FCC PART 22 TYPE APPROVAL
EMI MEASUREMENT AND TEST REPORT

For

GR8 COMMUNICATIONS, INC.

9862-B Main St
Fairfax, VA 22031

FCC ID: RFYSCH700SERIES

2003-08-18

This Report Concerns:	**Equipment Type:**
☒ Original Report	Cellular Phone

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Report No.:	R0306021
Test Date:	2003-07-12
Reviewed By:	Ling Zhang /
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Note: This test report is specially limited to the above client company and the product model only. It may not be duplicated without prior written consent of Bay Area Compliance Laboratory Corporation. This report **must not** be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

TABLE OF CONTENTS

1 - GENERAL INFORMATION 3
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) 3
1.2 OBJECTIVE 3
1.3 RELATED SUBMITTAL(S)/GRANT(S) 3
1.4 TEST METHODOLOGY 3
1.5 TEST FACILITY 3
1.6 TEST EQUIPMENT LIST 4
2 - SYSTEM TEST CONFIGURATION 5
2.1 JUSTIFICATION 5
2.2 BLOCK DIAGRAM 5
2.3 EQUIPMENT MODIFICATIONS 5
2.4 TEST SETUP BLOCK DIAGRAM 5
3 - SUMMARY OF TEST RESULTS 6
4 – EFFECTIVE RADIATED POWER 7
4.1 APPLICABLE STANDARD 7
4.2 TEST PROCEDURE 7
4.3 TEST EQUIPMENT 8
4.4 TEST RESULTS 8
5 - OCCUPIED BANDWIDTH 10
5.1 APPLICABLE STANDARD 10
5.2 TEST PROCEDURE 10
5.3 TEST EQUIPMENT 10
5.4 TEST RESULTS 10
6 - MODULATION CHARACTERISTIC 14
6.1 APPLICABLE STANDARD 14
6.2 TEST PROCEDURE 14
6.3 TEST EQUIPMENT 14
6.4 TEST RESULTS 14
7 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS 16
7.1 TEST PROCEDURE 16
7.2 TEST EQUIPMENT 16
7.3 TEST RESULTS 16
8 - RADIATED SPURIOUS EMISSION 20
8.1 TEST PROCEDURE 20
8.2 TEST EQUIPMENT 20
8.3 TEST RESULT 20
9 – BAND EDGE 22
9.1 APPLICABLE STANDARD 22
9.2 TEST PROCEDURE 22
9.3 TEST EQUIPMENT 22
9.4 TEST RESULTS 22
10 - FREQUENCY STABILITY 28
10.1 APPLICABLE STANDARD 28
10.2 TEST PROCEDURE 28
10.3 TEST EQUIPMENT 28
10.4 TEST RESULTS 29

1 - GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

The *GR8 Communications, Inc.'s* product, FCC ID:RFYSCH700SERIES *or the* "EUT" as referred to in this report is a CDMA cellular phone. The EUT measures approximately 2.2"L x 0.9"W x 6.25"H.

** The test data gathered is from typical production samples provided by the manufacturer.*

1.2 Objective

This type approval report is prepared on behalf of *GR8 Communications, Inc.* in accordance with Part 2, Subpart J, Part 15, Subparts A and B, and Part 22 Subpart H, of the Federal Communication Commissions rules.

The objective of the manufacturer is to demonstrate compliance with FCC rules for output power, modulation characteristic, occupied bandwidth, spurious emission at antenna terminal, band edge, conducted and radiated margin.

1.3 Related Submittal(s)/Grant(s)

No Related Submittals

1.4 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 15 Subpart B – Unintentional Radiators
Part 22 Subpart H - Public Mobile Services

Applicable Standards: TIA EIA 137-A, TIA EIA 98-C, ANSI 63.4-1992, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

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

1.5 Test Facility

The Open Area Test site used by Bay Area Compliance Laboratory Corporation to collect radiated and conducted emission measurement data is located in the back parking lot of the building at 230 Commercial Street, Sunnyvale, California, USA.

Test site at Bay Area Compliance Laboratory Corporation has 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 C63.4-1992.

The Federal Communications Commission and Voluntary Control Council for Interference has the reports on file and is listed under FCC file 31040/SIT 1300F2 and VCCI Registration No.: C-1298 and R-1234. The test site has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratory Corporation is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (NVLAP). The scope of the accreditation covers the FCC Method - 47 CFR Part 15 - Digital Devices, CISPR 22: 1997, and AS/NZS 3548: Electromagnetic Interference - Limits and Methods of Measurement of Information Technology Equipment test methods under NVLAP Lab Code 200167.

1.6 Test Equipment List

Manufacturer	Description	Model	Serial Number	Cal. Due Date
HP	Spectrum Analyzer	8568B	2517A01610	2003-10-30
HP	Spectrum Analyzer	8593A	29190A00242	2004-05-01
HP	Amplifier	8447E	1937A01054	2004-05-01
HP	Quasi-Peak Adapter	85650A	2521A00718	2004-05-01
Com-Power	Biconical Antenna	AB-100	14012	2004-05-01
Com-Power	LISN	LI-200	12005	2004-03-28
Com-Power	LISN	LI-200	12008	2004-03-28
Com-Power	Log Periodic Antenna	AL-100	16091	2004-05-01
Com-Power	Log Periodic Antenna	AB-900	15049	2004-05-01
Rohde & Schwarz	EMI Test Receiver	ESPI	1147 8007 07	2003-12-03
Agilent	Spectrum Analyzer (9KHz – 40GHz)	8564E	08303	2004-08-01
Agilent	Spectrum Analyzer (9KHz – 50GHz)	8565EC	06042	2004-05-03
HP	Amplifier (1-26.5GHz)	8449B	3147A00400	2004-03-14
A.H.System	Horn Antenna (700MHz-18GHz)	SAS-200/571	261	2004-05-31

*** Statement of Traceability: Bay Area Compliance Laboratory Corp.** certifies that all calibration has been performed using suitable standards traceable to the NATIONAL INSTITUTE of STANDARDS and TECHNOLOGY (NIST).

2 - SYSTEM TEST CONFIGURATION

2.1 Justification

The EUT was configured for testing in a typical fashion (as normally used in a typical application).

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

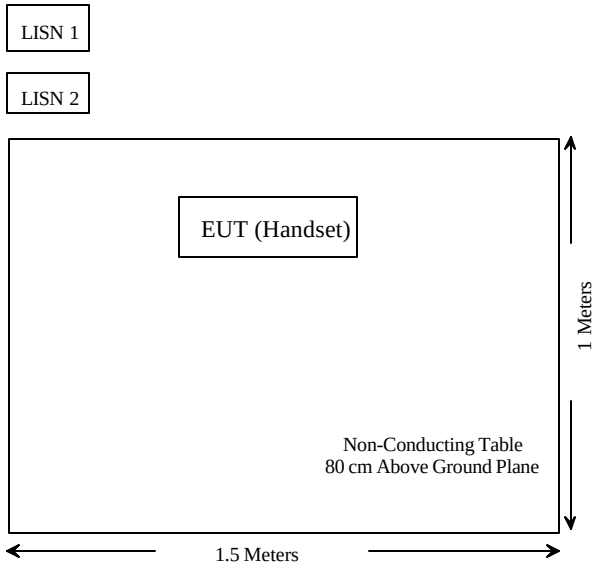
2.2 Block Diagram

Please refer to Exhibit D.

2.3 Equipment Modifications

No modifications were necessary for the EUT to comply with the applicable limits and requirements.

2.4 Test Setup Block Diagram



3 - SUMMARY OF TEST RESULTS

FCC RULE	DESCRIPTION OF TEST	RESULT
§ 2.1046, § 22.913 (a)	RF power output	Compliant
2.1047	Modulation Characteristics	Compliant
§ 2.1049 § 22.917	Emission, Occupied Bandwidth	Compliant
§ 2.1051, § 22.917	Spurious emissions at antenna terminals	Compliant
§ 2.1053, § 22.917	Radiated Spurious Emission	Compliant
§ 2.1055 (a) § 2.1055 (d) § 22.355	Frequency stability vs. temperature Frequency stability vs. voltage	Compliant
§ 22.917	Band Edge	Compliant
§ 15.109	Radiated Emission Limit (Digital Portion)	Compliant
§ 15.205	Antenna Requirement	Compliant

4 – EFFECTIVE RADIATED POWER

4.1 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.

4.2 Test Procedure

1. On a test site, the EUT shall be placed at 1.5m height on a turn table, and in the position closest to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3m from EUT to correspond to the frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the quasi-peak detector is used for the measurement.
4. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test.
5. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
6. The transmitter shall then the rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
7. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
8. The maximum signal level detected by the measuring receiver shall be noted.
9. The transmitter shall be replaced by a tuned dipole (substitution antenna).
10. The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
11. The substitution antenna shall be connected to a calibrated signal generator.
12. In necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
13. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
14. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring received, which is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
15. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
16. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.

17. The measure of the effective radiated power is the large of the two levels recorded, at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.

