KTL Test Report No.:	0L0551RUS1
Applicant:	Allen Telecom Systems 140 Vista Center Drive Forest, VA 24551
Equipment Under Test:	EAC-2100 PCS REPEATER
FCC ID:	BCR-RPT-EAC2100
In Accordance With:	**FCC Part 24, Subpart E** Broadband PCS Repeaters
Tested By:	KTL Dallas Inc. 802 N. Kealy Lewisville, Texas 75057-3136
Authorized By:	Tom Tidwell, EMC/Wireless Group Manager
Date:	February, 2001
Total Number of Pages:	40

Table of Contents

Section 1. Summary of Test Results

Manufacturer: Grayson Wireless

Model No.: EAC-2100

Serial No.: 001

General: **All measurements are traceable to national standards.**

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 24, Subpart E.

☒	New Submission	☒	Production Unit
☐	Class II Permissive Change	☐	Pre-Production Unit

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.
See " Summary of Test Data".

NVLAP LAB CODE: 100426-0

Summary Of Test Data

NAME OF TEST	PARA. NO.	SPEC.	MEAS.	RESULT
RF Power Output	24.232	100W	50 W	Complies
Occupied Bandwidth (CDMA)	24.238	Input/Output	N/A	N/A
Occupied Bandwidth (GSM)	24.238	Input/Output	N/A	N/A
Occupied Bandwidth (NADC)	24.238	Input/Output	Input/Output	Complies
Spurious Emissions at Antenna Terminals	24.238(a)	-13 dBm	< -13 dBm	Complies
Field Strength of Spurious Emissions	24.238(a)	-13 dBm E.I.R.P.	< -13 dBm	Complies
Frequency Stability	24.235		N/T	N/T

Footnotes:

(1) CDMA & GSM modulations were not tested because the repeater is for NADC signals only..
2) Frequency stability testing was performed by the manufacturer

Measurement uncertainty for each test configuration is expressed to 95% probability.

Section 2. General Equipment Specification

Supply Voltage Input:		120 VAC
Frequency Bands:	**Downlink:**	☒ Block A : 1930 – 1945 MHz ☒ Block D : 1945 – 1950 MHz ☒ Block B : 1950 – 1965 MHz ☒ Block E : 1965 – 1970 MHz ☒ Block F : 1970 – 1975 MHz ☒ Block C : 1975 – 1990 MHz
Frequency Bands:	**Uplink:**	☒ Block A : 1850 – 1865 MHz ☒ Block B : 1865 – 1870 MHz ☒ Block C : 1870 – 1885 MHz ☒ Block D : 1885 – 1890 MHz ☒ Block E : 1890 – 1895 MHz ☒ Block F : 1895 – 1910 MHz
Type of Modulation and Designator:		**CDMA (G7W)** ☐ **GSM (GXW)** ☐ **NADC (DXW)** ☒
Output Impedance:		50 ohms
RF Output (Rated):	**Uplink**	Per channel: .282 W Total: .560 W
RF Output (Rated):	**Downlink**	Per channel: 25 W Total: 50 W
Frequency Translation:		**F1-F1** ☒ **F1-F2** ☐ **N/A** ☐
Band Selection:		**Software** ☐ **Duplexer** ☒ **Fullband** ☐

Description of Operation

The EAC-2100 booster is available in either a two-channel or a four-channel configuration. Each RF channel is capable of handling three full-rate TDMA channels. Therefore, a four-channel EAC-2100 can provide one DCCH channel and 11 DTC DTC channels.

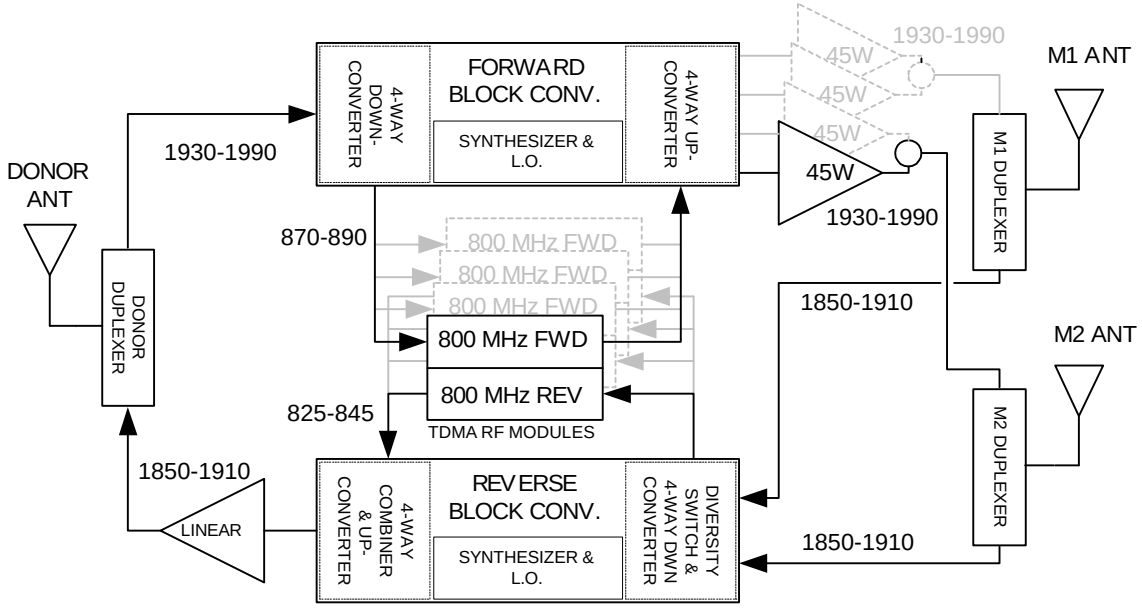
Also, two EAC-2100 boosters may be operated together to provide up to eight RF-channel operation (1 DCCH plus 23 DTC DTC channels). A digital control cable connects the two cabinets together to allow one cabinet to handle the DCCH duties.

A block diagram of the EAC-2100 is shown in figure 1-2. Up to four 800 MHz TDMA modules are used. These modules are similar to those used in the EAC-2000, with the main difference being that they have a lower output power level in the reverse direction. Like the EAC-2000, these modules provide the frequency translation feature necessary to allow high-gain repeater operation.

Block converters are used to convert the PCS band to the 800 MHz band, and likewise the 800 MHz band to the PCS band. A Forward Block Converter and a Reverse Block Converter is used. Each block converter has its own synthesizer and local-oscillator control for performing the block conversion process.

The Forward Block Converter converts the 1930-1990 MHz signals from the donor cell site to the 870-890 MHz band. The 870-890 MHz block is fed to the 800 MHz TDMA RF modules for signal processing. The outputs of the 800 MHz modules are individually converted back to the 1930-1990 MHz band for subsequent transmission to the repeater coverage area. Since the PCS band is wider than the 800 MHz tuning range of the 800 MHz RF modules, the Block Converters

System Diagram



Section 3. RF Power Output

NAME OF TEST: RF Power Output	PARA. NO.: 2.1046
TESTED BY: David Light	DATE: 1/26/01

Test Results: Complies.

Measurement Data:

	Modulation Type	Per Channel Output Power (dBm)	Composite Output Power (dBm)
Uplink	CDMA	N/A	N/A
Downlink	CDMA	N/A	N/A
Uplink	GSM	N/A	N/A
Downlink	GSM	N/A	N/A
Uplink	NADC	24.5	27.5
Downlink	NADC	44	47

Equipment Used: 1036-1082-1475-1055

Measurement Uncertainty: +/- 1.6 dB

Temperature: 22 °C

Relative Humidity: 50 %

Section 4. Occupied Bandwidth

NAME OF TEST: Occupied Bandwidth (NADC)	PARA. NO.: 2.1049
TESTED BY: David Light	DATE: 1/26/01

Test Results: Complies.

Test Data: See attached plot(s).

