MODULATION CHARACTERISTIC

4.1 Applicable Standard

Requirement: FCC § 2.1047(d). As part 22H has not specific requirement for CDMA modulation, therefore modulation characteristic is not presented.

5 §2.1046, §22.913(a) – RF OUTPUT POWER

5.1 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.

5.2 Test Procedure

Conducted:

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

5.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Agilent	Analyzer, Communications	E5515C	GB44051221	2006-08-08
Agilent	Analyzer, Spectrum	E4446A	US44300386	2007-04-26
Rohde & Schwarz	Generator, Signal	SMIQ03	849192/0085	2006-10-18
Sonoma Instrument	Amplifier (10 KHz – 2500 MHz)	317	260406	2007-04-30
Sunol Sciences	Antenna 30 – 3000 MHz	JB3	A020106-2/S009976	2007-04-05
SPEAG	Antenna Dipole	D900V2	122	2006-06-16 (2 years)

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

5.4 Environmental Conditions

Temperature:	25° C
Relative Humidity:	55%
ATM Pressure:	101.8 kPa

** The testing was performed by James Ma on 2007-06-21*

5.5 Test Results

Channel	Radio Configuration and Conducted Power (dBm)				
	RC1	RC2	RC3	RC4	RC5
824.7 MHz	23.25	23.41	23.59	23.20	23.42
836.52 MHz	23.28	23.55	23.83	23.27	23.48
848.3 MHz	23.39	23.48	23.69	23.50	23.46

Based on the above results from the different radio configuration, RC3 is the worst case for all measurements.

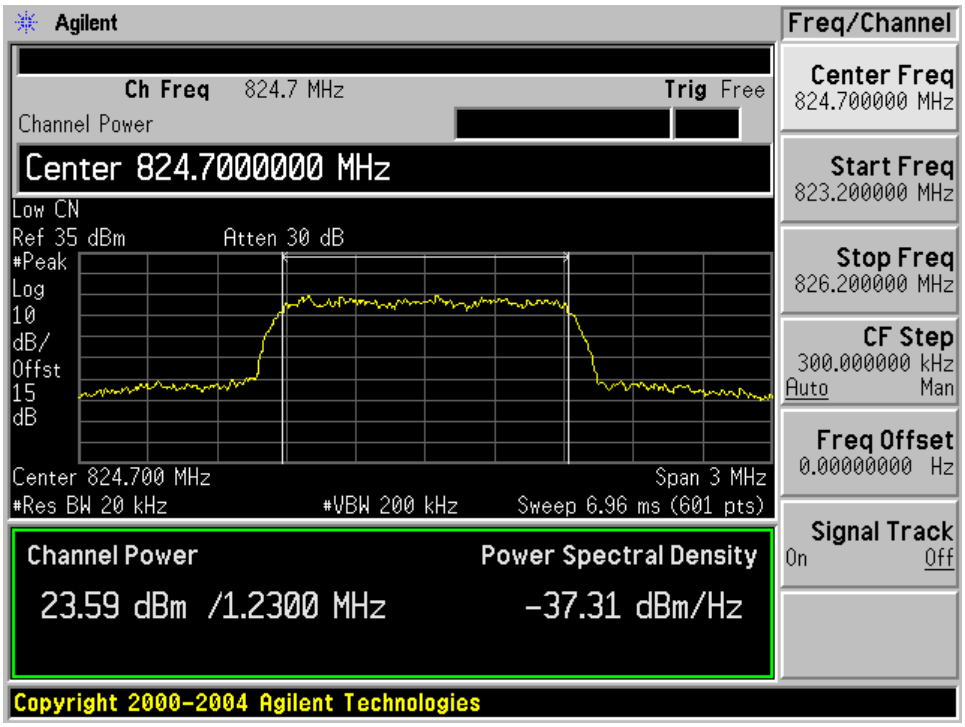
ERP:

Indicated		Table Angle Degree	Test Antenna		Substituted				ERP Level (dBm)	ERP Limit (dBm)	Margin (dB)
Freq. (MHz)	Amplitude (dBµV)		Height (m)	Polar. H/V	Freq. (MHz)	Level (dBm)	Antenna Correction	Cable Loss (dB)			
836.52	94.30	270	1.0	V	836.52	24.20	0.0	0.8	23.4	38.45	-15.1
836.52	91.80	220	1.3	H	836.52	21.70	0.0	0.8	20.9	38.45	-17.6

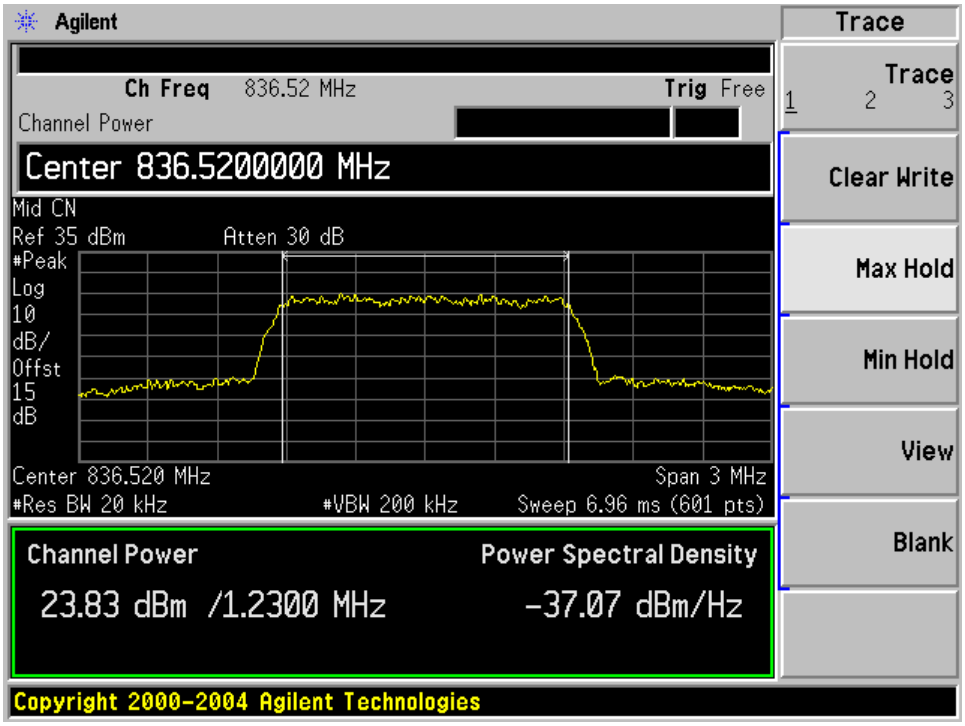
Note: Measured at 3 meter and without use of Pre- Amp