4.3 Test equipment

- Signal Generator
  Manufacturer: Hewlett Packard
  Model: OPT001
  S/N: 3217A04699
  Calibration Due Date: 2004-02-05

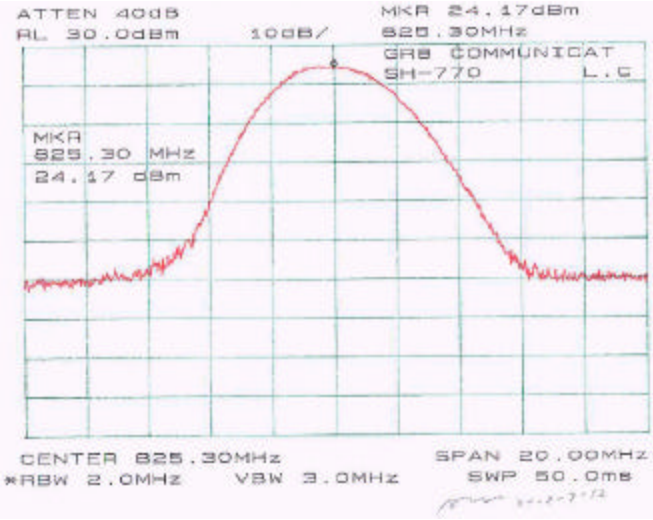
- Dipole Antenna
  Manufacturer: Com Power Corporation
  Model: AD-100
  S/N: 02222
  Calibration Due Date: 2003-07-23

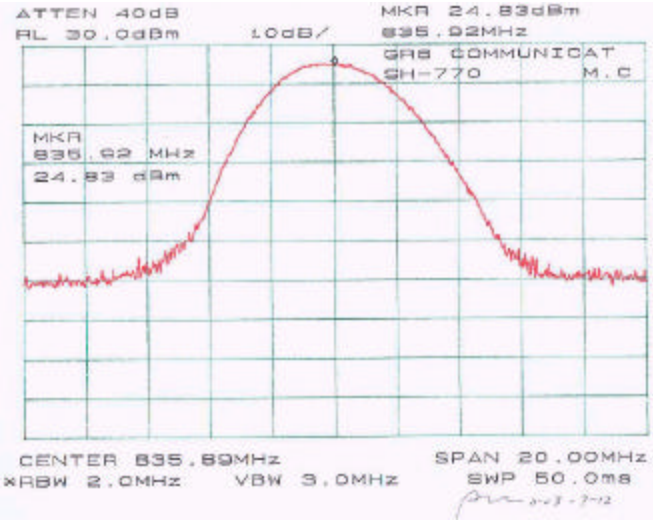
4.4 Test Results

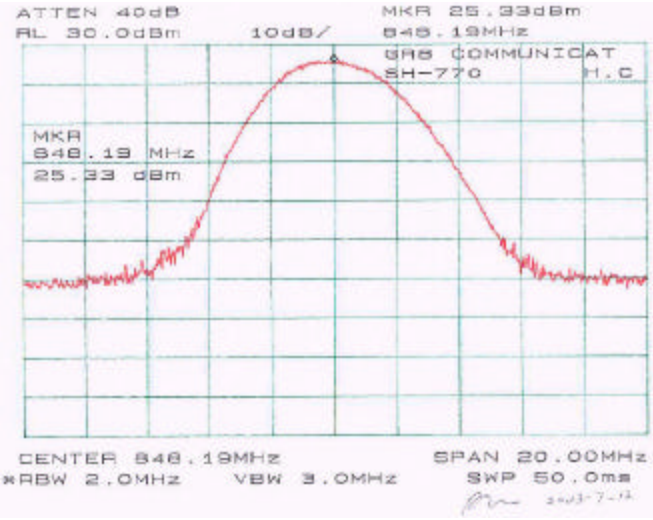
The measured output power showed as follows:

Low Channel: 21.2 dBm at 825.30 MHz
Mid Channel: 21.4 dBm at 835.89 MHz
High Channel: 21.6 dBm at 848.19 MHz

Conducted RF output power:







5 - OCCUPIED BANDWIDTH

5.1 Applicable Standard

Requirements: CFR 47, Section 2.1049, Section 22.905, and Section 22.911. All channels have a bandwidth of 40kHz and are designed by their center frequencies in MegaHertz.

5.2 Test Procedure

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

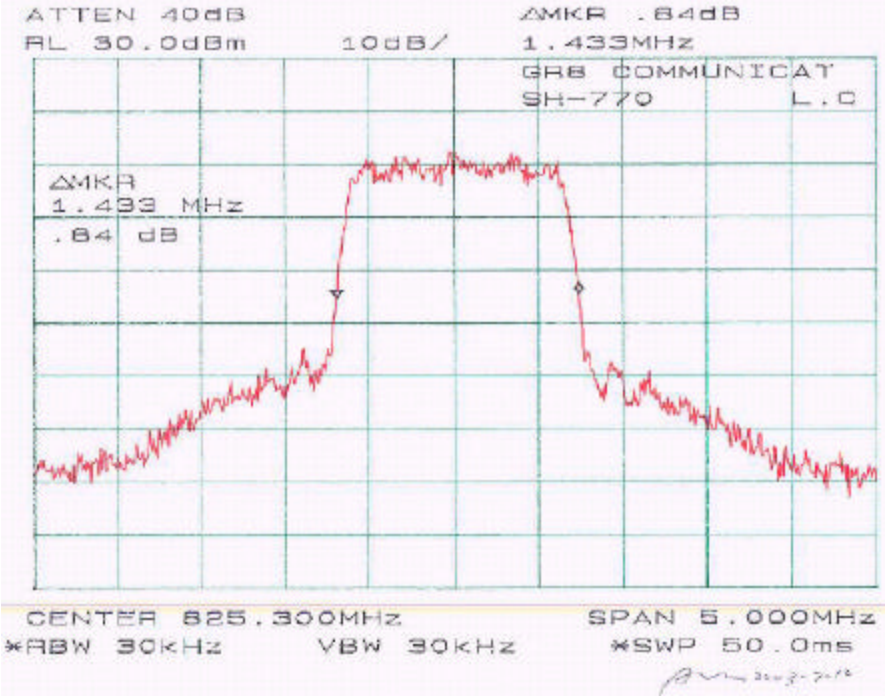
The resolution bandwidth of the spectrum analyzer was set at 100 KHz and the spectrum was recorded.

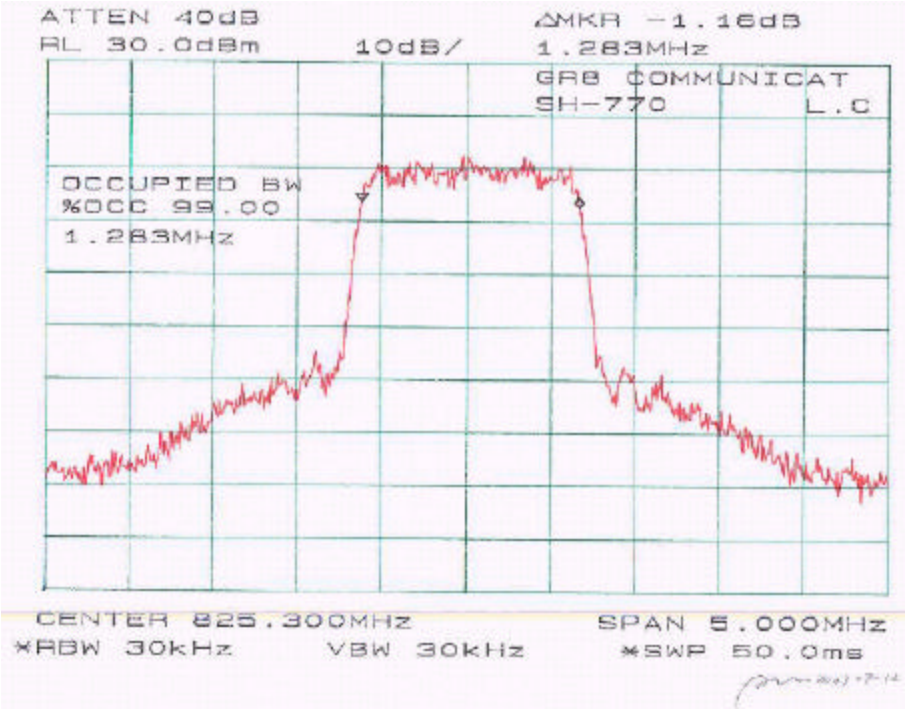
5.3 Test Equipment

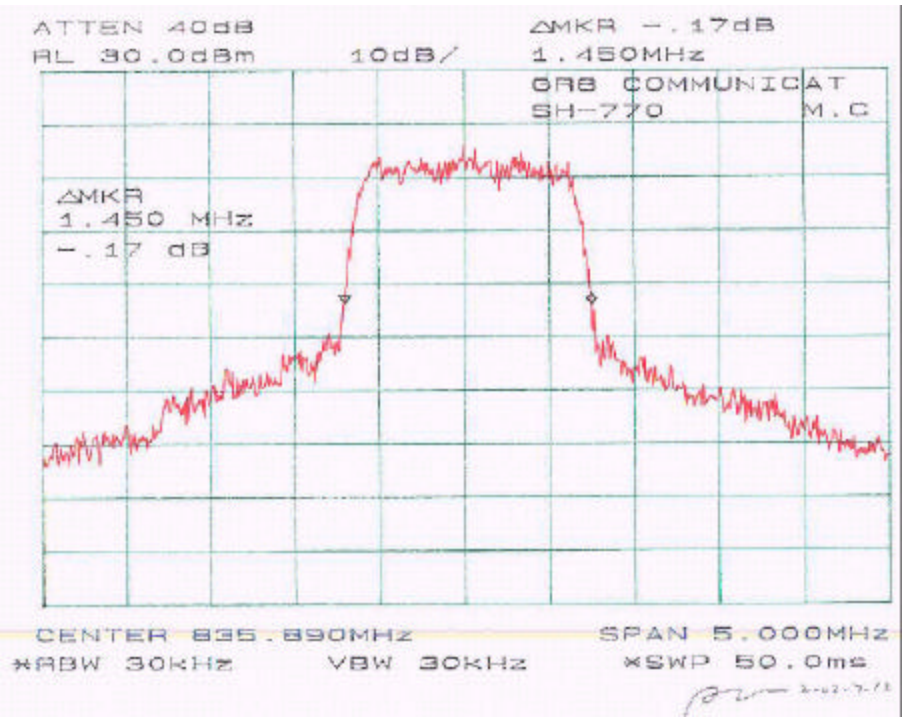
Hewlett Packard HP8566B Spectrum Analyzer
Hewlett Packard HP 7470A Plotter

