Israel Testing Laboratories

ACCREDITED

Cert. No. 1152.01
Electrical (EMC)

DATE: 19 November 2008

I.T.L. (PRODUCT TESTING) LTD.

FCC Radio Test Report

for

Mobile Access Networks

Equipment under test:

Mobile Telephone In-Building Distribution System

1000-SMR-PCSE

Written by: _____
D. Shidlowsky, Documentation

Approved by: _____
A. Sharabi, Test Engineer

Approved by: _____
I. Raz, EMC Laboratory Manager

This report must not be reproduced, except in full, without the written permission of I.T.L. (Product Testing) Ltd.
This report relates only to items tested.

Cert. No. 1152.01
Electrical (EMC)

Measurement/Technical Report for

Mobile Access Networks

Mobile Telephone In-Building Distribution System

1000-SMR-PCSE

FCC ID:OJFMA1K-SMR-PCS

19 November 2008

This report concerns:	Original Grant: X Class II change: Class I change:
Equipment type:	PCS Licensed Transmitter

Limits used:
47CFR Parts 2; 22, 24; 101

Measurement procedure used is ANSI C63.4-2003.
Substitution Method used as in ANSI/TIA-603-B: 2002

Application for Certification prepared by:

Ishaishou Raz
ITL (Product Testing) Ltd.
Kfar Bin Nun
D.N. Shimshon 99780
Israel
e-mail sraz@itl.co.il

Applicant for this device:
(different from "prepared by")

Steve Blum
Mobile Access Networks
8391 Old Courthouse Rd., Suite #300
Vienna, VA. 22182
U.S.A.
Tel: +1-541-758-2880
Fax: +1-703-848-0260
e-mail: sblum@mobileaccess.com

TABLE OF CONTENTS

1. General Information

1.1 Administrative Information

Manufacturer:	Mobile Access Networks
Manufacturer's Address:	8391 Old Courthouse Rd. Suite #300 Vienna, VA 22182 U.S.A. Tel: +1-541-758-2880 Fax: +1-703-848-0260
Manufacturer's Representative:	Steve Blum
Equipment Under Test (E.U.T):	Mobile Telephone In-Building Distribution System
Equipment Model No.:	1000-SMR-PCSE
Equipment Serial No.:	0821635
Date of Receipt of E.U.T:	11.11.08
Start of Test:	11.11.08
End of Test:	11.11.08
Test Laboratory Location:	I.T.L (Product Testing) Ltd. Kfar Bin Nun, ISRAEL 99780
Test Specifications:	FCC Parts 2,22, 24, 101C

1.2 List of Accreditations

The EMC laboratory of I.T.L. is accredited by the following bodies:

1. The American Association for Laboratory Accreditation (A2LA) (U.S.A.), Certificate No. 1152.01.
2. The Federal Communications Commission (FCC) (U.S.A.), Registration No. 90715.
3. The Israel Ministry of the Environment (Israel), Registration No. 1104/01.
4. The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) (Japan), Registration Numbers: C-1350, R-1285.
5. Industry Canada (Canada), File No. IC 4025.
6. TUV Product Services, England, ASLLAS No. 97201.
7. Nemko (Norway), Authorization No. ELA 207.

I.T.L. Product Testing Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this test report have been determined in accordance with I.T.L.'s terms of accreditation unless stated otherwise in the report.

1.3 Product Description

The Wireless Network System provides coverage by routing RF signals from BTS (base transmit station) units, trough optic fibers to remote areas where the signals are converted back to RF and interfaced to antennas covering the remote area. All system elements can be remotely controlled and monitored from a single location.

The system consists of the following elements:

Radio Interface Unit (RIU) – Provides interface up to BTS units. Connections can be simplex or duplex. RIU contain three slots in which BTS Conditioner (BTSC) and/or BDA Conditioner (BDAC) modules can be inserted in any combination. RIU output signal is automatically adjusted to respond to a range of BTS output power levels. This significantly reduces or eliminates the need for extensive manual site measurements and adjustments required to provide the optimal input to the Base Unit.

Radio Interface Unit Lite (RIU Lite) – A compact version of RIU, contain internal fixed BTS/BDA Conditioner.

Base Unit (BU) – Convert the RF signal received from the RIU to an optic signal that is then split and routed via optic fiber to Remote Hub Units located in remote locations.

Remote Hub Units (RHUs) – Convert the optic signal to an RF signal and feeds it to the antennas in the remote areas in order to provide the required coverage. The RHU provides coax connections to up to four antennas. The RHU filters and amplifiers the optic signal received from the BU according to the service it supports.

1.4 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4: 2003. Radiated testing was performed at an antenna to EUT distance of 3 meters.

1.5 Test Facility

The radiated emissions tests were performed at I.T.L.'s testing facility at Kfar Bin-Nun, Israel. This site is a FCC listed test laboratory (FCC Registration No. 90715, date of listing December 12, 2003).
I.T.L.'s EMC Laboratory is also accredited by A2LA, certificate No. 1152.01.

1.6 Measurement Uncertainty

Radiated Emission

The Open Site complies with the ±4 dB Normalized Site Attenuation requirements of ANSI C63.4-2003. In accordance with Paragraph 5.4.6.1 of this standard, this tolerance includes instrumentation calibration errors, measurement technique errors, and errors due to site anomalies.

2. System Test Configuration

2.1 Justification

Per FCC Request the following additional testing was performed:

RF Output Power, Part 2 Section 2.1046; Part 22 E; Part 24 D; Part 101C

Occupied Bandwidth, FCC Part 2 Section 2.1049

Spurious Emissions at Antenna Terminals, FCC Section 2.1051; 24.133 a(1), a(2); 101.111 a (6); 22.531E

Spurious radiated emissions for the following operation frequencies:

930.5 MHz; 931.5 MHz; 932.5 MHz; 934.8 MHz; 940.5 MHz

All tests were performed at for the frequency bands, operation frequencies and frequency modulations as listed in the following table. Along with tabular data shown in each applicable section of this test report, plots were taken of all signals deemed important enough to document.

Part	Frequency Band (MHz)	Operation Frequency (MHz)	Frequency Modulation (kHz)
24D	930-931	930.50	5
22E	931-932	931.5125	5
101	932-935	932.5125	5
101	932-935	934.875	5
24D	940-941	940.50	2.5

2.2 EUT Exercise Software

See details in original application.

2.3 Special Accessories

No special accessories were needed in order to achieve compliance.

2.4 Equipment Modifications

See details in original application.