5.6 Plots of Conducted Output RF Power for RC3

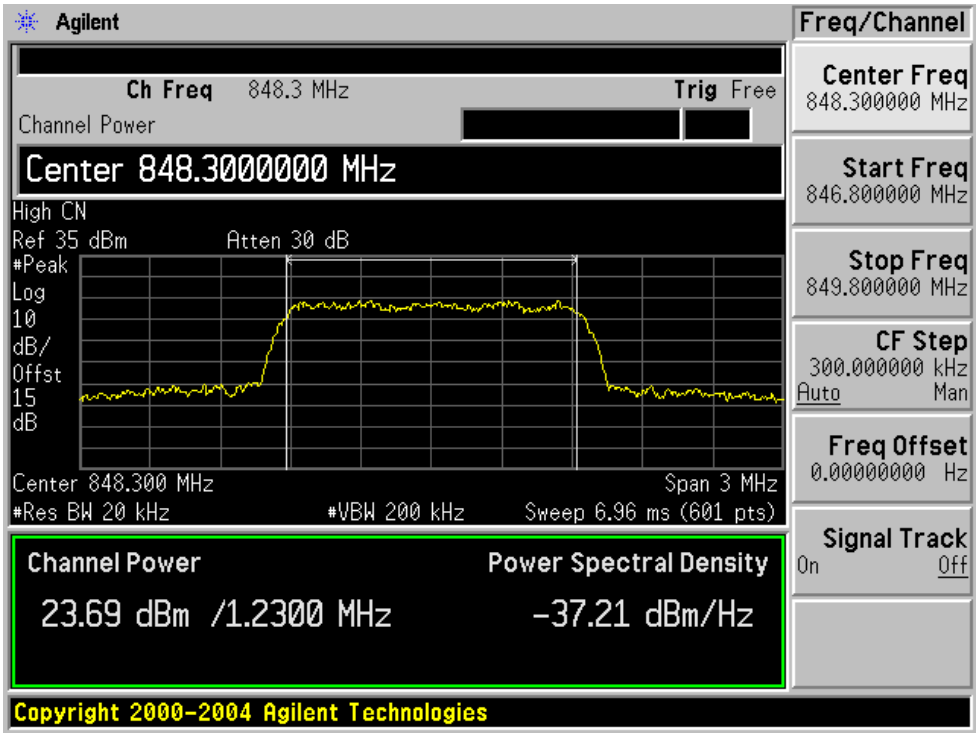
Low CH



Middle CH



High CH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Channel Power
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Atten 30 dB
#Peak
Log
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dB/
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Start Freq
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Stop Freq
849.800000 MHz
CF Step
300.000000 kHz
Auto
Man
Freq Offset
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Signal Track
On
Off
Copyright 2000-2004 Agilent Technologies

6 §2.1053 - SPURIOUS RADIATED EMISSIONS

6.1 Applicable Standard

Requirements: CFR 47, § 2.1053.

6.2 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)

6.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Agilent	Analyzer, Communications	E5515C	GB44051221	2006-08-08
Agilent	Analyzer, Spectrum	E4446A	US44300386	2007-04-26
HP	Amplifier, Pre, Microwave (1- 26.5 GHz)	8449B	3147A00400	2006-08-21
Rohde & Schwarz	Generator, Signal	SMIQ03	849192/0085	2006-10-18
HP	Generator, Signal	83650B	3614A00276	2007-05-08
A. H. Systems	Antenna, Horn, DRG	SAS-200/571	261	2005-08-17 (2yrs)
Sunol Sciences	Antenna 30 – 3000 MHz	JB3	A020106-2/S009976	2007-04-05

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

6.4 Environmental Conditions

Temperature:	20° C
Relative Humidity:	55%
ATM Pressure:	101.8 kPa

** The testing was performed by James Ma on 2007-06-21*

6.5 Test Result

Worst case reading as follows:

-25.4 dB at 2509.56 MHz

TX Spurious Emission scan 30 MHz – 9 GHz (TX) Middle channel (836.52MHz)

Indicated		Table Angle	Test Antenna		Substituted				Absolute Level (dBm)	Limit (dBm)	Margin (dB)
Frequency (MHz)	Amp. (dBµV)	Degree	Height (m)	Polar. (H/V)	Frequency (MHz)	Level (dBm)	Ant. Correction (dB)	Cable Loss (dB)			
1673.04	46.20	300	1.6	V	1673.04	-48.50	9.3	1.5	-40.7	-13	-27.7
1673.04	39.70	220	1.8	H	1673.04	-54.80	9.3	1.5	-47.0	-13	-34.0
2509.56	44.90	180	1.7	V	2509.56	-45.80	9.3	1.9	-38.4	-13	-25.4
2509.56	42.00	200	1.5	H	2509.56	-48.40	9.3	1.9	-41.0	-13	-28.0

Note: Measured at 3 meters.

7 §15.109 - RADIATED EMISSIONS

7.1 EUT Setup

The radiated emission tests were performed in the 10 meter chamber site by using the setup in accordance with the ANSI C63.4-2003. The specification used was the FCC15 Class B.