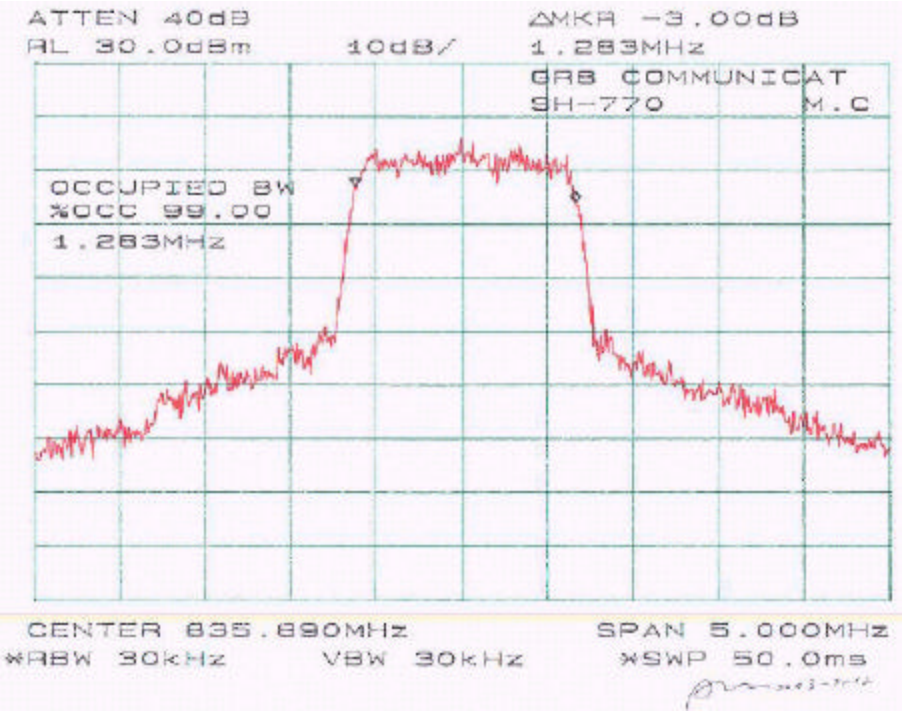
5.4 Test Results

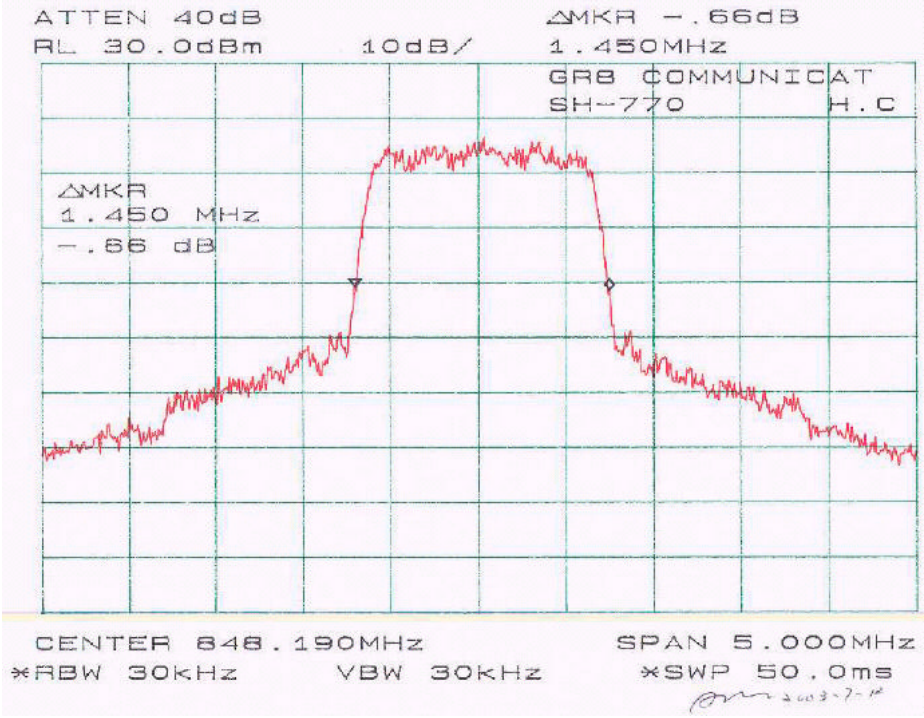
Please refer to the hereinafter plots.

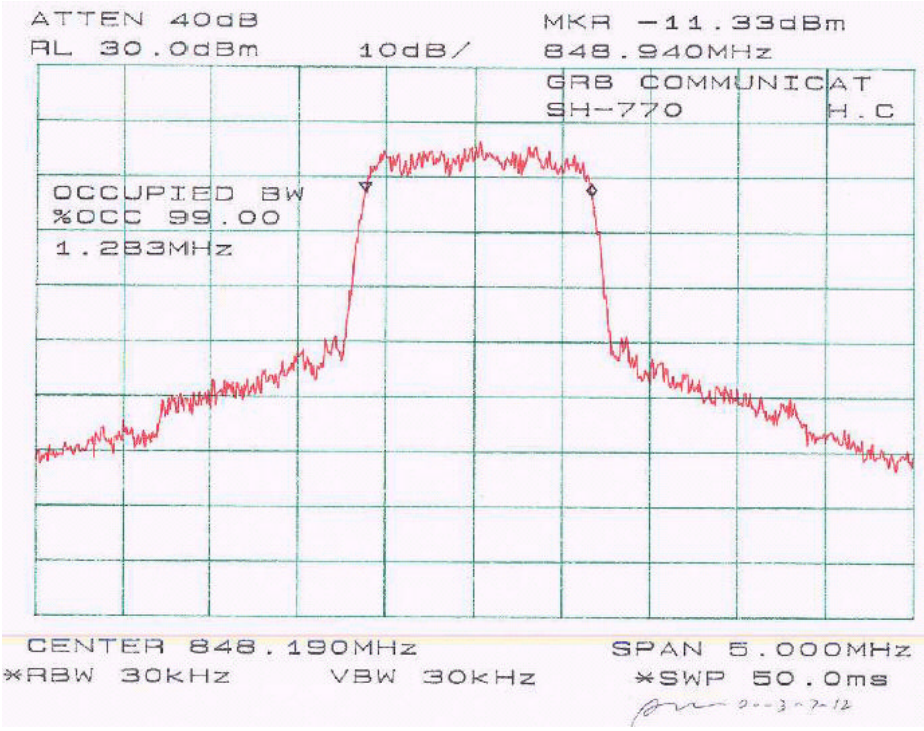

ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR .84dB
1.433MHz
GR8 COMMUNICAT
SH-770
L.C
ΔMKR
1.433 MHz
.84 dB
CENTER 825.300MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR -1.16dB
1.283MHz
GR8 COMMUNICAT
SH-770
L.C
OCCUPIED BW
%OCC 99.00
1.283MHz
CENTER 825.300MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR -.17dB
1.450MHz
GR8 COMMUNICAT
SH-770
M.C
ΔMKR
1.450 MHz
-.17 dB
CENTER 835.890MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR -3.00dB
1.283MHz
GR8 COMMUNICAT
SH-770
M.C
OCCUPIED BW
%OCC 99.00
1.283MHz
CENTER 835.890MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR -.66dB
1.450MHz
GR8 COMMUNICAT
SH-770 H.C
ΔMKR
1.450 MHz
-.66 dB
CENTER 848.190MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -11.33dBm
848.940MHz
GR8 COMMUNICAT
SH-770 H.C
OCCUPIED BW
%OCC 99.00
1.283MHz
CENTER 848.190MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
*SWP 50.0ms

6 - MODULATION CHARACTERISTIC

6.1 Applicable Standard

Requirement: FCC § 2.1047

6.2 Test Procedure

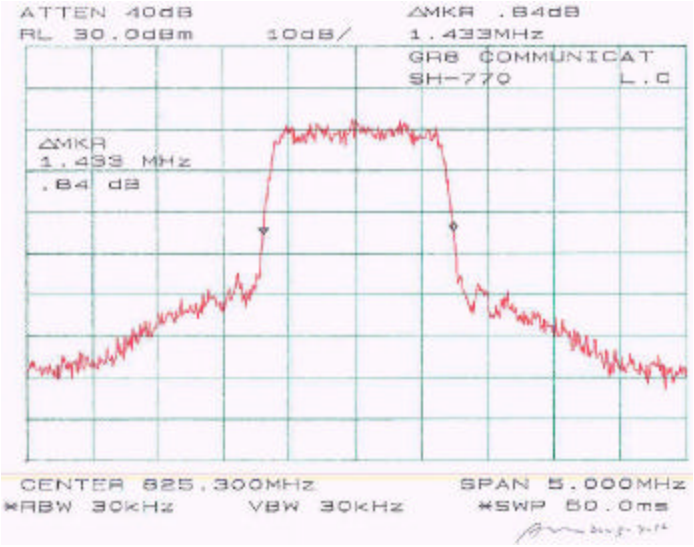
CDMA digital mode is used by EUT.