2.5 Configuration of Tested System

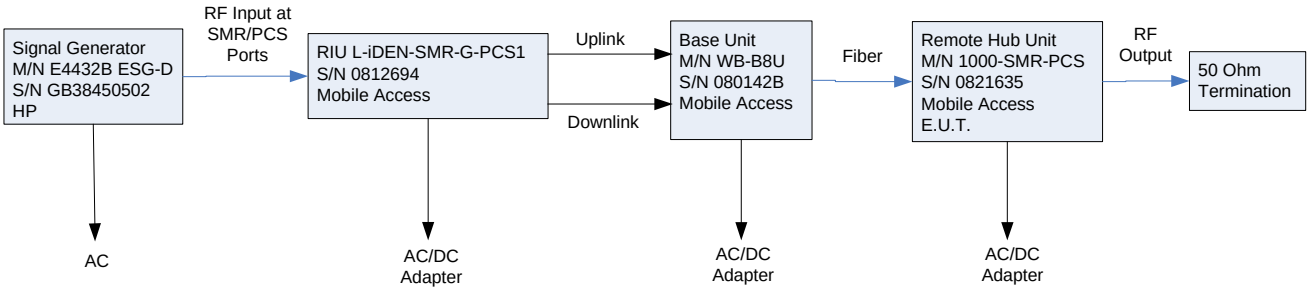

Figure 1. Radiated Tests Set-up

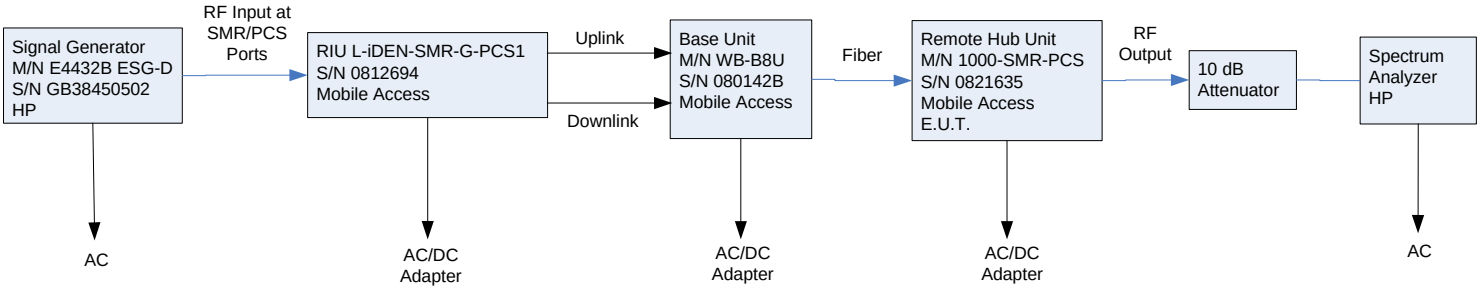

Figure 2. Conducted Tests Set-up

3. Peak Output Power

3.1 Test Specification

FCC Part 2 Section 2.1046; Part 22 E; Part 24 D; Part 101C

3.2 Test procedure

The RF output of the equipment under test was directly connected to the input of the spectrum analyzer through a 10 dB passive attenuator. The resolution and video bandwidths of the spectrum analyzer were set at sufficient levels, signal bandwidth, to produce accurate results. The internal correction factors of the spectrum analyzer were employed to correct for any cable or attenuator losses (-1dB).