The charger of EUT was connected to 120VAC/60Hz power source.

7.2 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Sonoma Instruments	Pre amplifier	317	260407	2007-04-30
Agilent	Pre amplifier	8449B	3008A01978	2006-08-21
Sunol Science Corp	Combination Antenna	JB3 Antenna	A020106-3	2007-03-05
Rohde & Schwarz	EMI Test Receiver	ESCI 1166.595 0K03	100338	2007-04-05
Sunol Science Corp	System Controller	SC99V	113005-1	NA

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

7.3 Test Procedure

For the radiated emissions test, the EUT all support equipment were connected to the AC outlet on the turntable.

Maximizing procedure was performed on the six (6) highest emissions in the described configurations.

All data were recorded in the peak detection mode. Quasi-peak readings were distinguished with a "QP" in the data table and performed only when an emission was found to be marginal (within -4 dB of specification limits).

Environmental Conditions

Temperature:	24°C
Relative Humidity:	34 %
ATM Pressure:	102.0 kPa

**Testing was performed by James Ma 2007-06-21.*

7.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor, and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corrected Amplitude = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Limit - Corrected Amplitude

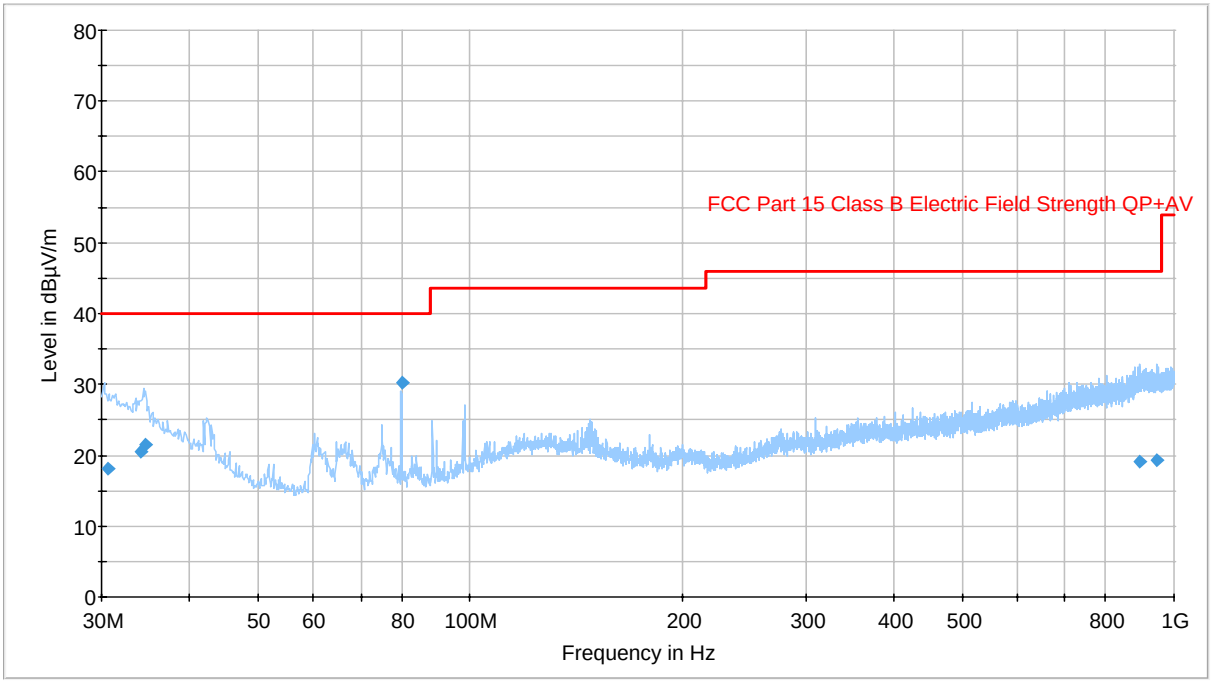
7.5 Summary of Test Results

According to the data in the following table, the EUT complied with the FCC Part 15 Class B standards and the test results are deemed satisfactory evidence of compliance displaying the worst margin of:

-9.7 dB at **79.995000 MHz** in the **Horizontal** polarization.

7.6 Radiated Emissions Test Data @ 3m Distance

30 – 1000 MHZ



Frequency (MHz)	Quasi-Peak (dBµV/m)	Antenna Height (cm)	Polarity	Turntable position (deg)	Corrected Reading (dB)	Limit (dBµV/m)	Margin (dB)
79.995000	30.3	100.0	H	247.0	-6.4	40.0	-9.7
34.645000	21.4	205.0	H	235.0	2.4	40.0	-18.6
34.116250	20.5	270.0	H	148.0	2.8	40.0	-19.5
30.560000	18.0	179.0	H	60.0	5.5	40.0	-22.0
946.895000	19.3	179.0	H	-2.0	7.8	46.0	-26.7
893.542500	19.1	375.0	V	275.0	7.6	46.0	-26.9

8 §15.107 - CONDUCTED EMISSIONS

8.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are receiver, cable loss, and LISN.

Based on NIS 81, the Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emission measurement at BACL is ±2.4 dB.

8.2 EUT Setup

The measurements were performed in the shielded room by using the same setup per ANSI C63.4-2003 measurement procedure. The specification used was FCC 15 Class B limits.

The adaptor of EUT was connected to 120VAC/60 Hz power source.

8.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Solar Electronics	LISN	9252-R-24-BNC	511205	2006-07-07
Rohde & Schwarz	EMI Test Receiver	ESCI 1166.595 0K03	100338	2007-04-05
Sunol Science Corp	System Controller	SC99V	113005-1	NA

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

8.4 Test Procedure

During the conducted emission test, the power cord of the EUT was connected to the main outlet of the LISN-1, and the power cord of the monitor and modem were connected to the LISN-2.