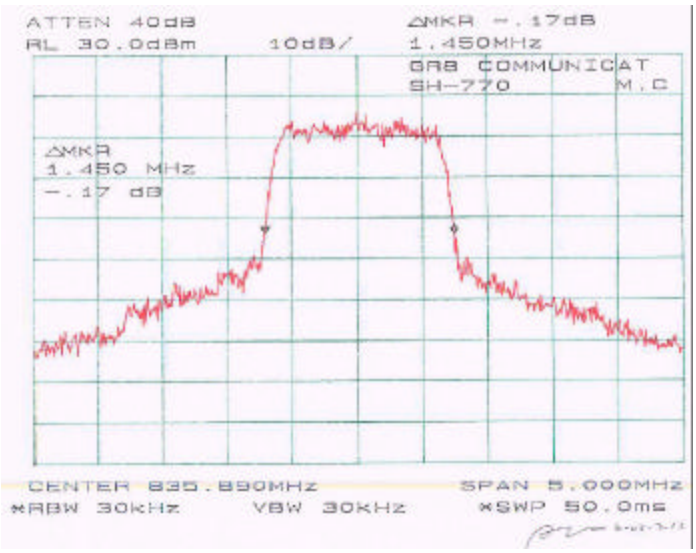
6.3 Test Equipment

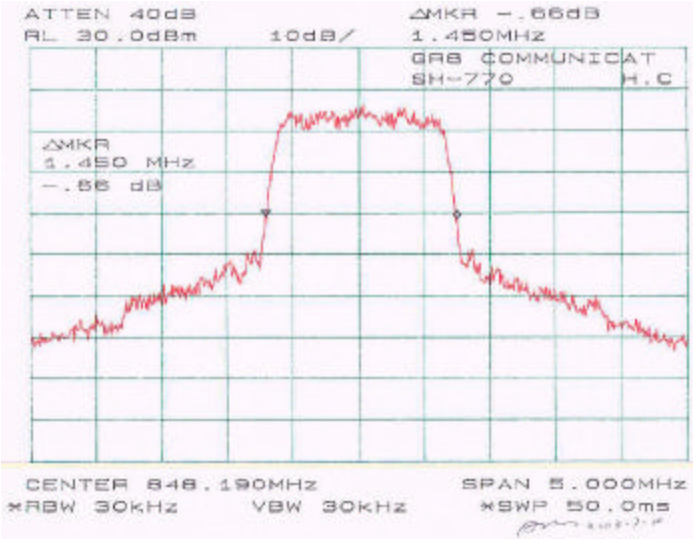
Hewlett Packard HP8566B Spectrum Analyzer
Hewlett Packard HP 7470A Plotter

6.4 Test Results

Please refer to the hereinafter plots.


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR .84dB
1.433MHz
GR8 COMMUNICAT
SH-770
L.C
ΔMKR
1.433 MHz
.84 dB
CENTER 825.300MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR -.17dB
1.450MHz
GR8 COMMUNICAT
SH-770
M.C
ΔMKR
1.450 MHz
-.17 dB
CENTER 835.890MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
*SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR -.66dB
1.450MHz
GR8 COMMUNICAT
SH-770
H.C
ΔMKR
1.450 MHz
-.66 dB
CENTER 848.190MHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
*SWP 50.0ms

7 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

7.1 Test Procedure

Requirements: CFR 47, § 22.917, § 2.1051, § 2.1057

(e) Out of Band Emissions.

The means power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency twice or more than twice the fundamental frequency by at least 43 + 10 log P dB.

(f) Mobile Emissions in Base Frequency Range.

The mean power of any emissions appearing in the base station frequency range from cellular mobile transmitters operated must be attenuated to a level not to exceed –80 dBm at the transmit antenna connector.

The radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of each harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in § 2.1049.

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

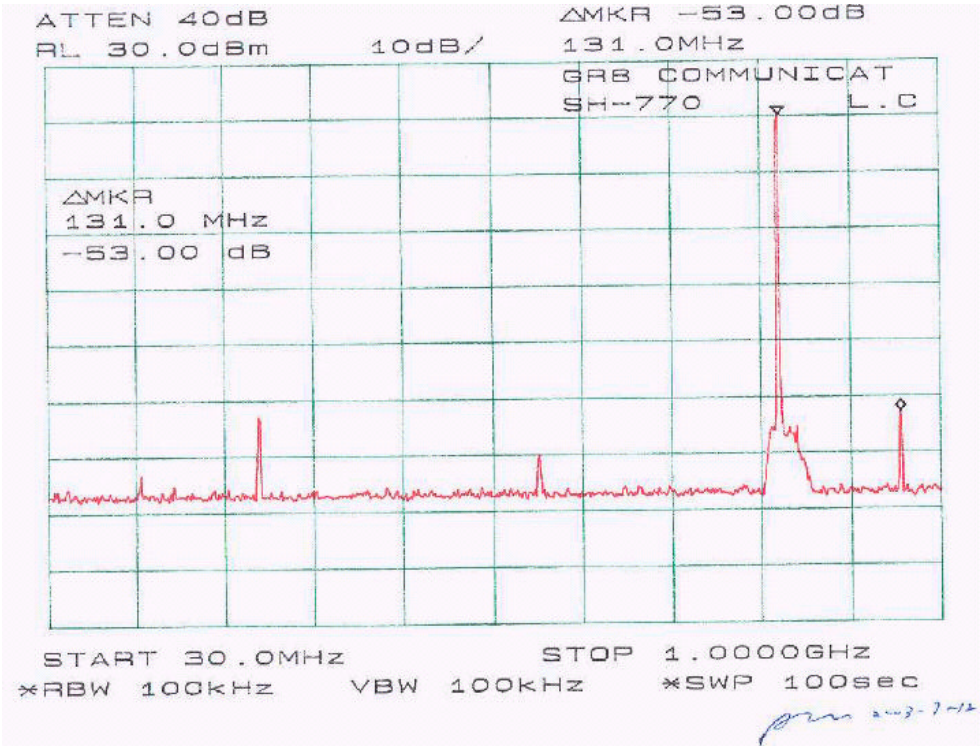
The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.