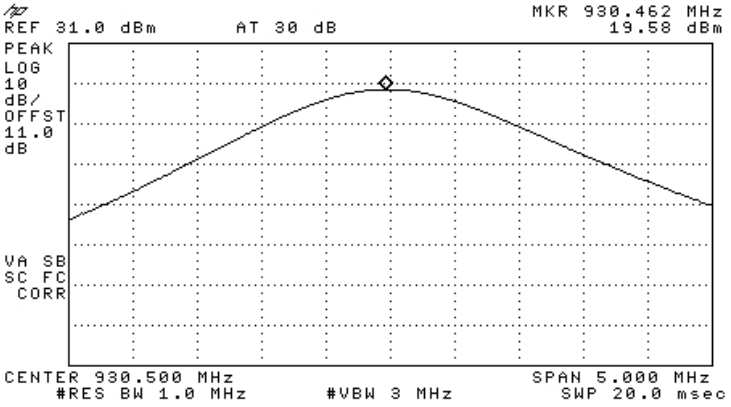

Figure 3.— 930.50 MHz

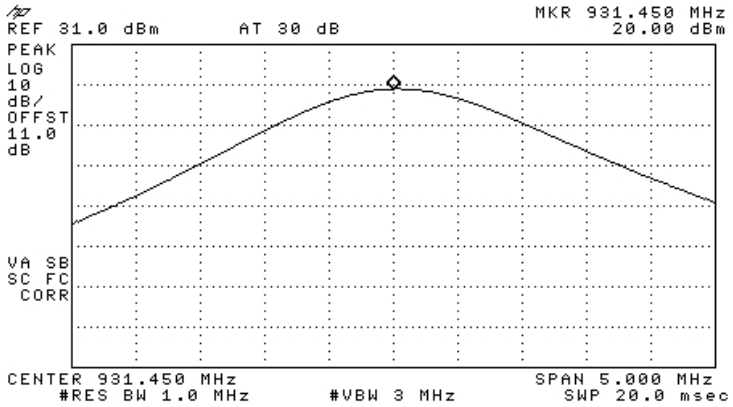

Figure 4.— 931.50 MHz

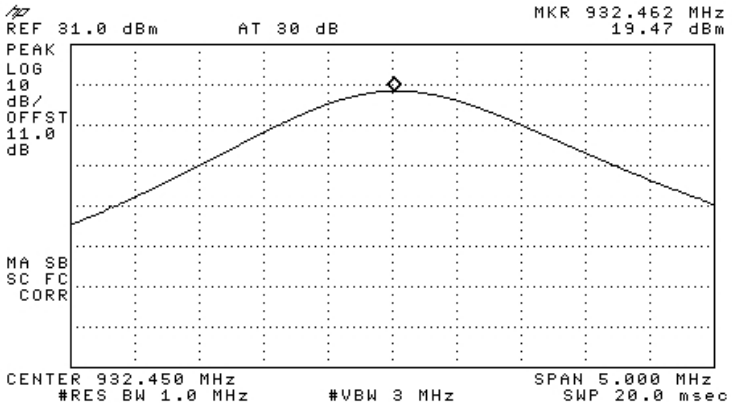

Figure 5.— 932.50 MHz

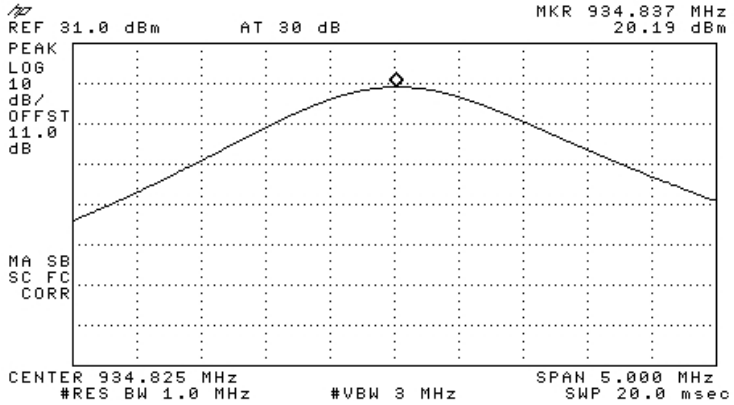

Figure 6.— 934.87 MHz

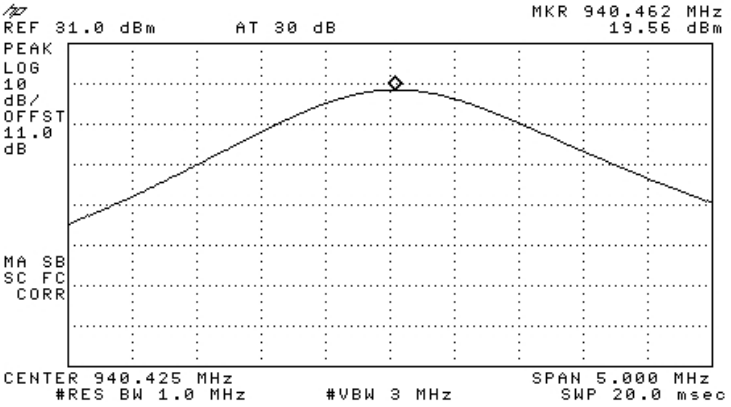

Figure 7.— 940.50 MHz

3.3 Results table

E.U.T. Description: Mobile Telephone In-Building Distribution System
Model No.: 1000-SMR-PCSE
Serial Number: 0821635
Specification: FCC Part 2 Section 2.1046; Part 22 E; Part 24 D; Part 101C

Frequency (MHz)	**FCC Rule Part**	Output Power
930.50	24D	19.58
931.5125	22E	20.0
932.5125	101C	19.47
934.875	101C	20.19
940.50	24D	19.56

Figure 8 Peak Output Power

JUDGEMENT: Passed

TEST PERSONNEL:
Tester Signature: _____ Date: 26.11.08
Typed/Printed Name: A. Sharabi

3.4 Test Equipment Used.

Peak Output Power

Instrument	Manufacturer	Model	Serial Number	Calibration	
				Last Calibr.	Period
Spectrum Analyzer	HP	8592L	3926A01204	March 5, 2008	1 year
Signal Generator	HP	E4432B ESG-D	GB38450502	28 May 2008	1 year
Attenuator	HP	8491A	58267	30 June 2008	1 year
Cable	Rhophase	KPS-5000-KPS	A1674	February 8, 2008	1 year

Figure 9 Test Equipment Used

4. Occupied Bandwidth

4.1 Test Specification

FCC Part 2 Section 2.1049

4.2 Test Procedure

The RF output of the equipment under test was directly connected to the input of the Spectrum Analyzer through a 10 dB passive attenuator. The spectrum analyzer resolution and video bandwidths were set to 300 Hz. The internal correction factors of the spectrum analyzer were employed to correct for any cable or attenuator losses (-1dB).
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limit, the mean powers radiated are each equal to 0.5% of the total mean power radiated by a given emission.
The occupied bandwidth of the E.U.T. at the point of 20 dB below maximum peak power was measured and recorded.
Occupied bandwidth measured was repeated in the input terminal of the E.U.T.