Equipment Used: 1036-1082-1475-1055

Measurement Uncertainty: +/- 1.6 dB

Temperature: 22 °C

Relative Humidity: 50 %

Test Data - Occupied Bandwidth - NADC

Data Plot Occupied Bandwidth

Page 1 of 2 Complete X

Job No.: 0L0551R Date: 01/26/00 Preliminary

Specification: Part 24 Temperature(°C): 22

Tested By: David Light Relative Humidity(%) 50

E.U.T.: EAC-2100

Configuration: Tx 1 channel - full power

Sample No: S01

Location: Lab 1 RBW: 1 kHz

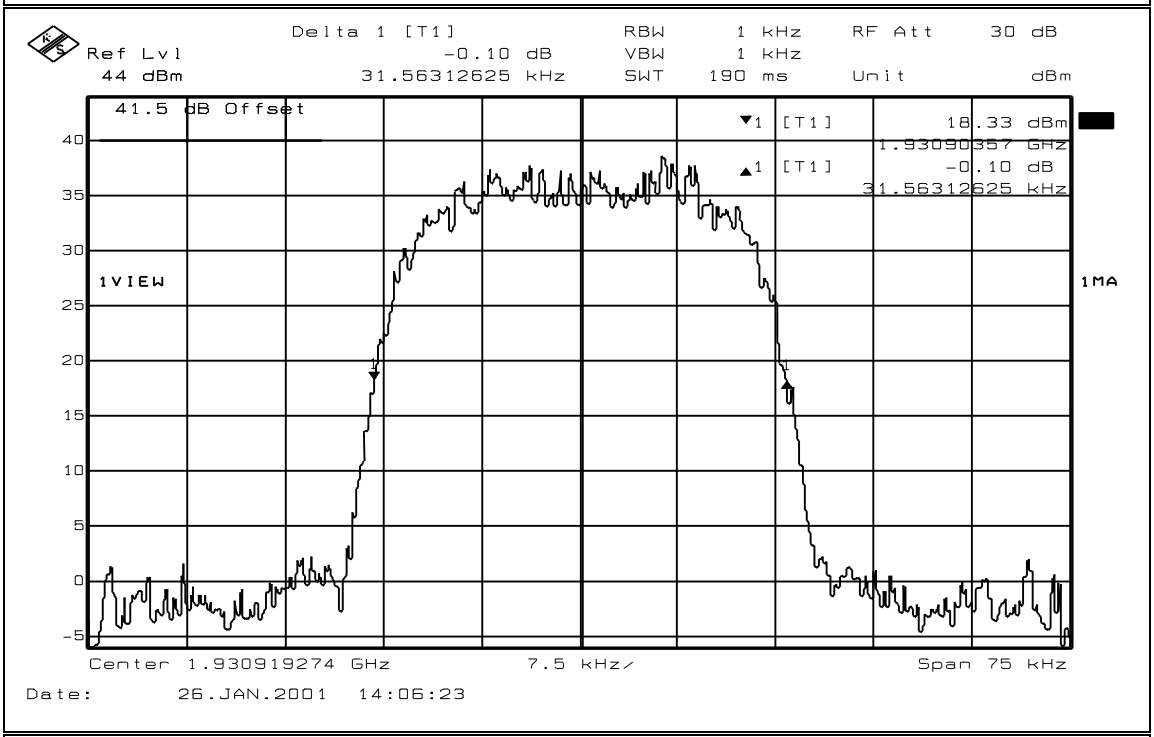
Detector Type: Peak VBW: 1 kHz

Test Equipment Used

Antenna:		Directional Coupler:	1055
Pre-Amp:		Cable #1:	1082
Filter:		Cable #2:	
Receiver:	1036	Cable #3:	
Attenuator #1	1475	Cable #4:	
Attenuator #2:		Mixer:	

Additional equipment used:

Measurement Uncertainty: +/-3.6 dB



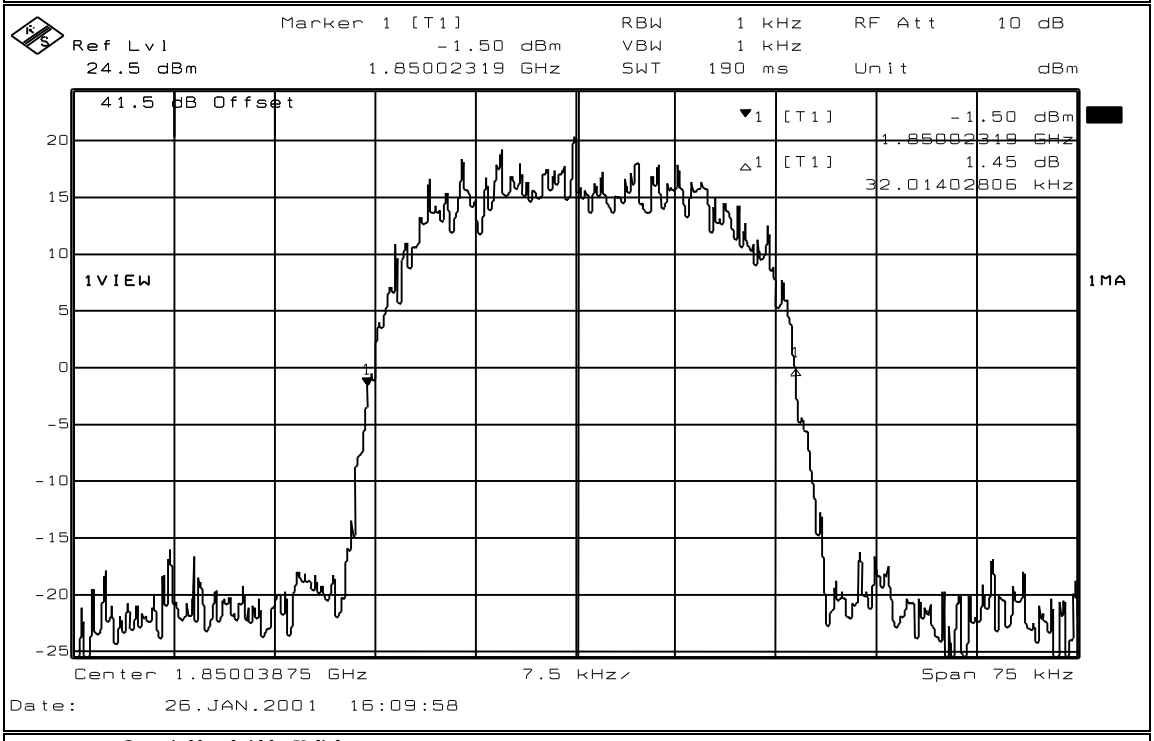
Notes: **Occupied bandwidth - Downlink**

Test Data - Occupied Bandwidth - NADC

Data Plot Occupied Bandwidth

Page 2 of 2

Job No.:	0L0551R	Date:	01/26/00
Specification:	Part 24	Temperature(°C):	22
Tested By:	David Light	Relative Humidity(%)	50
E.U.T.:	EAC-2100		
Configuration:	Tx 1 channel - full power		



Notes: **Occupied bandwidth - Uplink**

Section 5. Spurious Emissions at Antenna Terminals

NAME OF TEST: Spurious Emissions @ Antenna Terminals	PARA. NO.: 2.1051
TESTED BY: David Light	DATE:1/26/01 & 1/29/01

Test Results: Complies.

Test Data: See attached plot(s).