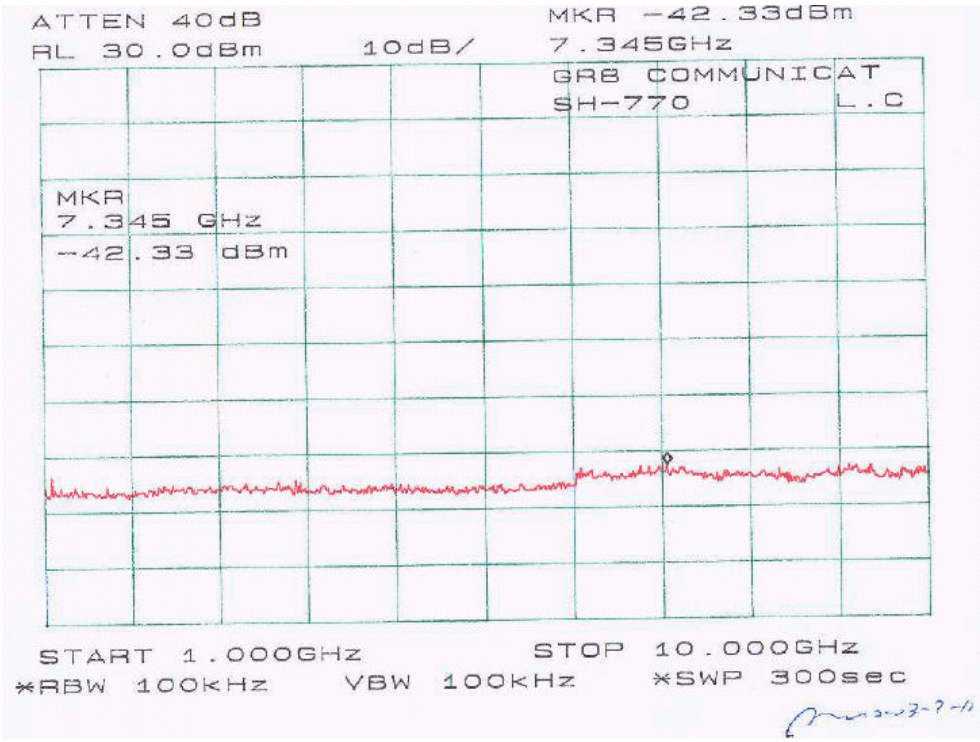
7.2 Test Equipment

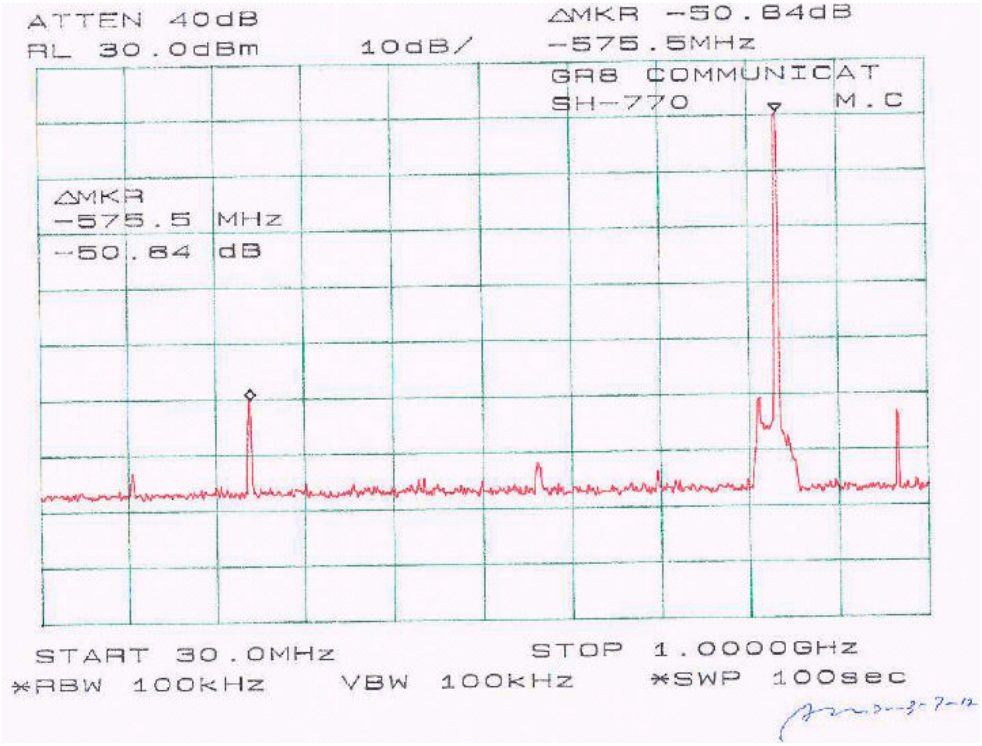
HP 8566B Spectrum Analyzer
HP 7470A Plotter
Hewlett Packard HP8566B Spectrum Analyzer
Hewlett Packard HP 7470A Plotter

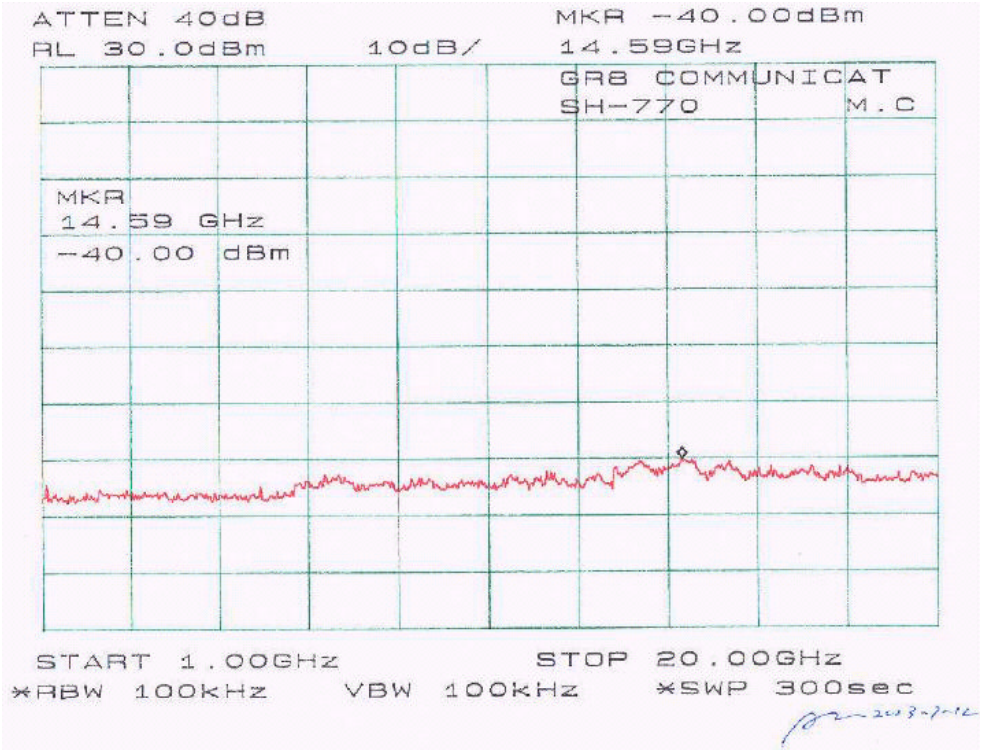
7.3 Test Results

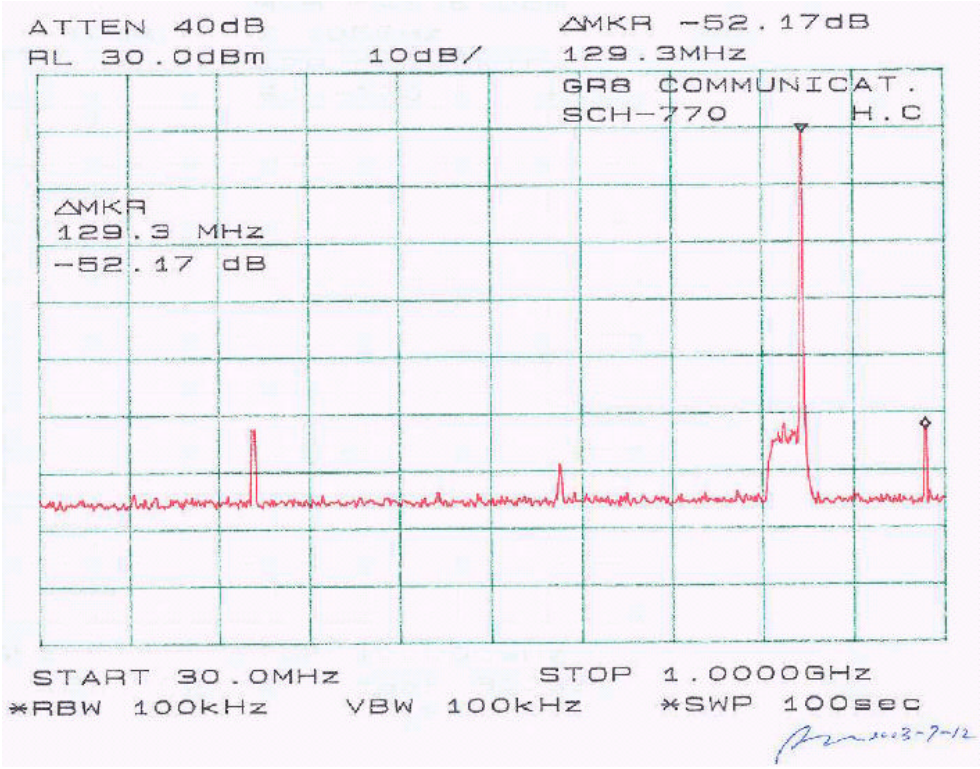
Please refer to the hereinafter plots.

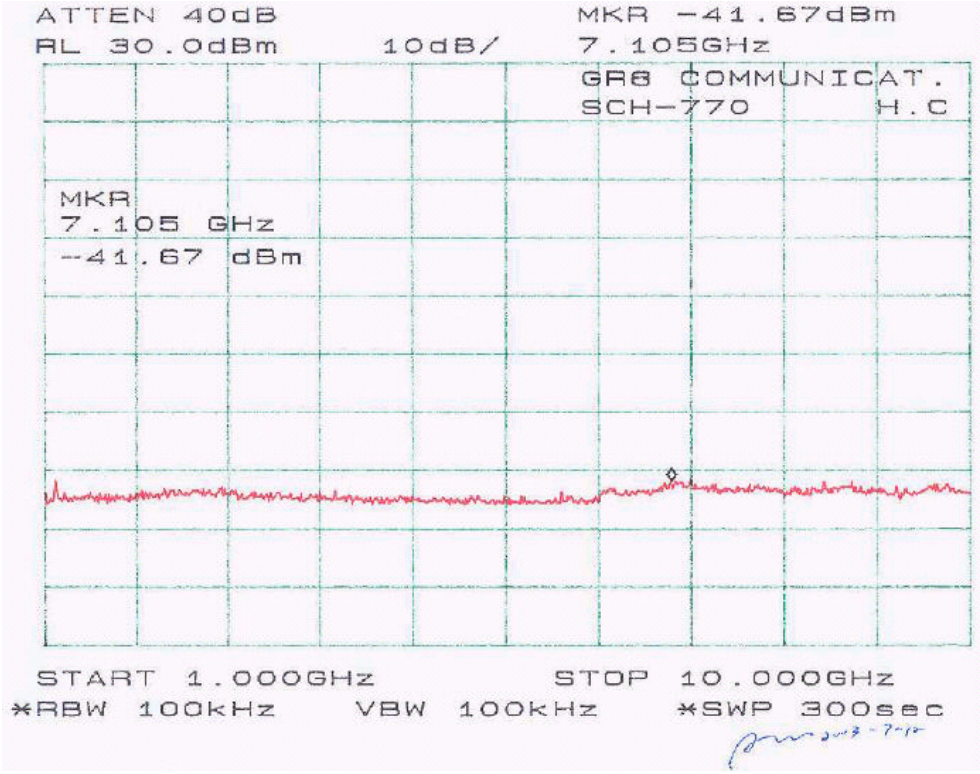

ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR -53.00dB
131.0MHz
GR8 COMMUNICAT
SH-770
L.C
ΔMKR
131.0 MHz
-53.00 dB
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 100sec


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -42.33dBm
7.345GHz
GR8 COMMUNICAT
SH-770
L.C
MKR
7.345 GHz
-42.33 dBm
START 1.000GHz
STOP 10.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 300sec


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR -50.84dB
-575.5MHz
GR8 COMMUNICAT
SH-770
M.C
ΔMKR
-575.5 MHz
-50.84 dB
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 100sec


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -40.00dBm
14.59GHz
GR8 COMMUNICAT
SH-770
M.C
MKR
14.59 GHz
-40.00 dBm
START 1.00GHz
STOP 20.00GHz
*RBW 100kHz
VBW 100kHz
*SWP 300sec


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR -52.17dB
129.3MHz
GR8 COMMUNICAT.
SCH-770
H.C
ΔMKR
129.3 MHz
-52.17 dB
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 100sec


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -41.67dBm
7.105GHz
GR8 COMMUNICAT.
SCH-770
H.C
MKR
7.105 GHz
-41.67 dBm
START 1.000GHz
STOP 10.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 300sec

8 - RADIATED SPURIOUS EMISSION

8.1 Test Procedure

Requirements: CFR 47, § 2.1053, § 22.917.