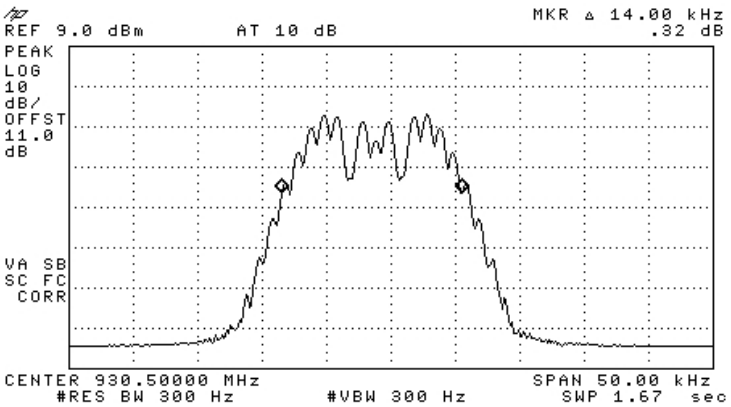

Figure 10.— Input 930.50 MHz

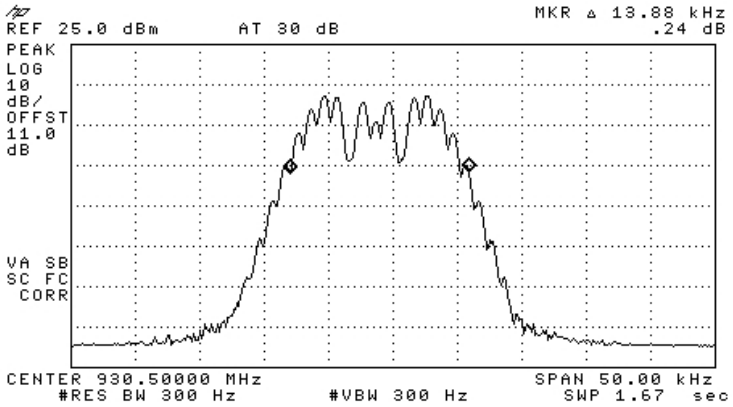

Figure 11.— Output 930.50 MHz

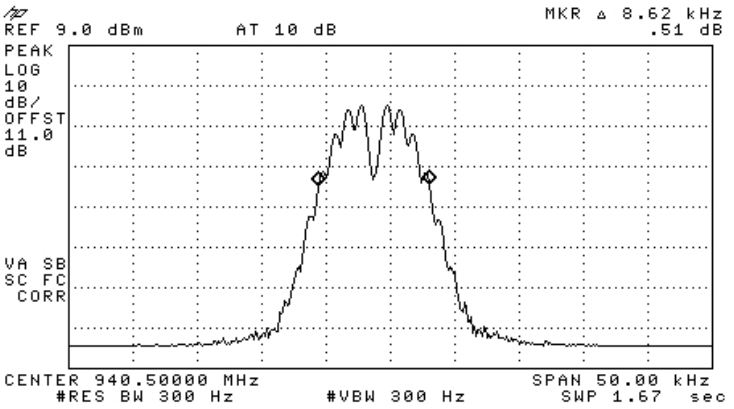

Figure 12.— Input 940.50 MHz

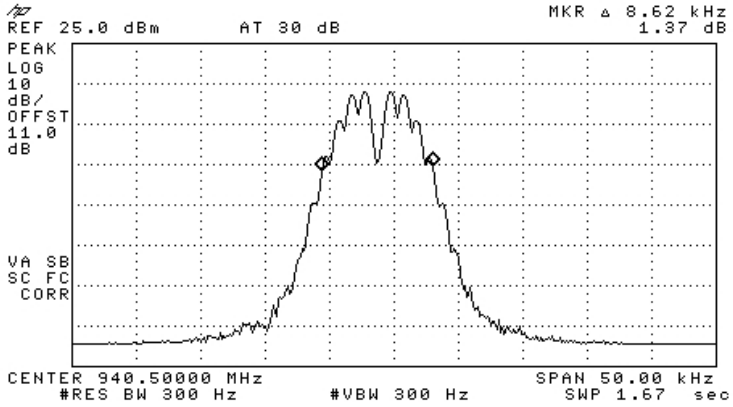

Figure 13.— Output 940.50 MHz

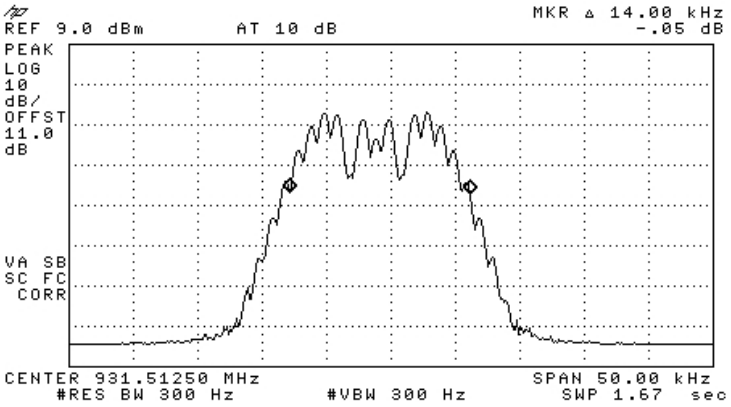

Figure 14.— Input 931.50 MHz

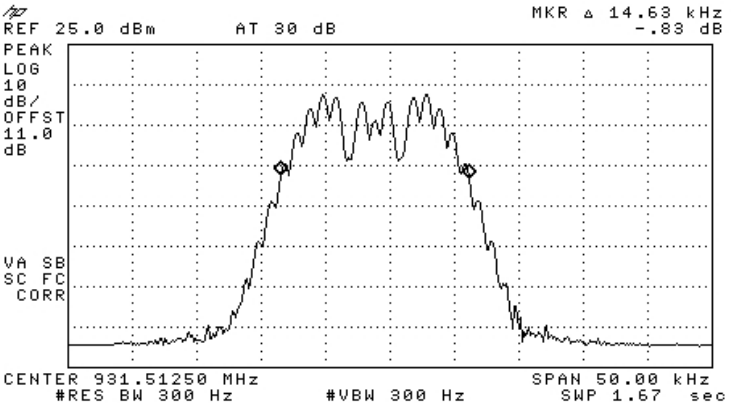

Figure 15.— Output 931.50 MHz

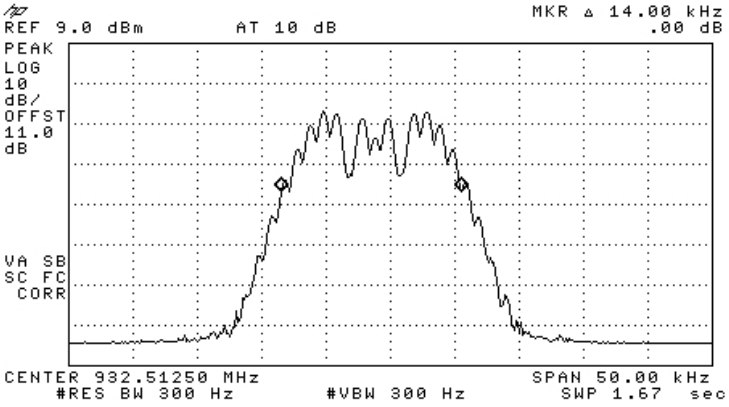

Figure 16.— Input 932.50 MHz

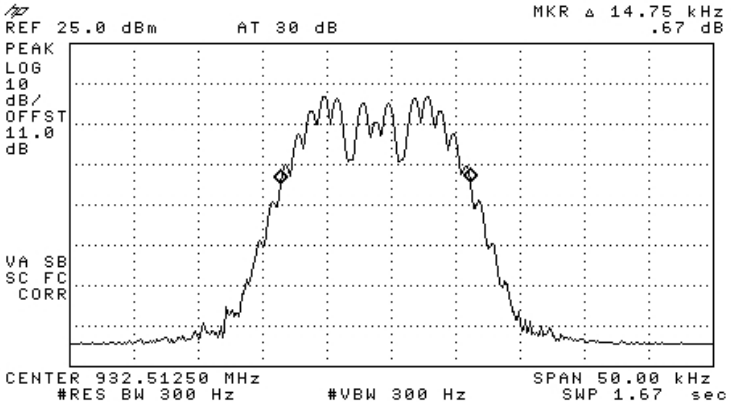

Figure 17.— Output 932.50 MHz

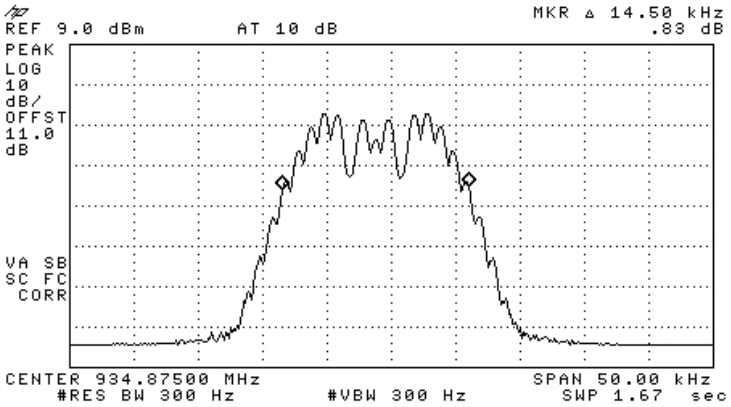

Figure 18.— Input 934.87 MHz

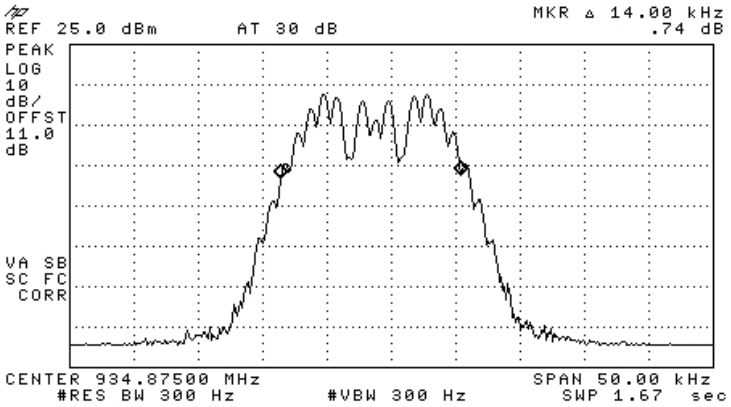

Figure 19.— Output 934.87 MHz

4.3 Results Table

E.U.T. Description: Mobile Telephone In-Building Distribution System
Model No.: 1000-SMR-PCSE
Serial Number: 0821635

Specification: FCC Part 2 Section 2.1049

Frequency (MHz)	Input (kHz)	Output (kHz)
930.50	14.00	13.88
931.5125	14.00	14.63
932.5125	14.00	14.75
934.875	14.50	14.00
940.50	8.62	8.62

Figure 20 Occupied Bandwidth

TEST PERSONNEL:

Tester Signature: _____ Date: 26.11.08

Typed/Printed Name: A. Sharabi