Equipment Used: 1036-1475-1082-1055

Measurement Uncertainty: +/- 1.6 dB

Temperature: 22 °C

Relative Humidity: 50 %

Test Data - Spurious Emissions at Antenna Terminals

Data Plot Intermodulation Characteristics

Page 1 of 4 Complete X

Job No.: 0L0551R Date: 01/29/01 Preliminary

Specification: PART 24 Temperature(°C): 22

Tested By: David Light Relative Humidity(%) 50

E.U.T.: EAC-2100

Configuration: TX 2 TDMA CHANNELS

Sample N0: S01

Location: Lab 1 RBW: 3 kHz

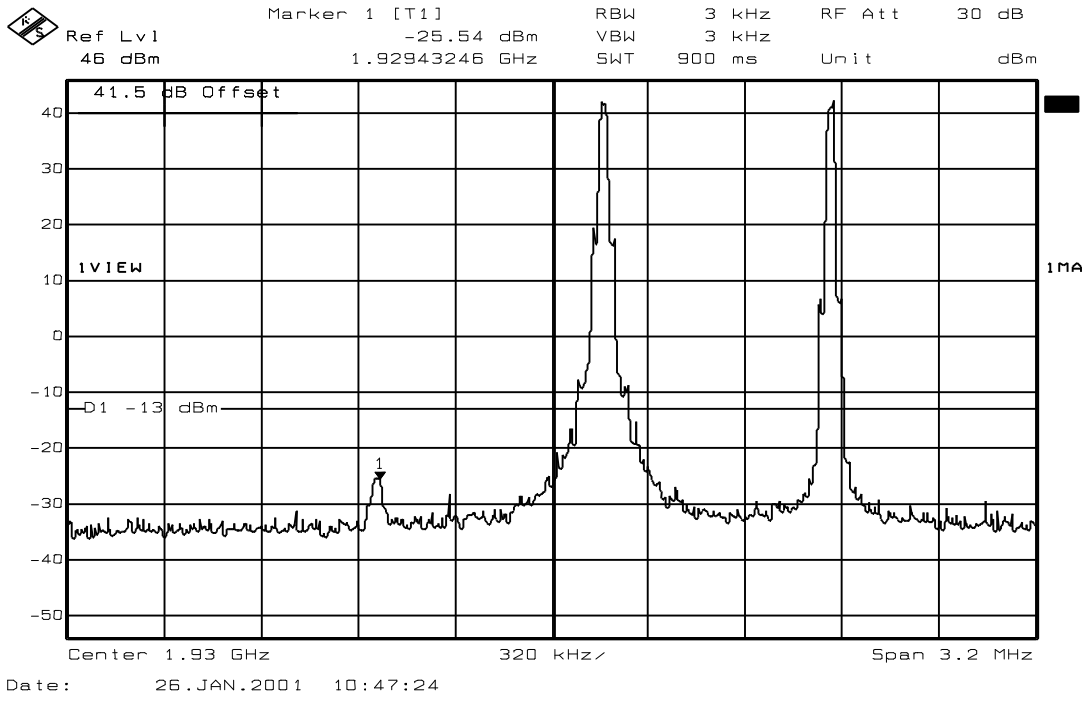
Detector Type: Peak VBW: 3 kHz

Test Equipment Used

Antenna:		Directional Coupler:	1055
Pre-Amp:		Cable #1:	1082
Filter:		Cable #2:	
Receiver:	1036	Cable #3:	
Attenuator #1	1475	Cable #4:	
Attenuator #2:		Mixer:	

Additional equipment used:

Measurement Uncertainty: +/-3.6 dB



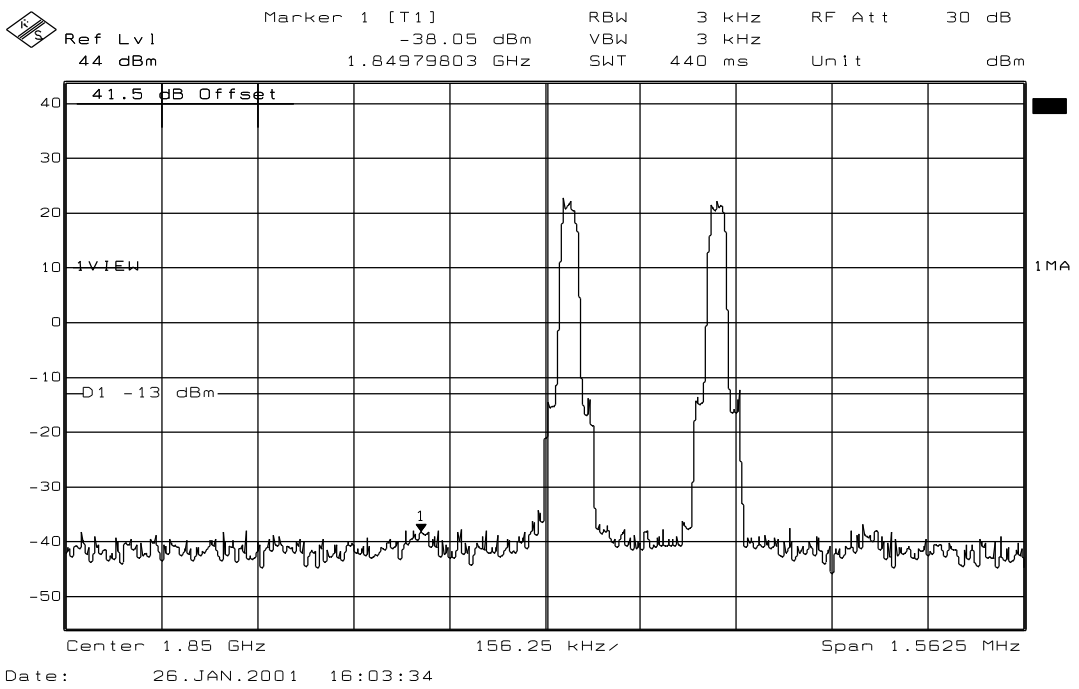
Notes: **Intermodulation - Channels 5 & 30 - Downlink**

Test Data - Spurious Emissions at Antenna Terminals

Data Plot Intermodulation Characteristics

Page 2 of 4

Job No.:	0L0551R	Date:	01/29/01
Specification:	PART 24	Temperature(°C):	22
Tested By:	David Light	Relative Humidity(%)	50
E.U.T.:	EAC-2100		
Configuration:	TX 2 TDMA CHANNELS		



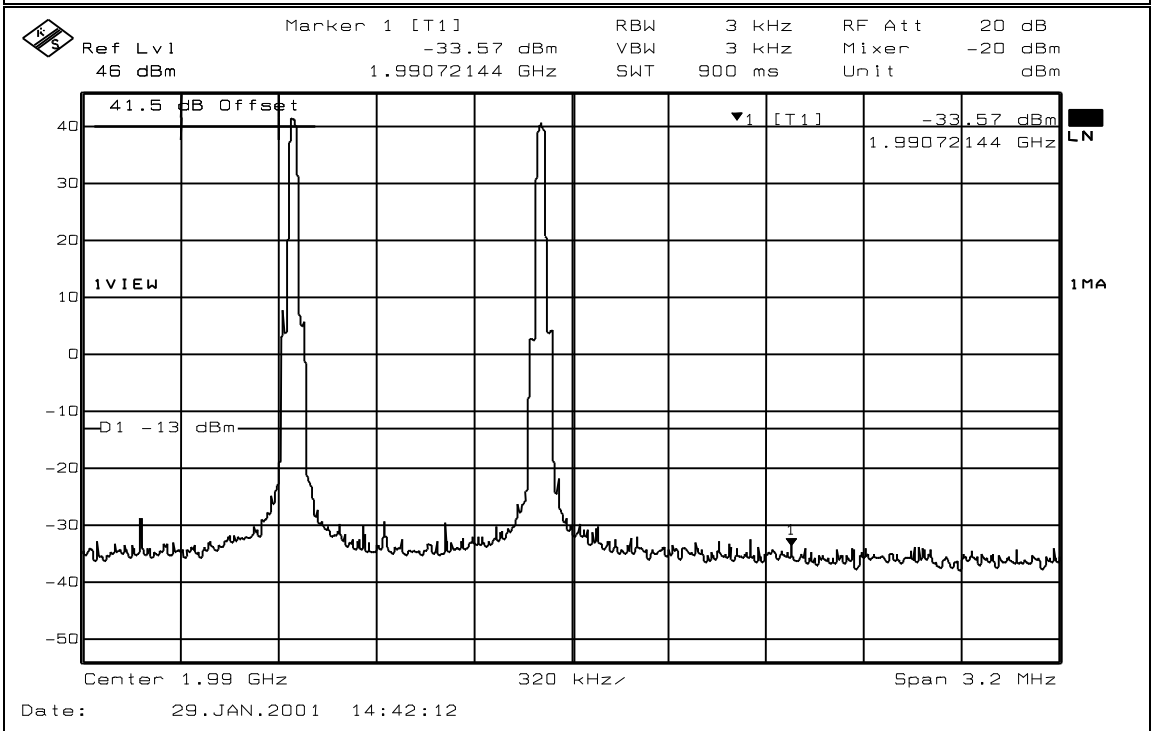
Notes: **INTERMODULATION - CHANNELS 2 & 10 - UPLINK**

Test Data - Spurious Emissions at Antenna Terminals

Data Plot Intermodulation Characteristics

Page 3 of 4

Job No.: 0L0551R Date: 01/29/01
Specification: PART 24 Temperature(°C):
Tested By: David Light Relative Humidity(%)
E.U.T.: EAC-2100
Configuration: TX 2 TDMA CHANNELS