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)

8.2 Test Equipment

CDI B100/200/300 Biconical Antennas
EMCO Bi-logcon Antenna
EMCO 3115 Horn Antenna
HP 8566B Spectrum Analyzer
Preamplifiers
HP8640 Generator
Non-radiating Load

8.3 Test Result

Low Frequency: -22.3dB at 1650.6MHz
Middle Frequency: -21.9dB at 1671.78MHz
High Frequency: -21.2dB at 1696.38MHz

EUT					Generator						Standard	
Indicated		Table	Test Antenna		Substitution			Antenna	Cable	Absolute	FCC	FCC
Frequency MHz	Ampl. dBuV/m	Angle Degree	Height Meter	Polar H/V	Frequency MHz	Level dBm	Polar H/V	Gain Corrected	Loss dB	Level dBm	Limit dBm	Margin DBm
LOW CHANNEL												
825.3	119.3	210	1.5	v	825.3	21.3	v	0	0.1	21.2		
825.3	112.1	15	1.5	h	825.3	18.2	h	0	0.1	18.1		
1650.6	34.5	90	1.2	v	1650.6	-41.6	v	6.8	0.5	-35.3	-13	-22.3
2475.9	29.4	250	1.2	v	2475.9	-45.1	v	7.6	0.7	-38.2	-13	-25.2
1650.6	29.2	120	1.5	h	1650.6	-45.6	h	6.8	0.5	-39.3	-13	-26.3
2475.9	28.5	270	1.5	h	2475.9	-47.9	h	7.6	0.7	-41	-13	-28
MIDDLE CHANNEL												
835.89	119.4	30	1.5	v	835.89	21.5	v	0	0.1	21.4		
835.89	114.5	0	1.2	h	835.89	18.8	h	0	0.1	18.7		
1671.78	34.6	160	1.5	v	1671.78	-41.2	v	6.8	0.5	-34.9	-13	-21.9
2507.67	30.1	0	1.2	v	2507.67	-44.8	v	7.6	0.7	-37.9	-13	-24.9
1671.78	29.5	120	1.5	h	1671.78	-45.1	h	6.8	0.5	-38.8	-13	-25.8
2507.67	28.7	15	1.5	h	2507.67	-47.6	h	7.6	0.7	-40.7	-13	-27.7
HIGH CHANNEL												
848.19	119.7	90	1.5	v	848.19	21.7	v	0	0.1	21.6		
848.19	115.2	45	1.6	h	848.19	18.9	h	0	0.1	18.8		
1696.38	35.1	0	1.2	v	1696.38	-40.5	v	6.8	0.5	-34.2	-13	-21.2
2544.57	29.8	210	1.6	v	2544.57	-44.6	v	7.6	0.7	-37.7	-13	-24.7
2544.57	29.5	270	1.5	h	2544.57	-45.9	h	7.6	0.7	-39	-13	-26
1696.38	29.1	330	1.5	h	1696.38	-45.4	h	6.8	0.5	-39.1	-13	-26.1

9 – BAND EDGE

9.1 Applicable Standard

Requirement: § 22.917.

9.2 Test Procedure

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

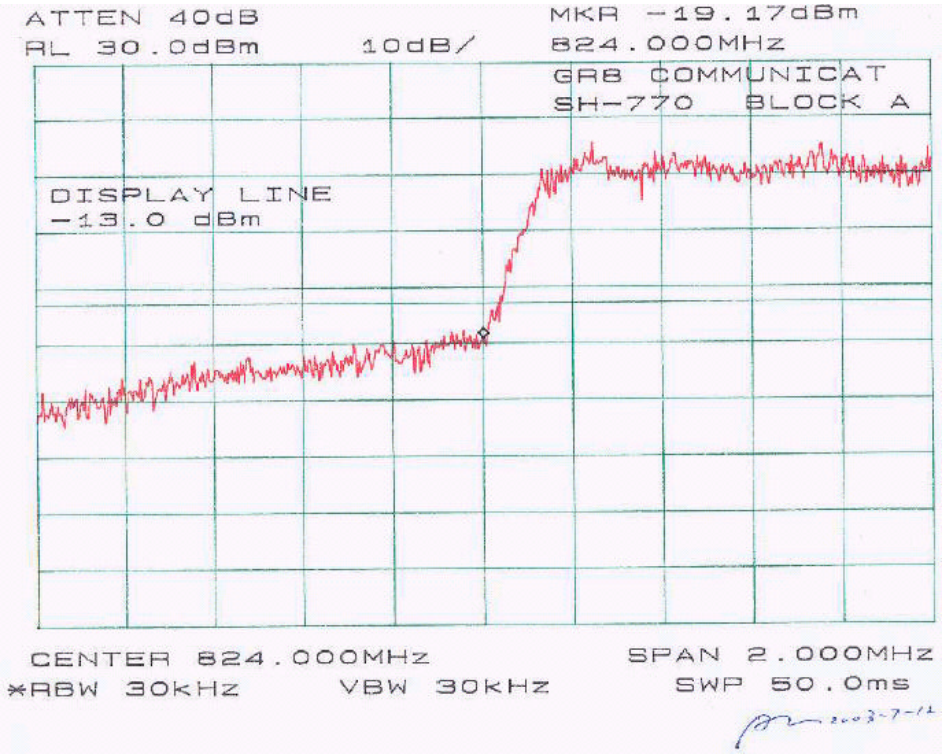
The center of the spectrum analyzer was set to block edge frequency, RBW set to 30KHz.