4.4 Test Equipment Used.

Occupied Bandwidth

Instrument	Manufacturer	Model	Serial Number	Calibration	
				Last Calibr.	Period
Spectrum Analyzer	HP	8592L	3826A01204	March 5, 2008	1 year
Signal Generator	HP	E4432B ESG-D	GB38450502	28 May 2008	1 year
Attenuator	HP	8491A	58267	30 June 2008	1 year
Cable	Rhophase	KPS-5000-KPS	A1674	February 8, 2008	1 year

Figure 21 Test Equipment Used

5. Spurious Emissions at Antenna Terminals

5.1 Test Specification

FCC Section 2.1051; 24.133 a(1), a(2); 101.111 a (6); 22.531E

5.2 Test procedure

Spectrum Analyzer through a 10 dB passive attenuator. The spectrum analyzer resolution bandwidth was set to 30 kHz below 1000 MHz and 1 MHz above 1000 MHz. The internal correction factors of the spectrum analyzer were employed to correct for cable loss (-1dB). The spectrum was investigated in accordance to CFR 47 Part 2.1057.

The most stringent limit from all rule parts indicated in this section was used to show compliance. For example if the spurious emission limit for one rule part is -13 dBm and is -20 dBm for another, the -20 dBm limit is used for spurious emissions for all data points.