Notes: **Out of band intermodulation - Downlink**

Test Data - Spurious Emissions at Antenna Terminals

Test Plot: Intermodulation Characteristics

Page 4 of 4

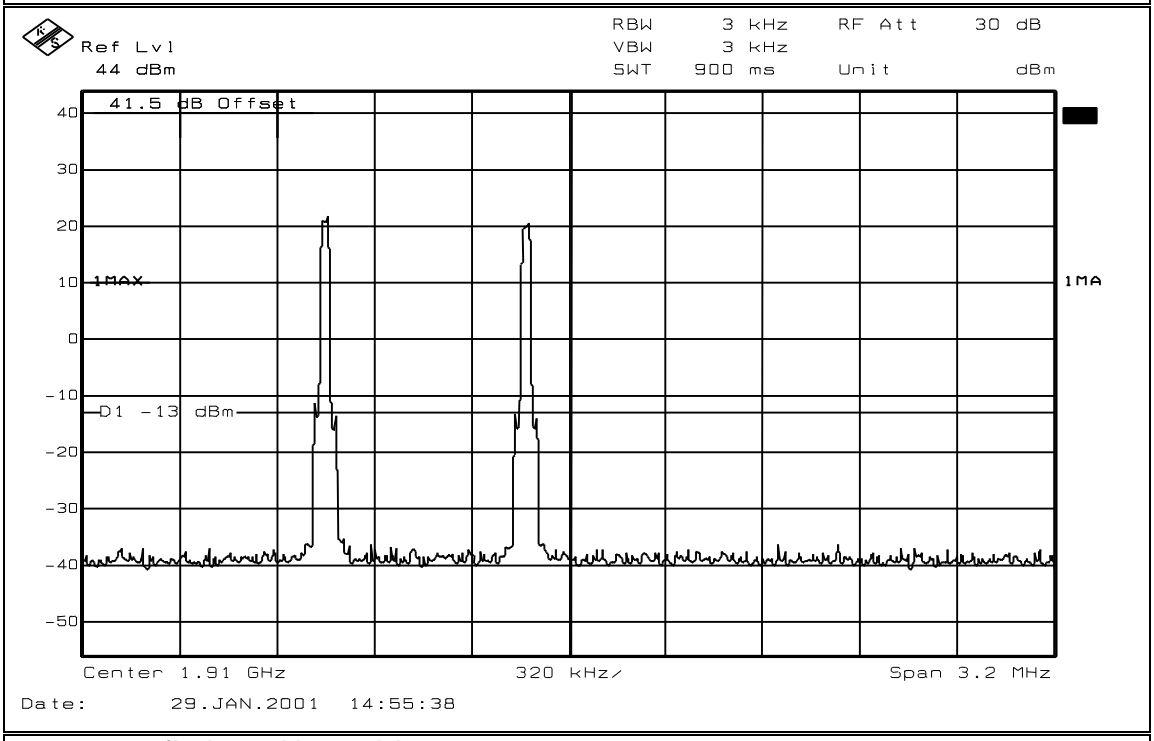
Job No.: 0L0551R Date: 01/29/01

Specification: PART 24 Temperature(°C):

Tested By: David Light Relative Humidity(%)

E.U.T.: EAC-2100

Configuration: TX 2 TDMA CHANNELS



Notes: **Out of band intermodulation - Uplink**

Test Data - Spurious Emissions at Antenna Terminals

Data Plot Spurious Emissions at Antenna Terminals

Page 1 of 6 Complete X

Job No.: 0L0551R Date: 01/26/01 Preliminary

Specification: PART 24 Temperature(°C): 22

Tested By: David Light Relative Humidity(%) 50

E.U.T.: EAC-2100

Configuration: Tx 2 CHANNELS

Sample N0: S01

Location: Lab 1 RBW: Refer to plots

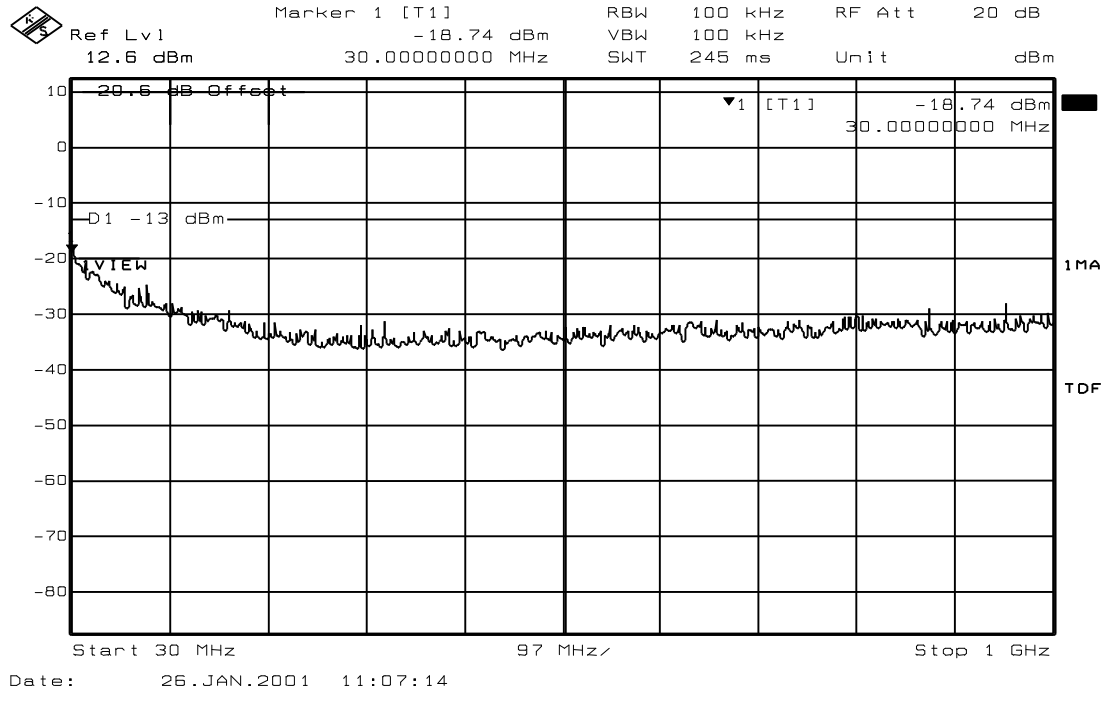
Detector Type: Peak VBW: Refer to plots

Test Equipment Used

Antenna:		Directional Coupler:	1055
Pre-Amp:		Cable #1:	1082
Filter:		Cable #2:	
Receiver:	1036	Cable #3:	
Attenuator #1	1475	Cable #4:	
Attenuator #2:		Mixer:	

Additional equipment used:

Measurement Uncertainty: +/-3.6 dB



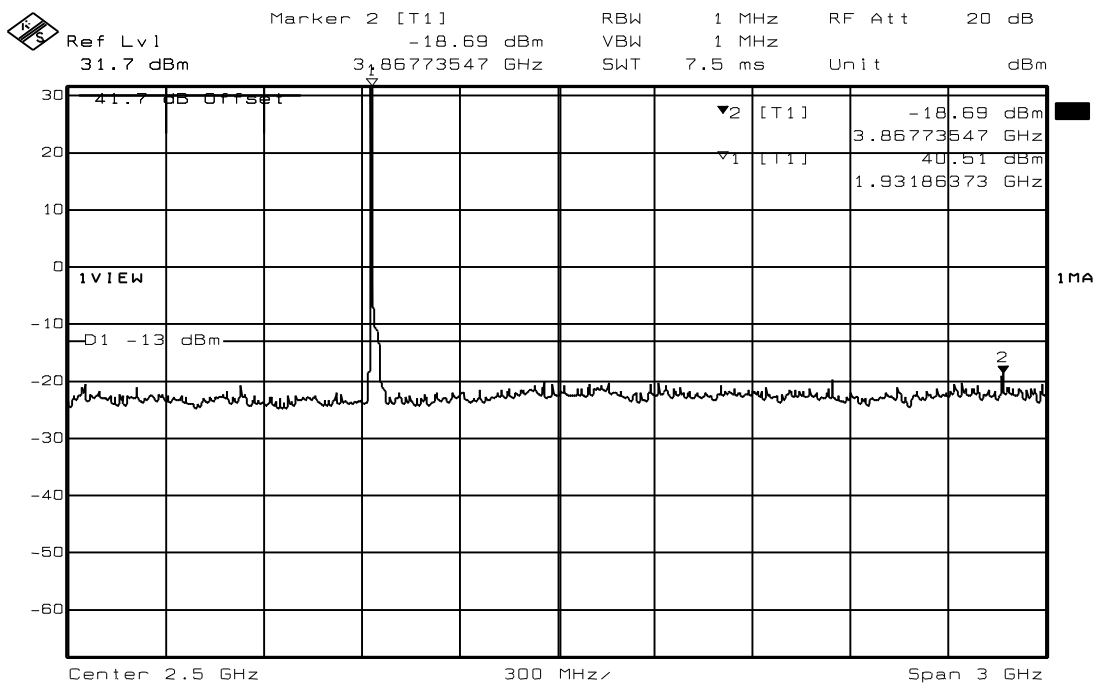
Notes: **DOWNLINK**

Test Data - Spurious Emissions at Antenna Terminals

Data Plot Spurious Emissions at Antenna Terminals

Page 2 of 6

Job No.: 0L0551R Date: 01/26/01
Specification: PART 24 Temperature(°C): 22
Tested By: David Light Relative Humidity(%) 50
E.U.T.: EAC-2100
Configuration: Tx 2 CHANNELS