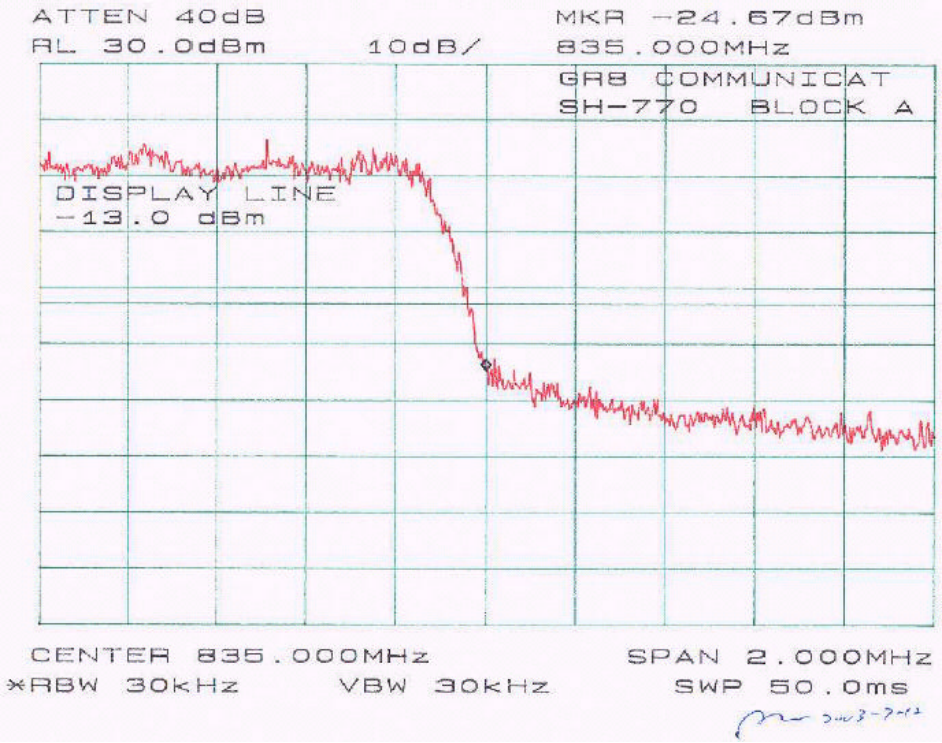
9.3 Test Equipment

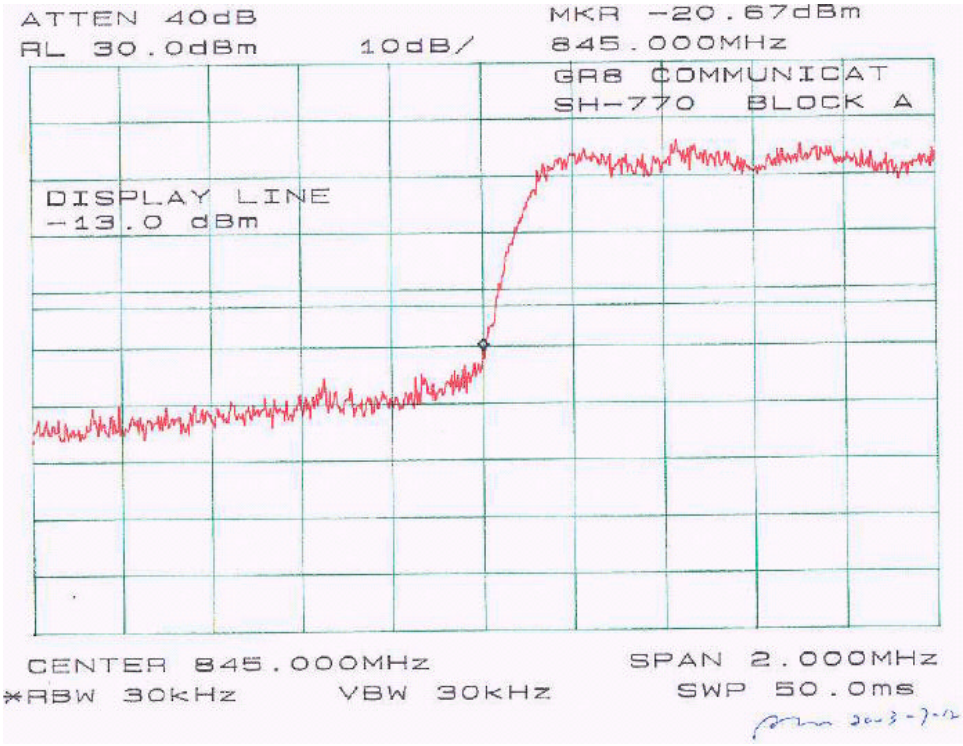
Hewlett Packard HP8564E Spectrum Analyzer, Calibration Due Date: 2003-08-01.
Hewlett Packard HP 7470A Plotter, Calibration not required.

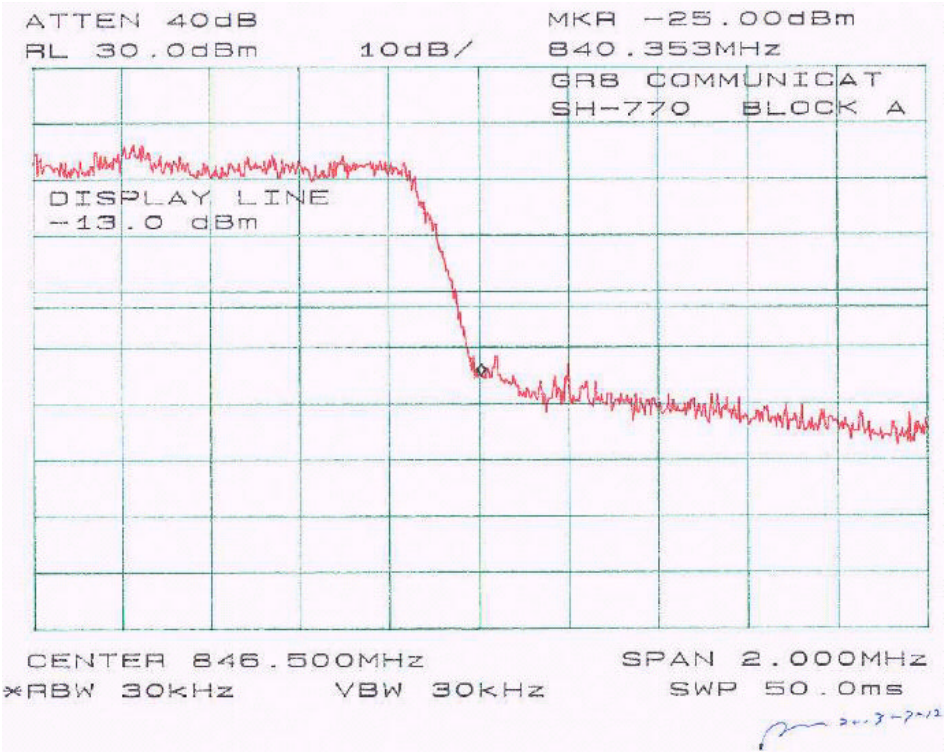
9.4 Test Results

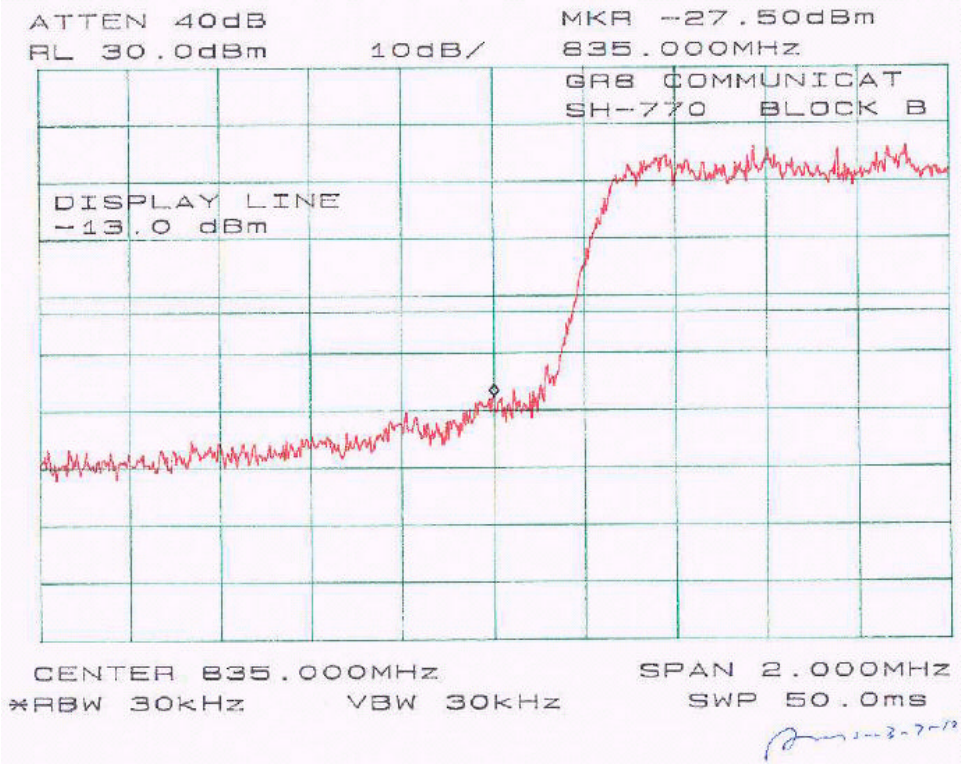
Please refer to the following plots.

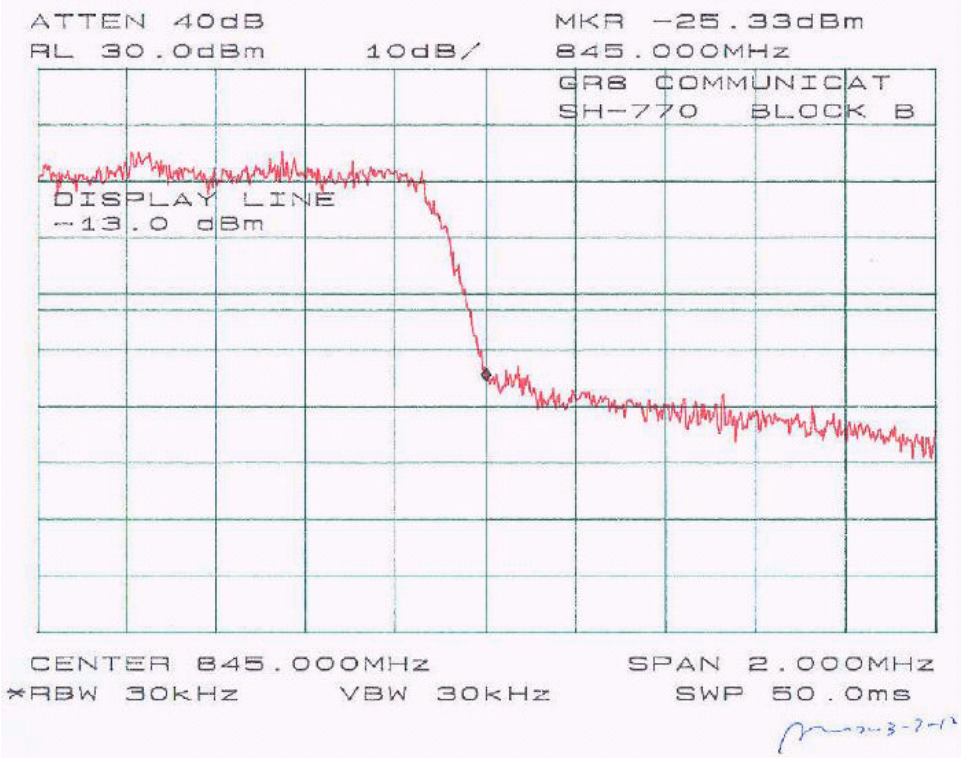

ATTEN 40dB
RL 30.0dBm
10dB/
MKR -19.17dBm
824.000MHz
GR8 COMMUNICAT
SH-770 BLOCK A
DISPLAY LINE
-13.0 dBm
CENTER 824.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