Maximizing procedure was performed on the twelve (12) highest provided emissions of the EUT. All data were recorded in the peak detection mode, quasi-peak and average. Average readings are distinguished with an "Ave" when Quasi-Peak readings are distinguished with a "QP".

8.5 Environmental Conditions

Temperature:	23°C
Relative Humidity:	35 %
ATM Pressure:	101.9 kPa

**Testing was performed by James Ma 2007-06-22.*

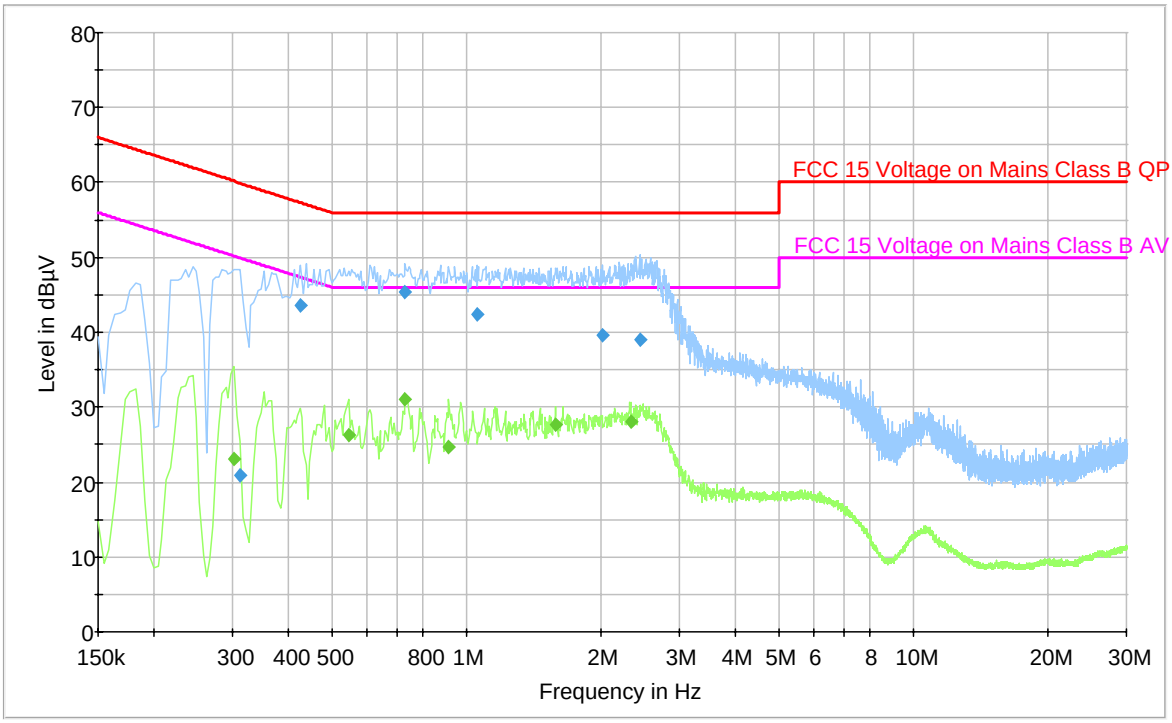
8.6 Test Results Summary

According to the recorded data in the following tables, the EUT complied with the FCC 15 Class B conducted limits for a Class B device, with the worst margin reading of:

-10.2 dB at **0.483000 MHz** in the **Neutral** conductor mode.

8.7 Conducted Emissions Test Plots and Data

120V/60Hz – Hot



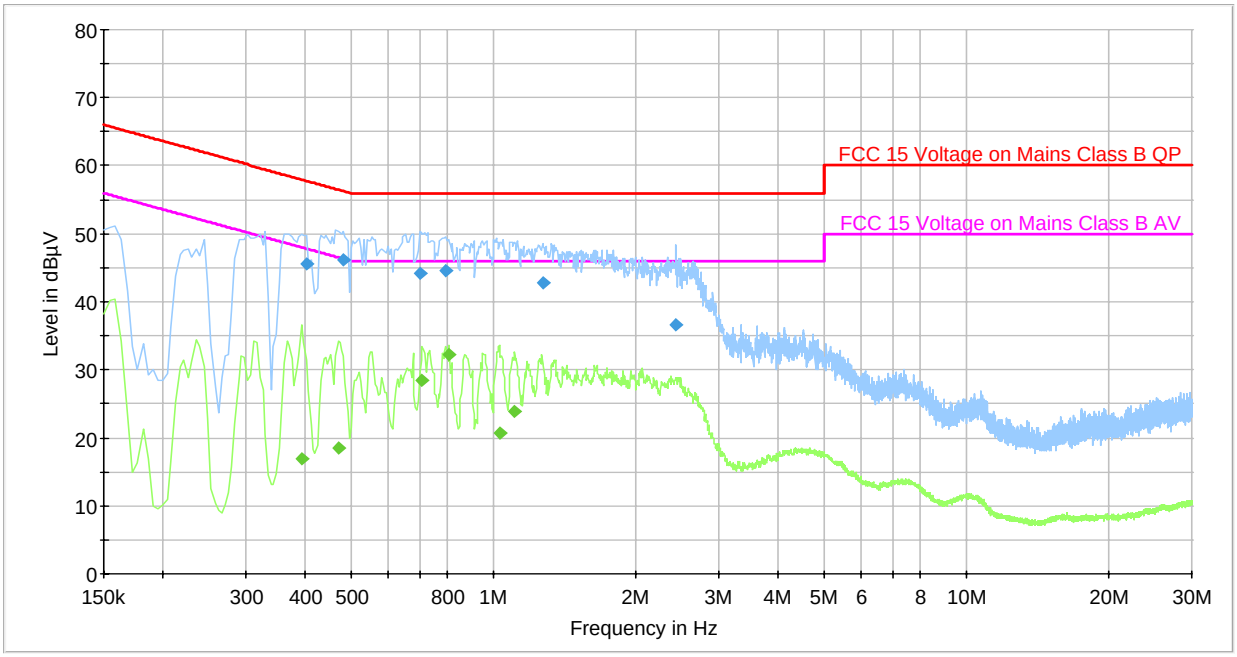
8.7.1 Quasi-peak Measurements

Frequency (MHz)	Quasi-Peak (dBµV)	Conductor (Hot/Neutral)	Limit (dBµV)	Margin (dB)
0.730500	45.3	H	56.0	-10.7
1.054500	42.3	H	56.0	-13.7
0.424500	43.6	H	57.4	-13.8
2.017500	39.6	H	56.0	-16.4
2.440500	39.1	H	56.0	-16.9
0.312000	20.8	H	59.9	-39.1