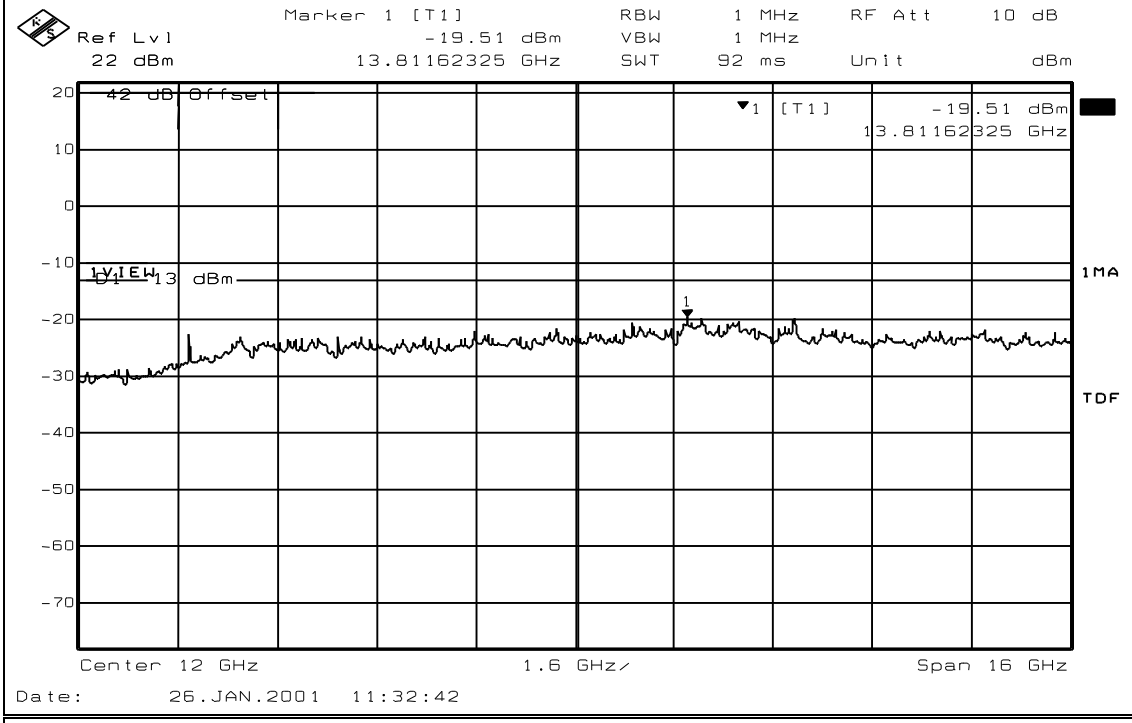
Notes: **DOWNLINK**
MARKER 1 INDICATES CARRIER
MARKER 2 INDICATES SPURIOUS EMISSION

Test Data - Spurious Emissions at Antenna Terminals

Data Plot Spurious Emissions at Antenna Terminals

Page 3 of 6

Job No.: 0L0551R Date: 01/26/01
Specification: PART 24 Temperature(°C):
Tested By: David Light Relative Humidity(%)
E.U.T.: EAC-2100
Configuration: Tx 2 CHANNELS



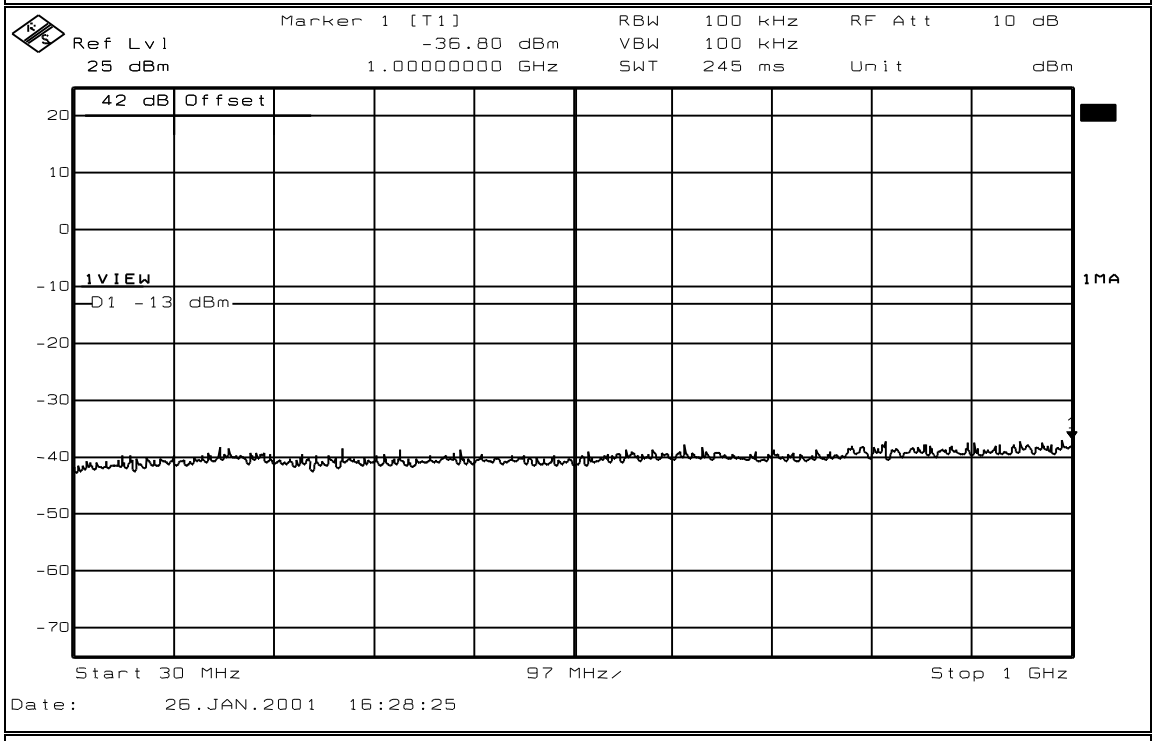
Notes:

Test Data - Spurious Emissions at Antenna Terminals

Test Plot: Spurious Emissions at Antenna Terminals

Page 4 of 6

Job No.: 0L0551R Date: 01/26/01
Specification: PART 24 Temperature(°C):
Tested By: David Light Relative Humidity(%)
E.U.T.: EAC-2100
Configuration: Tx 2 CHANNELS