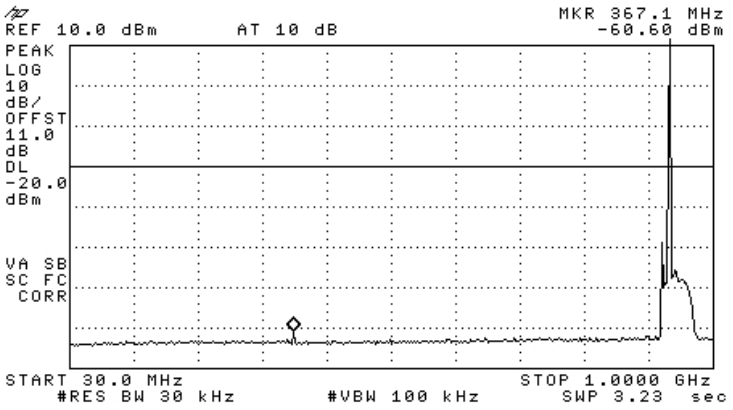

Figure 22.— 930.50 MHz

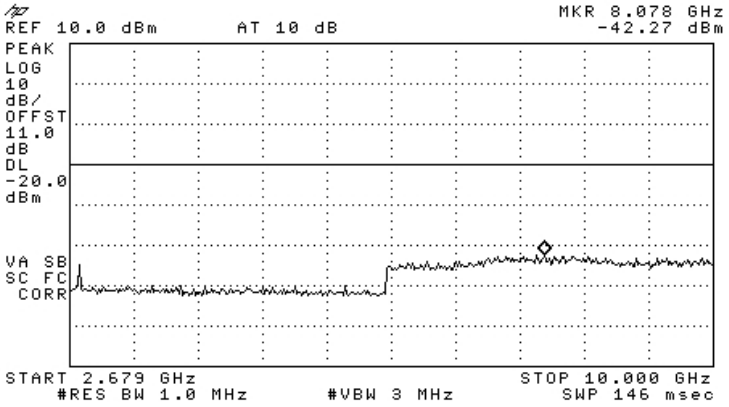

Figure 23.— 930.50 MHz

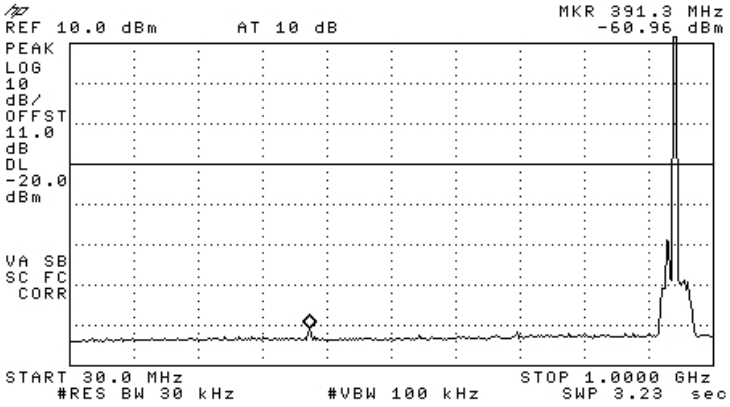

Figure 24.— 940.50 MHz

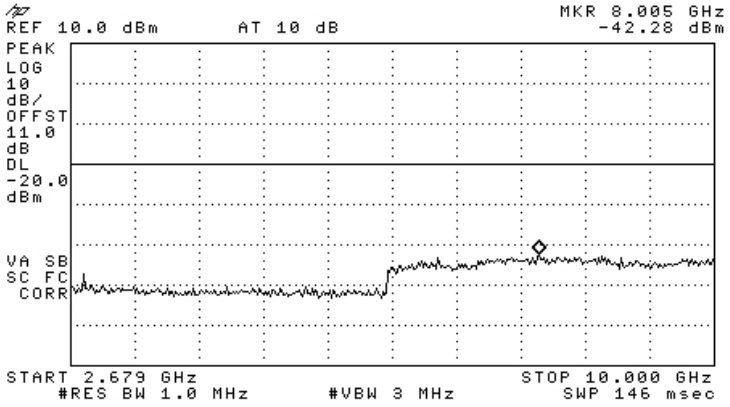

Figure 25.— 940.50 MHz

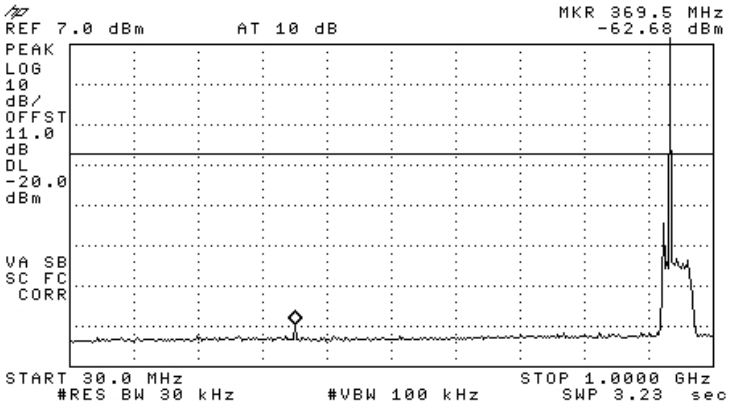

Figure 26.— 931.50 MHz

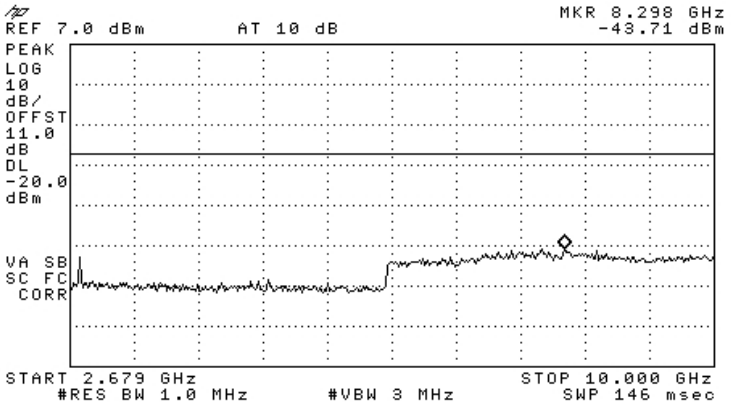

Figure 27.— 931.50 MHz

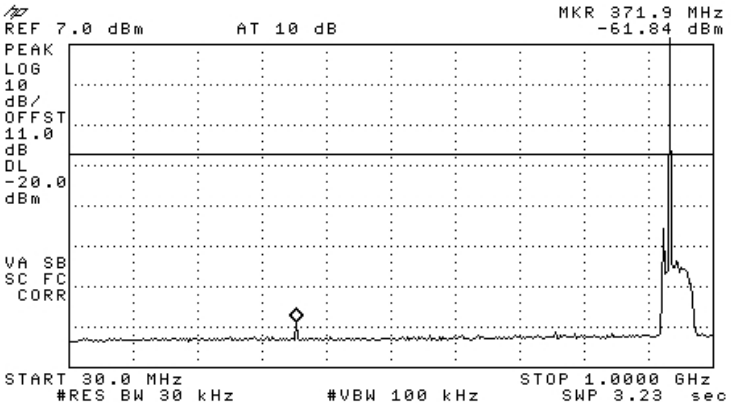

Figure 28.— 932.50 MHz

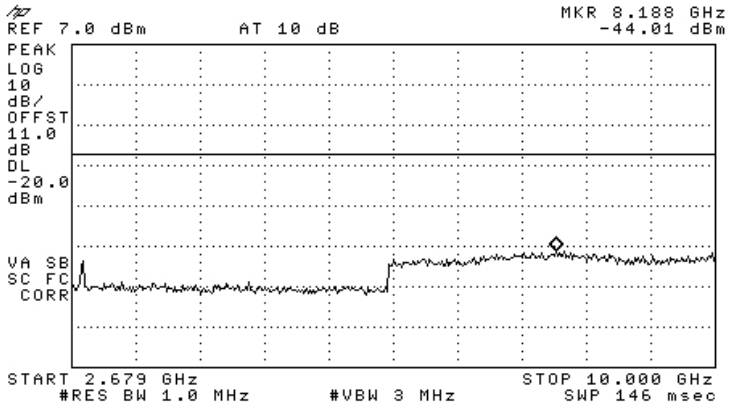

Figure 29.— 932.50 MHz

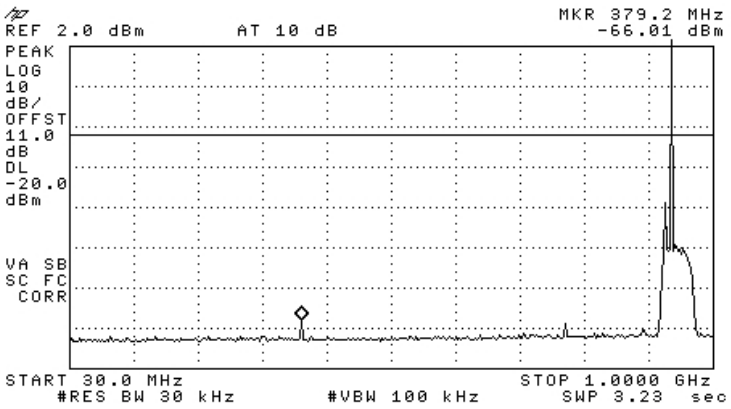

Figure 30.— 934.87 MHz

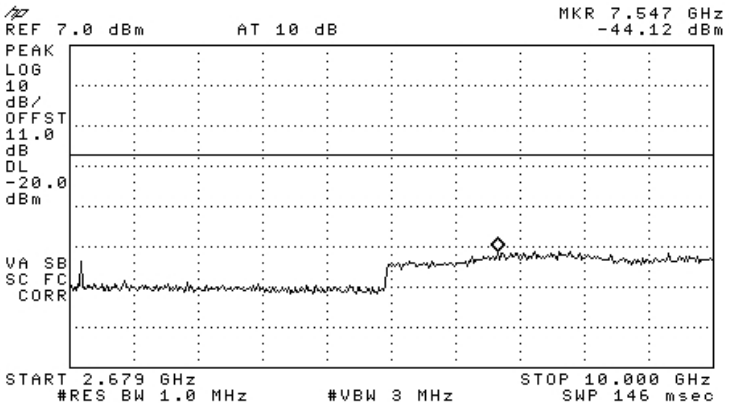

Figure 31.— 934.87 MHz

5.3 Results

E.U.T. Description: Mobile Telephone In-Building Distribution System
Model No.: 1000-SMR-PCSE
Serial Number: 0821635
Specification: FCC Section 2.1051; 24.133 a(1), a(2); 101.111 a (6); 22.531E

JUDGEMENT: Passed

TEST PERSONNEL:

Tester Signature: _____ Date: 26.11.08

Typed/Printed Name: A. Sharabi

5.4 Test Equipment Used.

Out of Band Emission at Antenna Terminals

Instrument	Manufacturer	Model	Serial Number	Calibration	
				Last Calibr.	Period
Spectrum Analyzer	HP	8592L	3826A01204	March 5, 2008	1 year
Signal Generator	HP	E4432B ESG-D	GB38450502	28 May 2008	1 year
Attenuator	HP	8491A	58267	30 June 2008	1 year
Cable	Rhophase	KPS-5000-KPS	A1674	February 8, 2008	1 year

Figure 32 Test Equipment Used

6. Spurious Radiated Emission

6.1 Test Specification

FCC, Part 24, Sub-part E Section 235, FCC Part 2.1053

6.2 Test Procedure

The test method was based on ANSI/TIA-603-B: 2002, Section 2.2.12 Unwanted Emissions: Radiated Spurious.
The power of any emission outside of the authorized operating frequency ranges (1930-1950 MHz) must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB, yielding –13dBm.

(a) The E.U.T. operation mode and test set-up are as described in Section 3. A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, and placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The configuration tested is shown in Figure 1.
The frequency range 9 kHz-10 GHz was scanned, and the list of the highest emissions was verified and updated accordingly.
The readings were maximized by adjusting the antenna height between 1-4 meters, the turntable azimuth between 0-360°, and the antenna polarization.
The emissions were measured at a distance of 3 meters.