8.7.2 Average Measurements

Frequency (MHz)	Average (dBµV)	Conductor (Hot/Neutral)	Limit (dBµV)	Margin (dB)
0.730500	31.0	H	46.0	-15.0
2.332500	28.1	H	46.0	-17.9
1.585500	27.7	H	46.0	-18.3
0.546000	26.4	H	46.0	-19.6
0.915000	24.7	H	46.0	-21.3
0.303000	23.1	H	50.2	-27.1

120V/60Hz – Neutral



8.7.3 Quasi-peak Measurements

Frequency (MHz)	Quasi-Peak (dBµV)	Conductor (Hot/Neutral)	Limit (dBµV)	Margin (dB)
0.483000	46.1	N	56.3	-10.2
0.793500	44.6	N	56.0	-11.5
0.699000	44.1	N	56.0	-11.9
0.402000	45.6	N	57.8	-12.2
1.270500	42.8	N	56.0	-13.2
2.427000	36.6	N	56.0	-19.4

8.7.4 Average Measurements

Frequency (MHz)	Average (dBµV)	Conductor (Hot/Neutral)	Limit (dBµV)	Margin (dB)
0.807000	32.3	N	46.0	-13.7
0.708000	28.5	N	46.0	-17.5
1.108500	24.0	N	46.0	-22.0
1.032000	20.7	N	46.0	-25.3
0.469500	18.5	N	46.5	-28.0
0.393000	16.8	N	48.0	-31.2

9 §2.1051, §22.917 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

9.1 Applicable Standard

Requirements: CFR 47, § 2.1051. § 22.917.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in § 2.1057.

9.2 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 10th harmonic.

9.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Agilent	Analyzer, Communications	E5515C	GB44051221	2006-08-08
Agilent	Analyzer, Spectrum	E4446A	US44300386	2007-04-26

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

9.4 Environmental Conditions

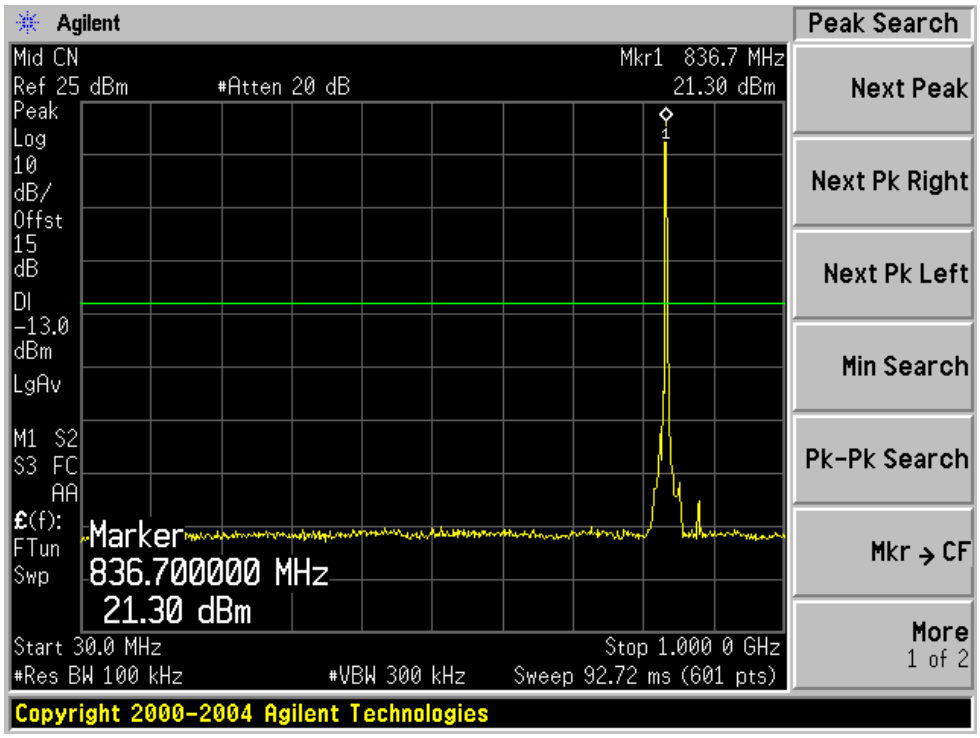
Temperature:	25 °C
Relative Humidity:	55%
ATM Pressure:	101.8 kPa