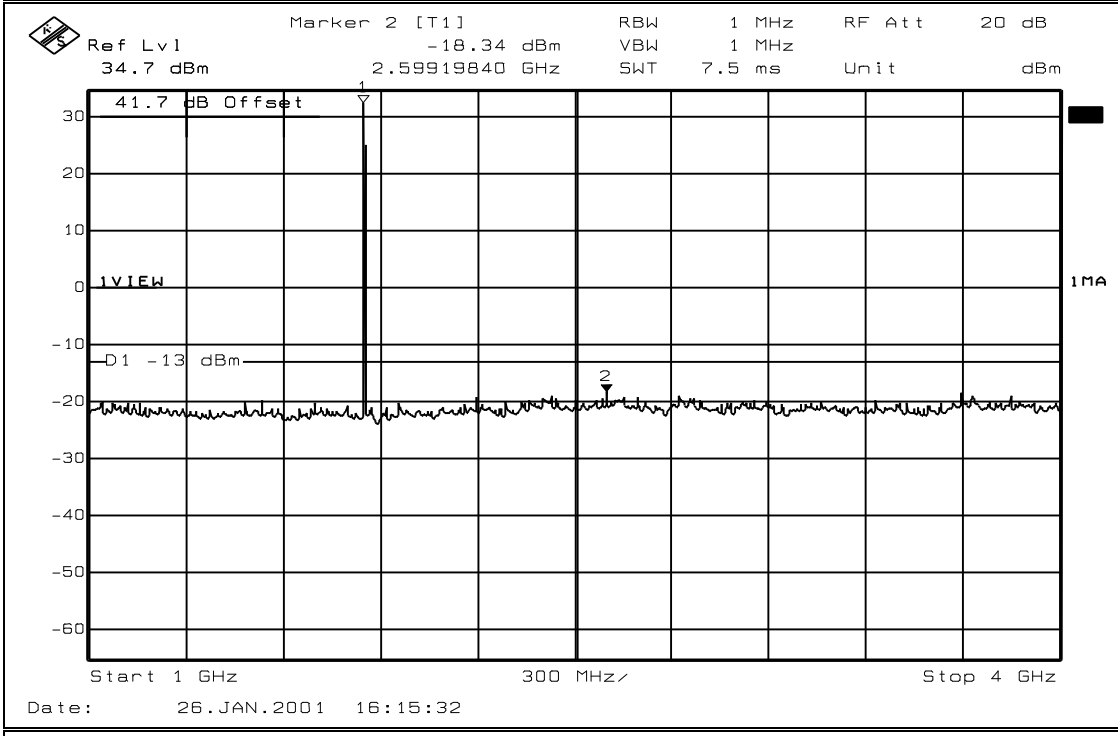
Notes: **UPLINK**

Test Data - Spurious Emissions at Antenna Terminals

Test Plot: Spurious Emissions at Antenna Terminals

Page 5 of 6

Job No.: 0L0551R Date: 01/26/01
Specification: PART 24 Temperature(°C):
Tested By: David Light Relative Humidity(%)
E.U.T.: EAC-2100
Configuration: Tx 2 CHANNELS



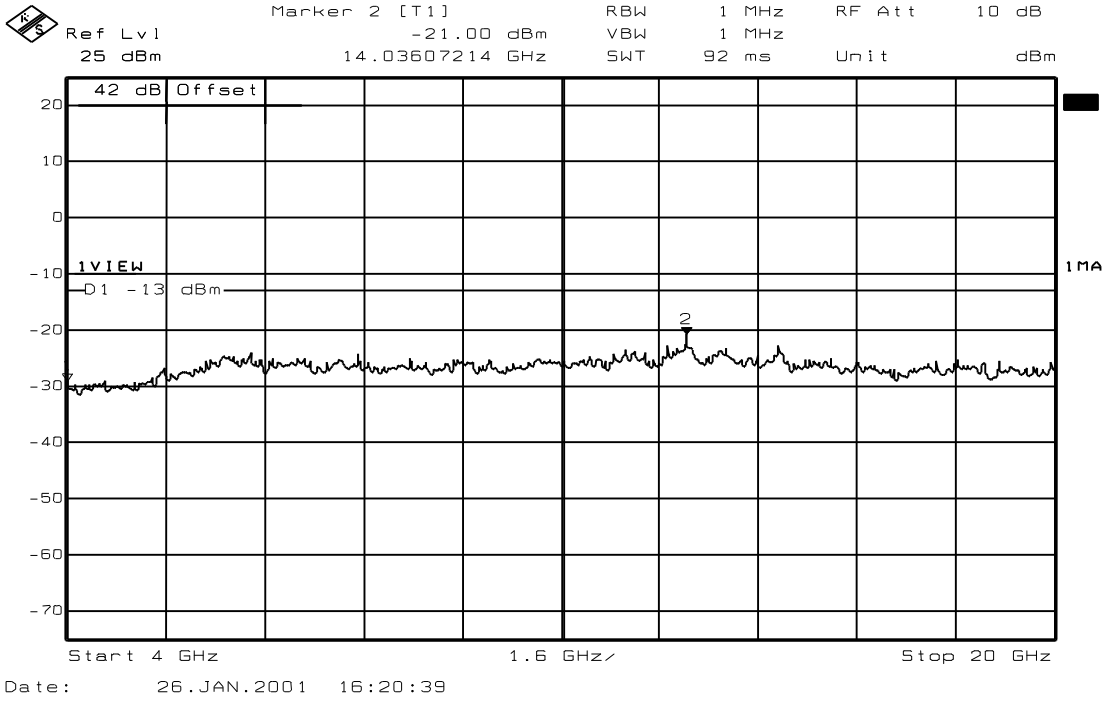
Notes:
UPLINK
MARKER 1 INDICATES CARRIER
MARKER 2 INDICATES SPURIOUS EMISSION

Test Data - Spurious Emissions at Antenna Terminals

Test Plot: Spurious Emissions at Antenna Terminals

Page 6 of 6

Job No.: 0L0551R Date: 01/26/01
Specification: PART 24 Temperature(°C):
Tested By: David Light Relative Humidity(%)
E.U.T.: EAC-2100
Configuration: Tx 2 CHANNELS



Notes: **UPLINK**

Section 6. Field Strength of Spurious

NAME OF TEST: Field Strength of Spurious Emissions	PARA. NO.: 2.1051
TESTED BY: David Light	DATE: 1/29/01

Test Results: Complies.

Test Data: See attached table.

Equipment Used: 1436-1484-1485-993-1016-1481

Measurement Uncertainty: +/- 3.6 dB

Temperature: 22 °C

Relative Humidity: 50 %

Test Data - Radiated Emissions

Field Strength of Spurious Emissions

Page 1 of 1 Complete X

Job No.: 9L0551R Date: 01/29/01 Preliminary

Specification: PART 24 Temperature(°C): 22

Tested By: David Light Relative Humidity(%) 50

E.U.T.: EAC-2100

Configuration: TRANSMIT NADC SIGNAL INTO 50 OHM TERMINATION ON CHANNEL 2

Sample No: S01

Location: AC 3 RBW: 1 MHz Measurement

Detector Type: Peak VBW: 1 MHz Distance: 3 m

Test Equipment Used

Antenna: Directional Coupler:

Pre-Amp: 1016 Cable #1: 1484

Filter: 1481 Cable #2: 1485

Receiver: 1464 Cable #3:

Attenuator #1 Cable #4:

Attenuator #2: Mixer:

Additional equipment used:

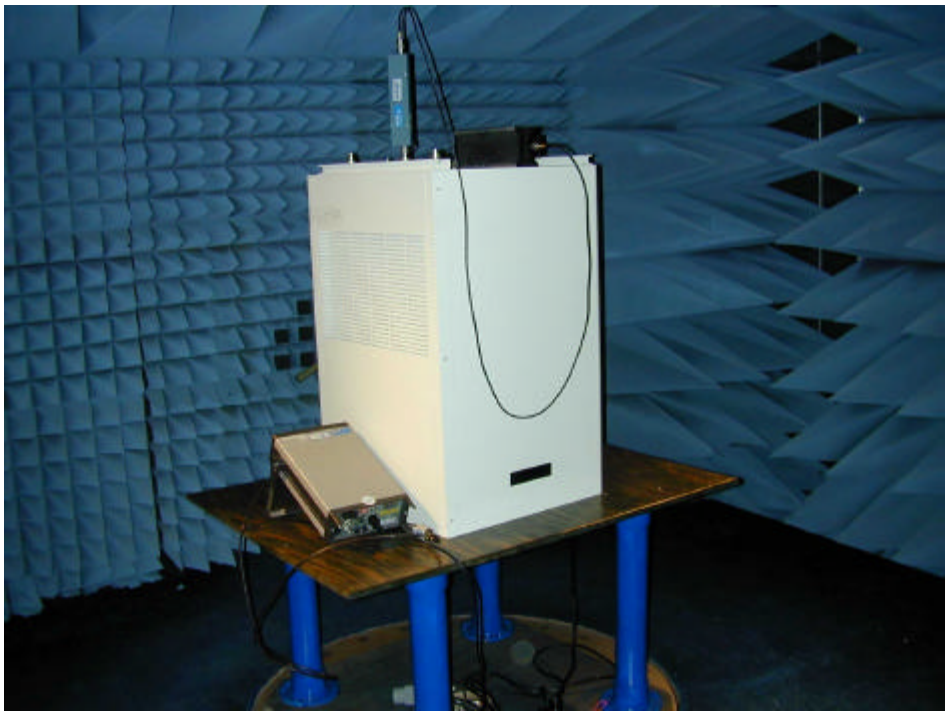
Measurement Uncertainty: +/-3.6 dB

Frequency (MHz)	Meter Reading (dBm)	Correction Factor (dB)		Pre-Amp Gain (dB)	Substitution Antenna Gain (dBd)	Mode	ERP (dBm)	ERP (mW)	Polarity	Comments
1930	-41.5	29.9		0.0	6.4	Downlink	-5.3	0.295121	V	CARRIER
3860.16	-46.6	40.4		33.3	8.0	Downlink	-31.5	0.000705	V	
5790.24	-63.0	38.5		32.5	9.1	Downlink	-47.9	0.000016	V	NOISE FLOOR
7720.32	-62.0	40.4		33.4	9.4	Downlink	-45.5	0.000028	V	NOISE FLOOR
9650.40	-63.0	40.4		36.1	10.5	Downlink	-48.2	0.000015	V	NOISE FLOOR
17370.72	-61.0	47.0		34.9	11.7	Downlink	-37.1	0.000193	V	NOISE FLOOR
1930.08	-47.5	32.7		0.0	6.4	Downlink	-8.5	0.142561	H	CARRIER
3860.16	-43.8	34.3		33.3	8.0	Downlink	-34.8	0.000333	H	
5790.24	-61.5	36.0		32.5	9.1	Downlink	-48.9	0.000013	H	
7720.32	-62.0	39.8		33.4	9.4	Downlink	-46.2	0.000024	H	NOISE FLOOR
9650.40	-63.0	42.6		36.1	10.5	Downlink	-46.0	0.000025	H	NOISE FLOOR
17370.72	-61.0	50.5		34.9	11.7	Downlink	-33.7	0.000430	H	NOISE FLOOR
1850.02	-62.3	32.7		0.0	6.4	Uplink	-23.3	0.004721	H	CARRIER
3700.04	-61.5	34.3		33.3	8.0	Uplink	-52.5	0.000006	H	NOISE FLOOR
5550.06	-62.5	36.0		32.8	9.1	Uplink	-50.2	0.000009	H	NOISE FLOOR
7400.08	-62.0	38.7		33.0	10.0	Uplink	-46.3	0.000023	H	NOISE FLOOR
16650.18	-62.0	46.1		34.2	13.0	Uplink	-37.0	0.000198	H	NOISE FLOOR
1850.02	-60.5	29.9		0.0	6.4	Uplink	-24.3	0.003715	V	CARRIER
3700.04	-61.5	40.4		33.3	8.0	Uplink	-46.4	0.000023	V	NOISE FLOOR
5550.06	-62.5	38.5		32.8	9.1	Uplink	-47.7	0.000017	V	NOISE FLOOR
7400.08	-62.0	39.4		33.0	10.0	Uplink	-45.6	0.000028	V	NOISE FLOOR
16650.18	-62.0	44.3		34.2	13.0	Uplink	-38.9	0.000130	V	NOISE FLOOR

Notes: **MEASURED HARMONICS OF CARRIER TO 10TH HARMONIC**

Photographs of Test Setup

FRONT VIEW



REAR VIEW

Section 7. Frequency Stability

NAME OF TEST: Frequency Stability	PARA. NO.: 2.1055

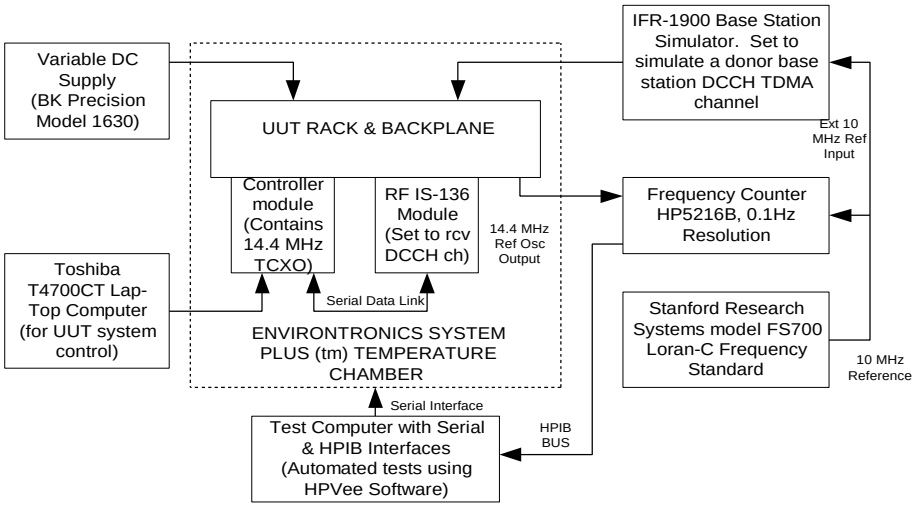
Test Results: Complies.

Measurement Data: See attached customer information.

2.1055, Frequency stability (sheet 1 of 3)

Frequency stability of any receive or transmit channel in the EAC-2100 is controlled by a 14.4 MHz TCXO in the Controller Module. A TCXOs that meet the basic ± 1 ppm tolerance is used in this product.

The test setup for measuring frequency stability as a function of temperature and as a function of supply voltage variation is as follows:



The worst-case supply voltage variation can occur if the EAC-2100 is operated on an external 24VDC battery power plant. Nominal voltage operation when AC mains is present will range from 27.5 to 28.5 VDC. Worst case minimum voltage will be 19VDC (the EAC-2100 automatically will shut down before this lower limit is met), and the maximum voltage could be as high as +31 VDC under cold temperature conditions. The results are as follows:

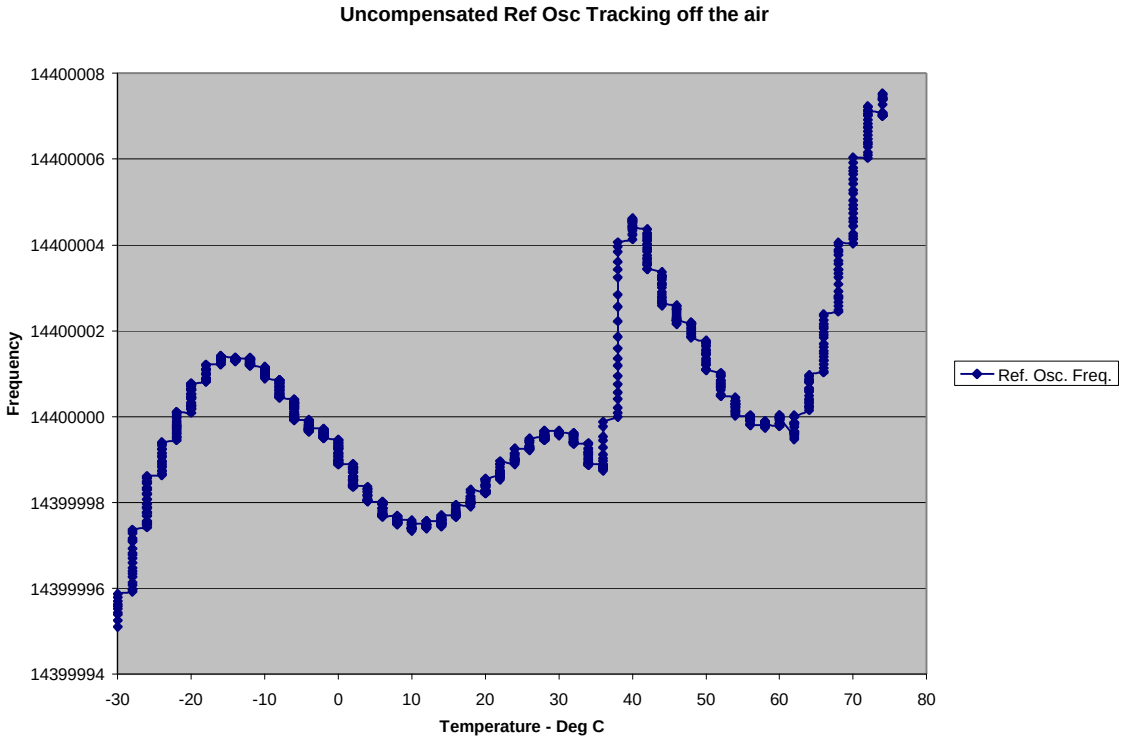
SUPPLY VOLTAGE	Murata (G68A0019-1)
19.0 VDC	14.3999994 MHz
27.8 VDC Nominal	14.3999994 MHz
31.0 VDC	14.3999992 MHz