(b) The E.U.T. was replaced by a substitution antenna (dipole 30MHz-1GHz, Horn Antenna above 1GHz) driven by a signal generator. The height was readjusted for maximum reading. The signal generator level was adjusted to obtain the same reading on the EMI receiver as in step (a).
The signals observed in step (a) were converted to radiated power using:
P_d(dBm) = P_g(dBm) – Cable Loss (dB) + Substitution Antenna Gain (dB)
P_d = Dipole equivalent power (result).
P_g = Signal generator output level.

The E.U.T. was operated at the frequencies of 930.50 MHz; 940.50 MHz; 935.51 MHz; 932.51 MHz; and 934.87 MHz.

930.5MHz, 5kHz

Carrier Frequency (MHz)	Antenna Pol.	Maximum Peak Level (dBµV/m)	Signal Generator RF Output (dBm)	Cable Loss (dB)	Gain antenna (dBi)	Effective Radiated Power Level (dBm)	Spec. (dBm)	Margin (dB)
1860.90	H	39.6	-61.5	4.9	7.0	-59.4	-20.0	-39.4
1860.90	V	41.7	-58.3	4.9	7.0	-56.2	-20.0	-36.2
2791.00	H	48.3	-50.5	7.4	8.4	-49.5	-20.0	-29.5
2791.00	V	47.1	-49.5	7.4	8.4	-48.5	-20.0	-48.5

940.5MHz, 2.5kz

Carrier Frequency (MHz)	Antenna Pol.	Maximum Peak Level (dBµV/m)	Signal Generator RF Output (dBm)	Cable Loss (dB)	Gain antenna (dBi)	Effective Radiated Power Level (dBm)	Spec. (dBm)	Margin (dB)
1880.90	H	38.44	-62.4	4.9	7.0	-60.3	-20.0	-40.3
1880.90	V	39.2	-60.3	4.9	7.0	-58.2	-20.0	-38.2
2821.00	H	48.4	-50.5	7.4	8.4	-49.5	-20.0	-29.5
2821.00	V	50.6	-46.5	7.4	8.4	-45.5	-20.0	-25.5

931.5125MHz, 5KHz:

Carrier Frequency (MHz)	Antenna Pol.	Maximum Peak Level (dBµV/m)	Signal Generator RF Output (dBm)	Cable Loss (dB)	Gain antenna (dBi)	Effective Radiated Power Level (dBm)	Spec. (dBm)	Margin (dB)
1862.9	H	39.6	-61.5	4.9	7.0	-59.4	-20.0	-39.4
1862.9	V	41.7	-58.3	4.9	7.0	-56.2	-20.0	-26.2
2794.3	H	48.3	-50.5	7.4	8.4	-49.5	-20.0	-29.5
2794.2	V	47.1	-49.5	7.4	8.4	-48.5	-20.0	-28.5

932.5125MHz, 5kHz

Carrier Frequency (MHz)	Antenna Pol.	Maximum Peak Level (dBµV/m)	Signal Generator RF Output (dBm)	Cable Loss (dB)	Gain antenna (dBi)	Effective Radiated Power Level (dBm)	Spec. (dBm)	Margin (dB)
1864.9	H	39.6	-61.5	4.9	7.0	-59.4	-13.0	-46.4
1864.9	V	41.7	-58.3	4.9	7.0	-56.2	-13.0	-43.2
2796.8	H	48.3	-50.5	7.4	8.4	-49.5	-13.0	-36.5
2796.9	V	47.1	-49.5	7.4	8.4	-48.5	-13.0	-35.5

934.875MHz, 5KHz

1868.9	H	39.6	-61.5	4.9	7.0	-59.4	-13.0	-46.4
1868.9	V	41.7	-58.3	4.9	7.0	-56.2	-13.0	-43.2
2804.8	H	48.3	-50.5	7.4	8.4	-49.5	-13.0	-36.5
2804.9	V	47.1	-49.5	7.4	8.4	-48.5	-13.0	-35.5

6.3 Test Results

JUDGEMENT: Passed

The E.U.T met the requirements of the FCC, Part 24, Sub-part E, Section 235; FCC Part 2.1053 specifications.