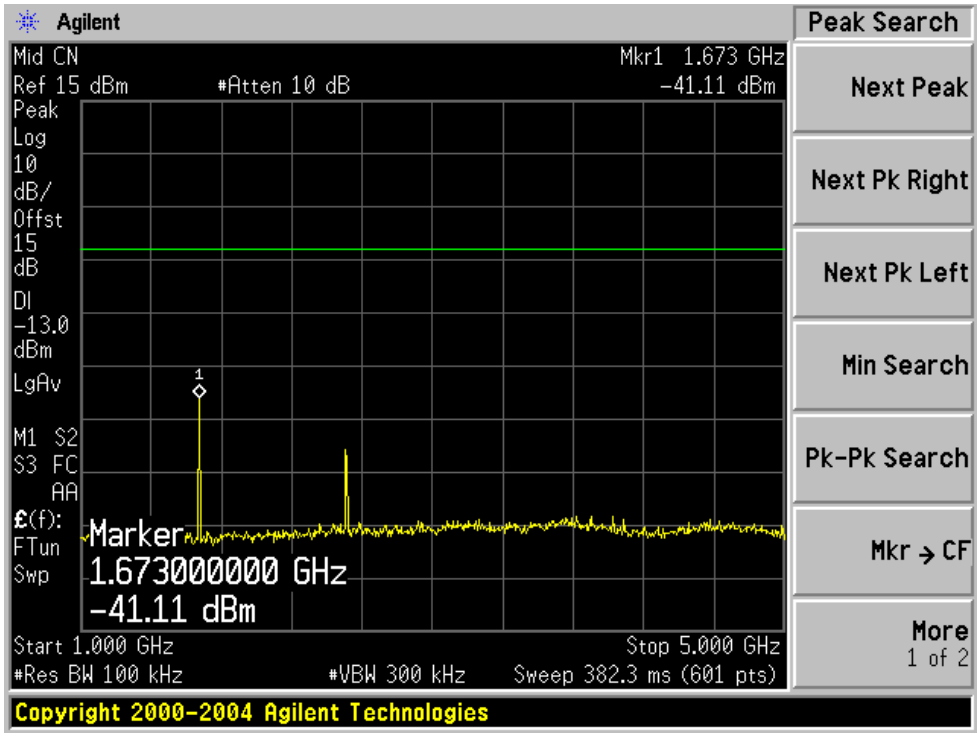
** The testing was performed by James Ma on 2007-06-22*

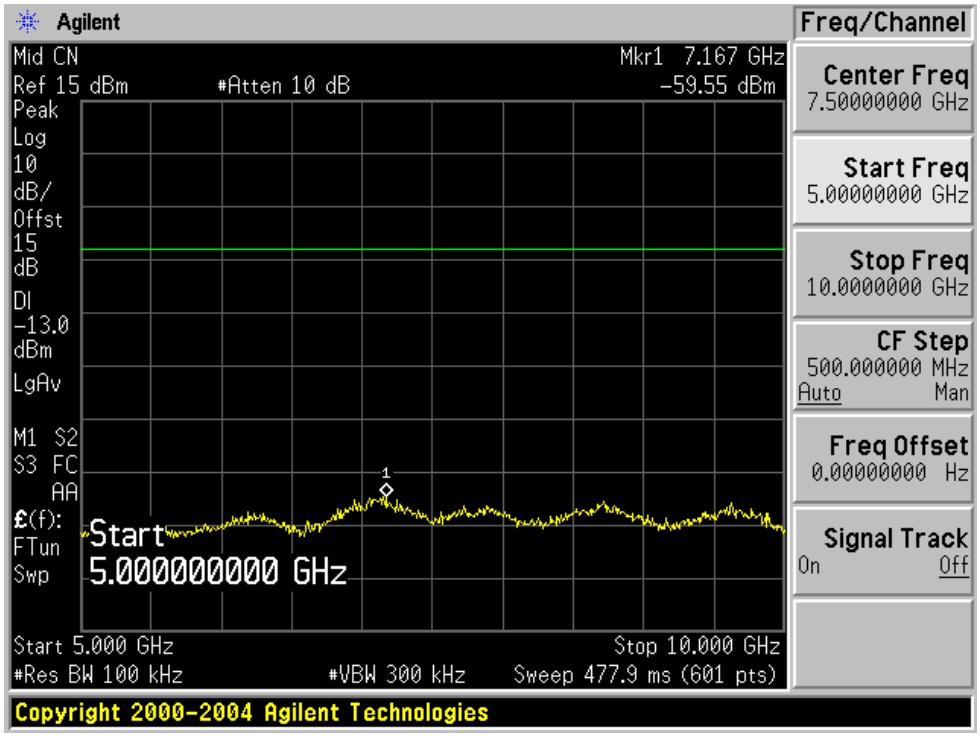
9.5 Test Results

Please refer to the hereinafter plots.

Middle Channel



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Log
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dB/
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dB
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dBm
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AA
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FTun
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Center Freq
7.50000000 GHz
Start Freq
5.00000000 GHz
Stop Freq
10.0000000 GHz
CF Step
500.000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Start 5.000 GHz
Stop 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (601 pts)
Copyright 2000-2004 Agilent Technologies

10 §2.1049, §22.917, §22.905 - OCCUPIED BANDWIDTH

10.1 Applicable Standard

Requirements: CFR 47, Section 2.1049, Section 22.901, Section 22.917.

10.2 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 30kHz and the 26 dB & 99% bandwidth was recorded.

10.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Agilent	Analyzer, Communications	E5515C	GB44051221	2006-08-08
Agilent	Analyzer, Spectrum	E4446A	US44300386	2007-04-26