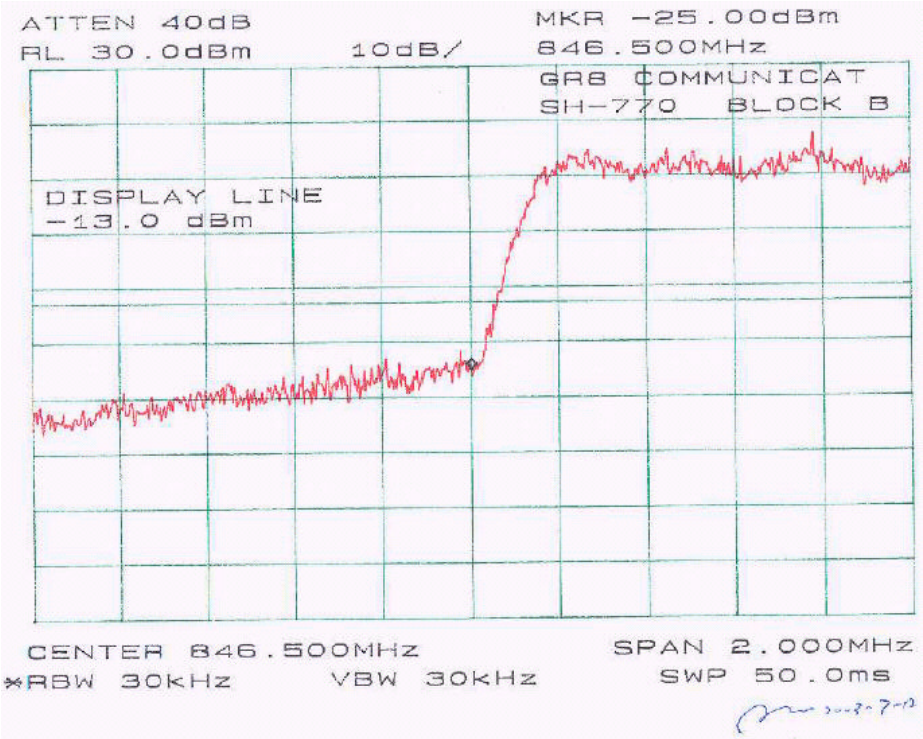

ATTEN 40dB
RL 30.0dBm
10dB/
MKR -24.67dBm
835.000MHz
GR8 COMMUNICAT
SH-770 BLOCK A
DISPLAY LINE
-13.0 dBm
CENTER 835.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

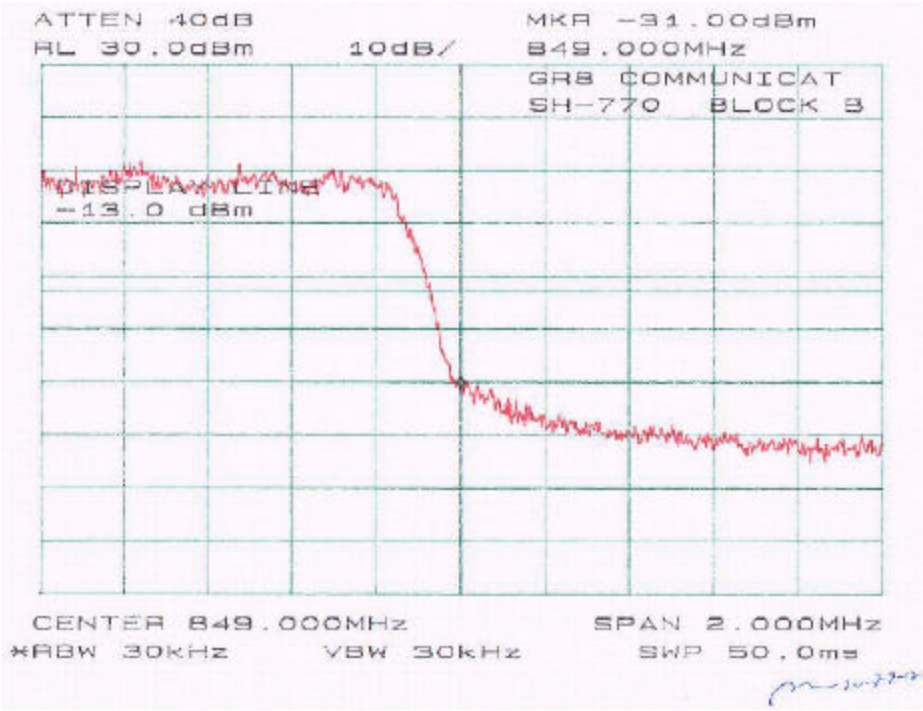

ATTEN 40dB
RL 30.0dBm
10dB/
MKR -20.67dBm
845.000MHz
GR8 COMMUNICAT
SH-770 BLOCK A
DISPLAY LINE
-13.0 dBm
CENTER 845.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

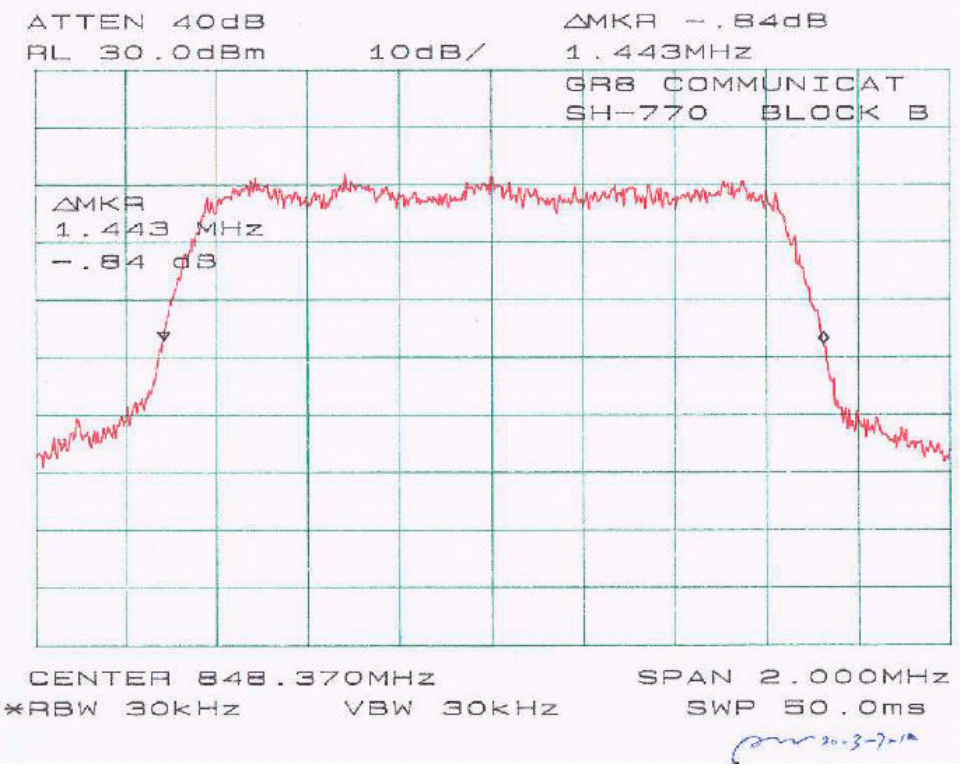

ATTEN 40dB
RL 30.0dBm
10dB/
MKR -25.00dBm
840.353MHz
GR8 COMMUNICAT
SH-770 BLOCK A
DISPLAY LINE
-13.0 dBm
CENTER 846.500MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -27.50dBm
835.000MHz
GR8 COMMUNICAT
SH-770 BLOCK B
DISPLAY LINE
-13.0 dBm
CENTER 835.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -25.33dBm
845.000MHz
GR8 COMMUNICAT
SH-770 BLOCK B
DISPLAY LINE
-13.0 dBm
CENTER 845.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -25.00dBm
846.500MHz
GR8 COMMUNICAT
SH-770 BLOCK B
DISPLAY LINE
-13.0 dBm
CENTER 846.500MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
MKR -31.00dBm
849.000MHz
GR8 COMMUNICAT
SH-770 BLOCK B
DISPLAY LINE
-13.0 dBm
CENTER 849.000MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms


ATTEN 40dB
RL 30.0dBm
10dB/
ΔMKR -.84dB
1.443MHz
GR8 COMMUNICAT
SH-770 BLOCK B
ΔMKR
1.443 MHz
-.84 dB
CENTER 848.370MHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

10 - FREQUENCY STABILITY

10.1 Applicable Standard

Requirements: FCC § 2.1055 (a), § 2.1055 (d).

10.2 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 a frequency counter 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 counter.

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.

10.3 Test Equipment

Temperature Chamber -50^0 to $+100^0$C
Hewlett Packard 5383A Frequency Counter
Goldstar DC Power Supply, GR303

10.4 Test Results

Frequency Stability Versus Temperature

Reference Frequency: 835.890 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (Vdc)	Frequency Measure with Time Elapsed	
		MCF (MHz)	PPM Error
50	5	835.892	2.3
40	5	835.891	1.1
30	5	835.891	1.1
20	5	835.890	0
10	5	835.890	0
0	5	835.890	0
-10	5	835.889	-1.2
-20	5	835.889	-1.2

Frequency Stability Versus Input Voltage

Power Supplied (Vdc)	Reference Frequency: 835.890MHz, Limit: 2.5 ppm					
	Frequency Measure with Time Elapsed					
	2 Minutes		5 Minutes		10 Minutes	
	MHz	PPM	MHz	PPM	MHz	PPM
4.25	835.89	0	835.89	0	835.889	-1.2

Conclusion: The EUT complied with the applicable Frequency Stability Limits.