TEST PERSONNEL:

Tester Signature:  Date: 26.11.08

Typed/Printed Name: A. Sharabi

6.4 Test Instrumentation Used, Radiated Measurements

Instrument	Manufacturer	Model	Serial Number	Calibration	Period
EMI Receiver	HP	85422E	3411A00102	November 12, 2007	1 year
RF Section	HP	85420E	3427A00103	November 12, 2007	1 year
Antenna Log Periodic	A.H. Systems	SAS-200/511	253	February 4, 2007	2 year
Antenna Mast	ARA	AAM-4A	1001	N/A	N/A
Turntable	ARA	ART-1001/4	1001	N/A	N/A
Mast & Table Controller	ARA	ACU-2/5	1001	N/A	N/A
Printer	HP	ThinkJet 2225	2738508357.0	N/A	N/A
Spectrum Analyzer	HP	8592L	3926A01204	March 5, 2008	1 year
Amplifier	Narda	DBS0411N313	013	January 9, 2008	1 year
Signal Generator	HP	83731D	US37100653	November 19, 2006	2 year
Double Ridged Waveguide Horn Antenna	EMCO	3115	29845	March 16, 2008	2 year

16. APPENDIX A - CORRECTION FACTORS

6.5 Correction factors for CABLE

from EMI receiver to test antenna at 3 meter range.

FREQUENCY (MHz)	CORRECTION FACTOR (dB)
10.0	0.3
20.0	0.6
30.0	0.8
40.0	0.9
50.0	1.1
60.0	1.2
70.0	1.3
80.0	1.4
90.0	1.6
100.0	1.7
150.0	2.0
200.0	2.3
250.0	2.7
300.0	3.1
350.0	3.4
400.0	3.7
450.0	4.0
500.0	4.3
600.0	4.7
700.0	5.3
800.0	5.9
900.0	6.3
1000.0	6.7

FREQUENCY (MHz)	CORRECTION FACTOR (dB)
1200.0	7.3
1400.0	7.8
1600.0	8.4
1800.0	9.1
2000.0	9.9
2300.0	11.2
2600.0	12.2
2900.0	13.0

NOTES:

1. The cable type is RG-214.

2. The overall length of the cable is 27 meters.

3. The above data is located in file 27MO3MO.CBL on the disk marked "Radiated Emission Tests EMI Receiver".

6.6 Correction factors for CABLE

from EMI receiver to test antenna at 3 meter range.

FREQUENCY (GHz)	CORRECTION FACTOR (dB)
1.0	1.2
2.0	1.6
3.0	2.0
4.0	2.4
5.0	3.0
6.0	3.4
7.0	3.8
8.0	4.2
9.0	4.6
10.0	5.0
12.0	5.8

NOTES:

1. The cable type is RG-8.

2. The overall length of the cable is 10 meters.

6.7 Correction factors for CABLE

from spectrum analyzer to test antenna above 2.9 GHz

FREQUENCY (GHz)	CORRECTION FACTOR (dB)	FREQUENCY (GHz)	CORRECTION FACTOR (dB)
1.0	1.9	14.0	9.1
2.0	2.7	15.0	9.5
3.0	3.5	16.0	9.9
4.0	4.2	17.0	10.2
5.0	4.9	18.0	10.4
6.0	5.5	19.0	10.7
7.0	6.0	20.0	10.9
8.0	6.5	21.0	11.2
9.0	7.0	22.0	11.6
10.0	7.5	23.0	11.9
11.0	7.9	24.0	12.3
12.0	8.3	25.0	12.6
13.0	8.7	26.0	13.0

NOTES:

1. The cable type is SUCOFLEX 104 E manufactured by SUHNER.

2. The cable is used for measurements above 2.9 GHz.

3. The overall length of the cable is 10 meters.

6.8 Correction factors for LOG PERIODIC ANTENNA

Type SAS-200/511
at 3 meter range.

FREQUENCY (GHz)	ANTENNA FACTOR (dB)
1.0	24.9
1.5	27.8
2.0	29.9
2.5	31.2
3.0	32.8
3.5	33.6
4.0	34.3
4.5	35.2
5.0	36.2
5.5	36.7
6.0	37.2
6.5	38.1

FREQUENCY (GHz)	ANTENNA FACTOR (dB)
7.0	38.6
7.5	39.2
8.0	39.9
8.5	40.4
9.0	40.8
9.5	41.1
10.0	41.7
10.5	42.4
11.0	42.5
11.5	43.1
12.0	43.4
12.5	44.4
13.0	44.6

NOTES:

1. Antenna serial number is 253.

2. The above lists are located in file number SAS3M0.ANT for a 3 meter range.

3. The files mentioned above are located on the disk marked "Antenna Factors".

6.9 Correction factors for Double-Ridged Waveguide Horn

Model: 3115, S/N 29845
at 3 meter range.

FREQUENCY (GHz)	ANTENNA FACTOR (dB 1/m)	ANTENNA Gain (dBi)	FREQUENCY (GHz)	ANTENNA FACTOR (dB 1/m)	ANTENNA Gain (dBi)
1.0	24.8	5.4	10.0	38.8	11.4
1.5	26.1	7.6	10.5	38.9	11.8
2.0	28.6	7.7	11.0	39.0	12.1
2.5	29.8	8.4	11.5	39.6	11.8
3.0	31.4	8.4	12.0	39.8	12.0
3.5	32.4	8.7	12.5	39.6	12.5
4.0	33.7	8.6	13.0	40.0	12.5
4.5	33.4	9.9	13.5	39.8	13.0
5.0	34.5	9.7	14.0	40.2	13.0
5.5	35.1	9.9	14.5	40.6	12.9
6.0	35.4	10.4	15.0	41.3	12.4
6.5	35.6	10.8	15.5	39.5	14.6
7.0	36.2	10.9	16.0	38.8	15.5
7.5	37.3	10.4	16.5	40.0	14.6
8.0	37.7	10.6	17.0	41.4	13.4
8.5	38.3	10.5	17.5	44.8	10.3
9.0	38.5	10.8	18.0	47.2	8.1
9.5	38.7	11.1			