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

10.4 Environmental Conditions

Temperature:	20 °C
Relative Humidity:	55%
ATM Pressure:	101.8 kPa

** The testing was performed by James Ma on 2007-06-22*

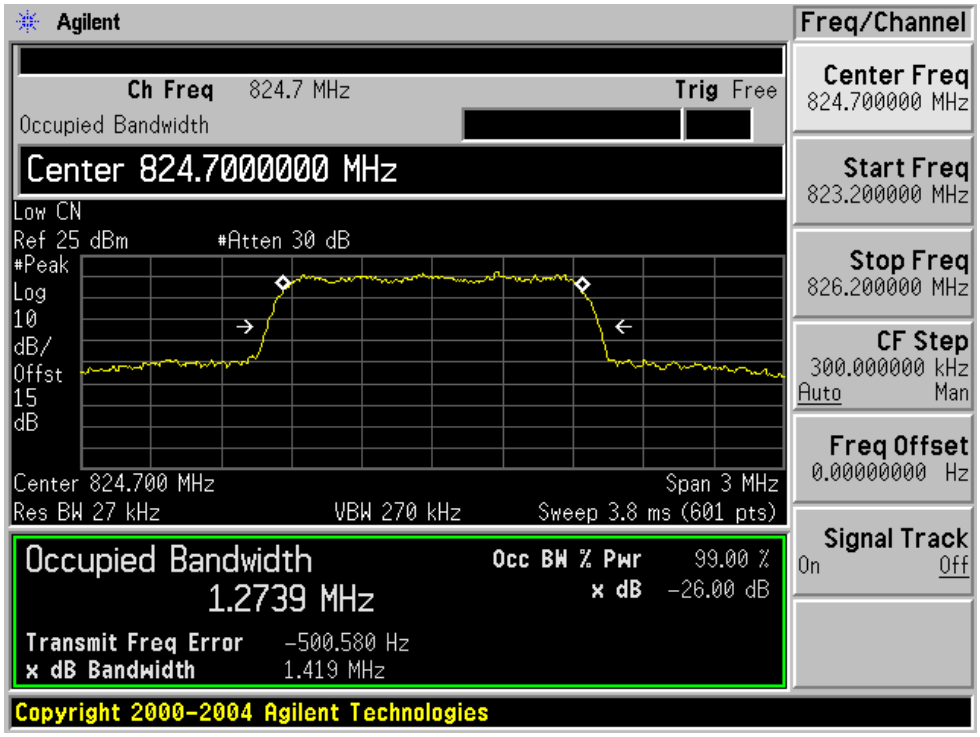
10.5 Test Results

Part 22:

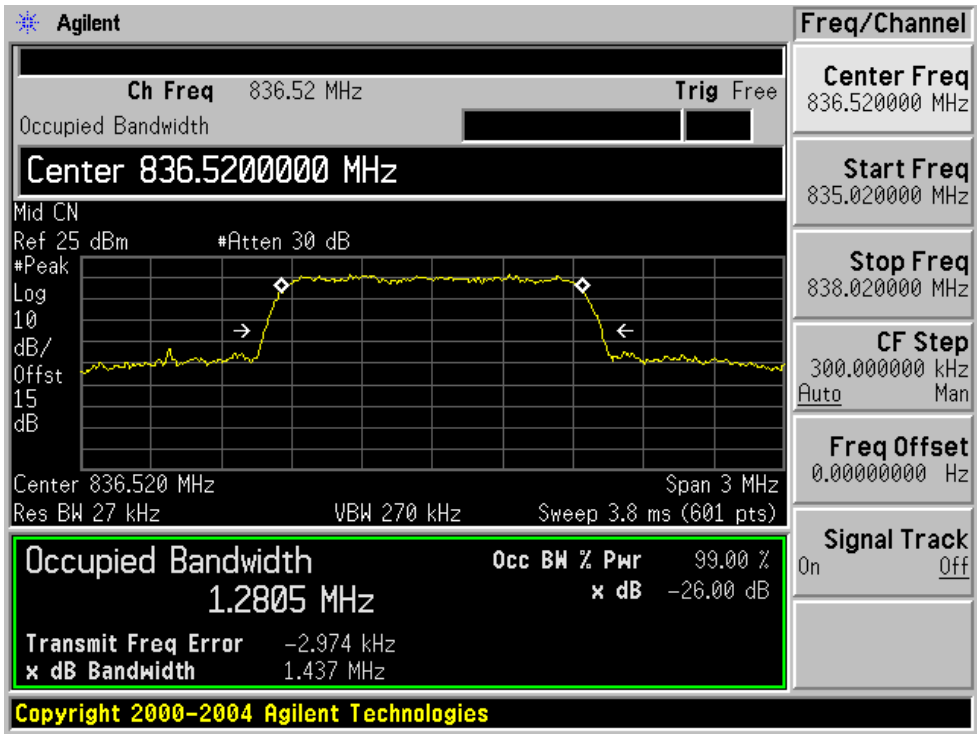
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
Low	824.70	1.2739	1.419
Mid	836.52	1.2805	1.437
High	848.30	1.2701	1.421

Please refer to the following plots.

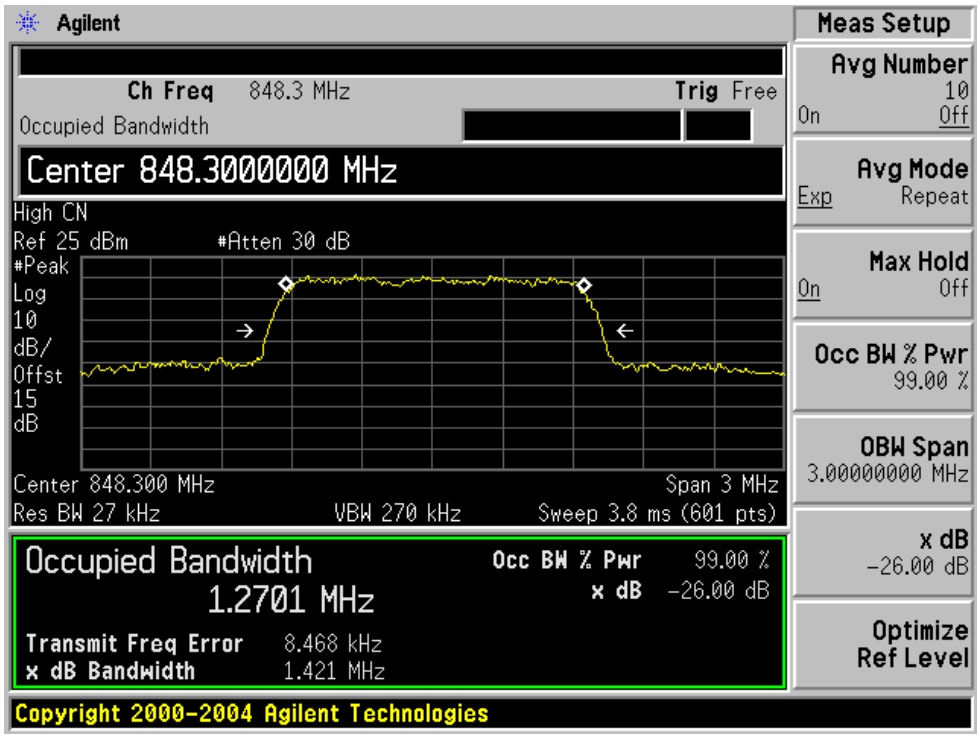
Low Channel



Middle Channel



High Channel



11 §2.1055 (a), §2.1055 (d), §22.355 - FREQUENCY STABILITY

11.1 Applicable Standard

Requirements: FCC § 2.1055 (a), § 2.1055 (d) & following:

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C-1 of this section.

Table C-1_Frequency Tolerance for Transmitters in the Public Mobile Services

Table C-1_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	NA	NA
929 to 960.....	1.5	NA	NA
2110 to 2220.....	10.0	NA	NA

According to §22.355, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

11.2 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.

11.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Agilent	Analyzer, Communications	E5515C	GB44051221	2006-08-08
Agilent	Analyzer, Spectrum	E4446A	US44300386	2007-04-26
ESPEC	Oven, Temperature	ESL-4CA	18010	NA

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

11.4 Environmental Conditions

Temperature:	20° C
Relative Humidity:	55%
ATM Pressure:	101.8 kPa

** The testing was performed by James Ma on 2007-06-22*

11.5 Test Results

Frequency Stability versus Temperature:

Reference Frequency: 836.52 MHz, Limit: 2.5 ppm					
Environment Temperature (°C)	**Power Supplied (VDC)**	**Reference Frequency (MHz)**	**Measured Frequency (MHz)**	**Error (ppm)**	**Limit (ppm)**
50	3.7	836.5200	836.52185	2.21	2.5
40	3.7	836.5200	836.52166	1.98	2.5
30	3.7	836.5200	836.52127	1.52	2.5
20	3.7	836.5200	836.52107	1.28	2.5
10	3.7	836.5200	836.51920	-0.96	2.5
0	3.7	836.5200	836.51945	-0.66	2.5
-10	3.7	836.5200	836.51884	-1.39	2.5
-20	3.7	836.5200	836.51872	-1.53	2.5
-30	3.7	836.5200	836.51868	-1.58	2.5

Frequency Stability versus Voltage:

Reference Frequency: 836.52 MHz, Limit: 2.5ppm					
Power Supplied (VDC)	**Environment Temperature (°C)**	**Reference Frequency (MHz)**	**Measured Frequency (MHz)**	**Error (ppm)**	**Limit (ppm)**
3.5	25	836.5200	836.51962	-0.45	2.5
4.2	25	836.5200	836.51948	-0.62	2.5

12 §22.917 – BAND EDGE

12.1 Applicable Standard

According to § 22.917, the power of any emission 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.

12.2 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.

12.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date
Agilent	Analyzer, Communications	E5515C	GB44051221	2006-08-08
Agilent	Analyzer, Spectrum	E4446A	US44300386	2007-04-26

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

12.4 Environmental Conditions

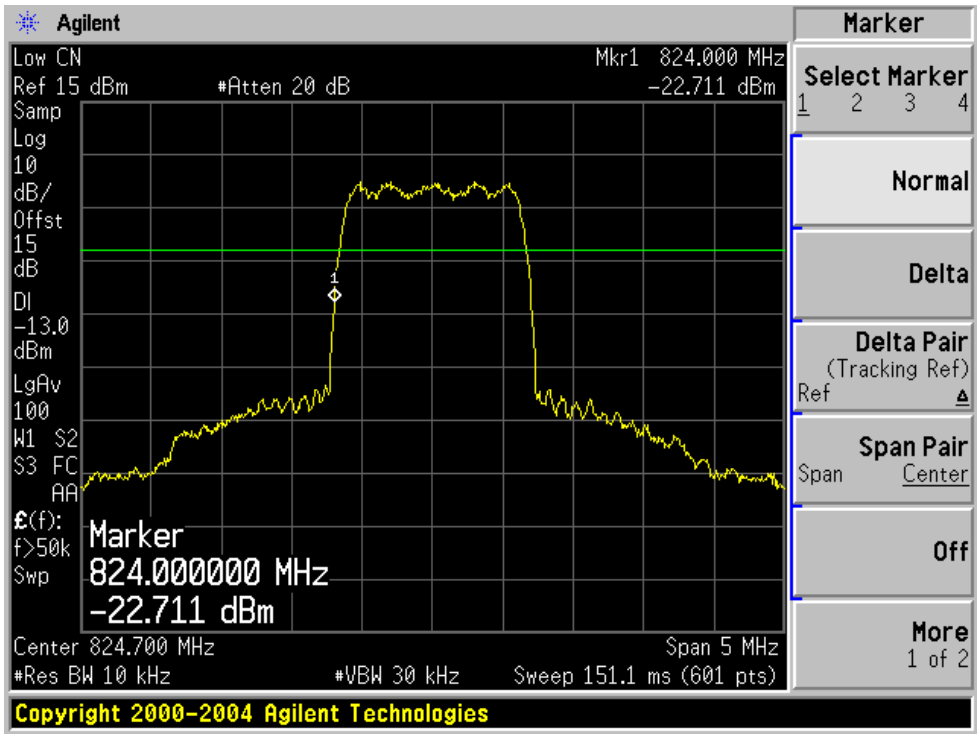
Temperature:	20 °C
Relative Humidity:	55%
ATM Pressure:	101.8 kPa

** The testing was performed by James Ma on 2007-06-22*

12.5 Test Results

Please refer to the following plots.

Low Channel



High Channel