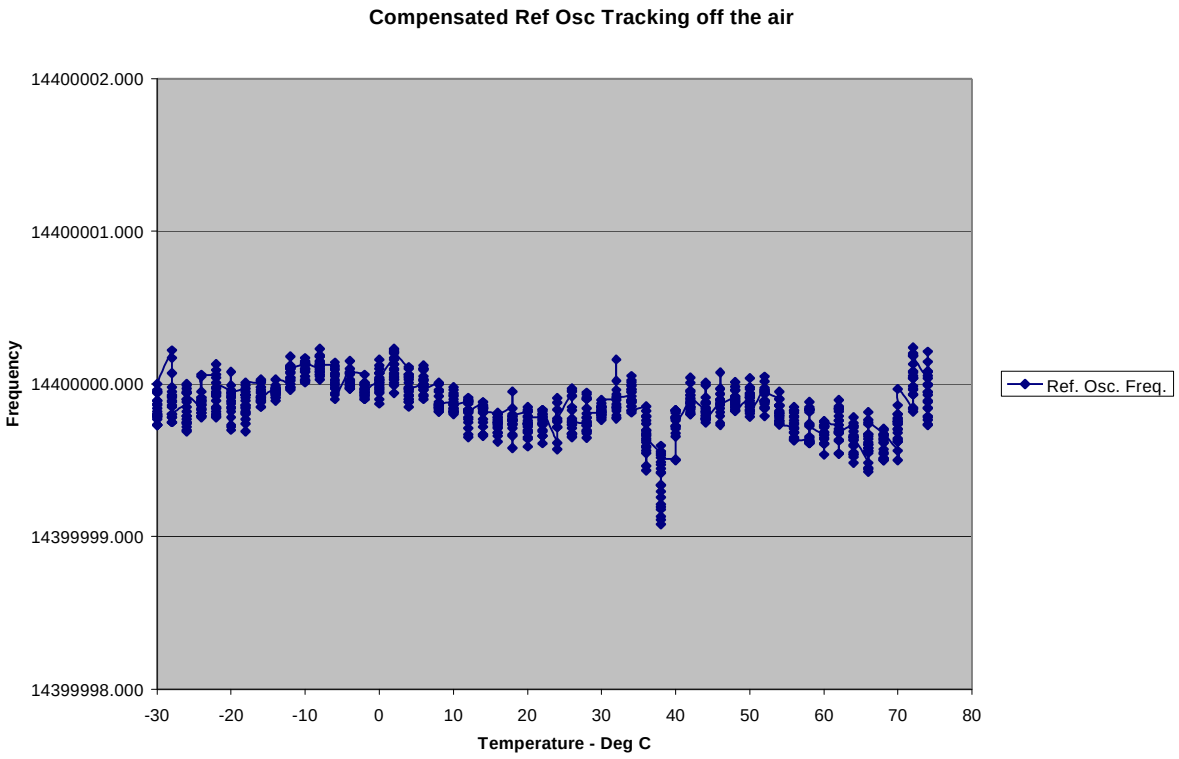
As shown above, the variation in the reference oscillator is at most 0.2 Hz (< ±0.02 ppm) over power-supply voltage extremes.

2.1055, Frequency stability (sheet 2 of 3)

As described in Exhibit 10A, software control within the EAC-2100 will trim the 14.4 MHz TCXO such that it will be frequency-locked to within a few Hertz of the donor base station DCCH channel. This assures that the EAC-2100 will be compatible with the host digital cellular system, and will meet the ± 0.25 ppm frequency tolerance requirement.

Measurements of the reference oscillator over the specified temperature range is shown below. The first graph shows the uncompensated frequency of the TCXO. The second graph shows the compensated frequency of the Murata 14.4 MHz TCXO. Note that the frequency tolerance is held well within the ± 0.25 ppm requirement for successful system operation with mobiles. Note that internal heating elements are not employed. Therefore, frequency stability measurements as a function of time from cold-start were not measured.




Compensated Ref Osc Tracking off the air
14400002.000
14400001.000
14400000.000
14399999.000
14399998.000
Frequency
-30
-20
-10
0
10
20
30
40
50
60
70
80
Temperature - Deg C
Ref. Osc. Freq.

Section 8. Test Equipment List

KTL ID	Description	Manufacturer Model Number	Serial Number	Calibration Date
1036	SPECTRUM ANALYZER	ROHDE & SCHWARZ FSEK30	830844/006	06/14/99 2 Yr Cycle
1464	Spectrum analyzer	Hewlett Packard 8563E	3551A04428	01/02/01 2 Yr Cycle
1484	Cable 2.0-18.0 Ghz	Storm PR90-010-072	N/A	05/25/00
1485	Cable 2.0-18.0 Ghz	Storm PR90-010-216	N/A	05/25/00
1016	AMPLIFIER	HEWLETT PACKARD 8449A	2749A00159	05/24/00
1481	Microwave Highpass Filter	K & L 3DH1-2000/T8000-0/0	4	CBU
1082	CABLE 2m	Astrolab 32027-2-29094-72TC	N/A	05/23/00
1055	DUAL DIRECTIONAL COUPLER	NARDA 3022	73393	CBU
1054	DUAL DIRECTIONAL COUPLER	NARDA 3020A	34366	CBU
1058	DUAL DIRECTIONAL COUPLER	HEWLETT PACKARD 11692D	1212A03366	CBU
1475	20db Attenuator DC 18 Ghz	MCL Inc. BW-S20W3	NONE	CBU
1048	50 OHM LOAD	NARDA 27470	254	02/15/00

ANNEX A - TEST DETAILS

NAME OF TEST: RF Power Output PARA. NO.: 2.1046

Minimum Standard: Para. No.24.232. Base stations are limited to 1640 watts peak E.I.R.P. with an antenna height up to 300 meters HAAT. In no case may the peak output power of a base station transmitter exceed 100 watts.

Method Of Measurement:

Detachable Antenna:
The peak power at antenna terminals is measured using an in-line peak power meter. Power output is measured with the maximum rated input level.

Integral Antenna:
If the antenna is not detachable from the circuit then the Peak Power Output is derived from the peak radiated field strength of the fundamental emission by using the plane wave relation $GP/4\pi R^2 = E^2/120\pi$ and proceeding as follows:

$$P = \frac{E^2R^2}{30G} = \frac{E^2 3^2}{30G}$$

where,

P = the equivalent isotropic radiated power in watts
E = the maximum measured field strength in V/m
R = the measurement range (3 meters)
G = the numeric gain of the transmit antenna in relation to an isotropic radiator

NAME OF TEST: Occupied Bandwidth PARA. NO.: 2.1047

Minimum Standard: Para. No. 24.238(b). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB.

Method Of Measurement:

CDMA

Spectrum analyzer settings:
RBW: 30 kHz
VBW: ≥ RBW
Span: 5 MHz
Sweep: Auto
Mask: Set markers to -26 dB from peak of CW.

GSM

RBW: 3 kHz
VBW: ≥ RBW
Span: 2 MHz
Sweep: Auto
Mask: Set markers to -26 dB from peak of CW.

NADC

RBW: 1 kHz
VBW: ≥ RBW
Span: 1 MHz
Sweep: Auto
Mask: Set markers to -26 dB from peak of CW.

NAME OF TEST: Spurious Emission at Antenna Terminals PARA. NO.: 2.1051

Minimum Standard: Para. No.24.238(a). On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power by at least 43 + 10 log (P) dB.

Method Of Measurement:

Spectrum analyzer settings:

CDMA

RBW: 1 MHz (> 1 MHz from Band Edge)
RBW: 30 kHz (< 1MHz from Band Edge)
VBW: ≥ RBW
Sweep: Auto
Video Avg: 6 Sweeps

GSM

RBW: 1 MHz (> 1 MHz from Band Edge)
RBW: 3 kHz (< 1 MHz from Band Edge)
VBW: ≥ RBW
Sweep: Auto
Video Avg: Disabled

NADC

RBW: 1 MHz (> 1 MHz from Band Edge)
RBW: 3 kHz (< 1 MHz from Band Edge)
VBW: ≥ RBW
Sweep: Auto
Video Avg: Disabled

To demonstrate compliance at band edges the frequency of the input signal is set to the lowest and highest assigned channel and the center frequency of the spectrum analyzer is set to the upper and lower edges of the appropriate frequency block.

NAME OF TEST: Field Strength of Spurious Radiation PARA. NO.: 2.1053

Minimum Standard: Para. No.24.238(a). On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power by at least 43 + 10 log (P) dB.

Test Method: TIA/EIA-603-1992, Section 2.2.12

The antenna substitution method was used to determine the equivalent radiated power at spurious frequencies. The spurious emissions were measured at a distance of 3 meters. The EUT was then replaced with a reference substitution antenna with a known gain referenced to a dipole. This antenna was fed with a signal at the spurious frequency. The level of the signal was adjusted to repeat the previously measured level. The resulting erp is the signal level fed to the reference antenna corrected for gain referenced to a dipole.

NAME OF TEST: Frequency Stability PARA. NO.: 2.1055

Minimum Standard: Para. No. 24.235. The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Method Of Measurement:

Frequency Stability With Voltage Variation

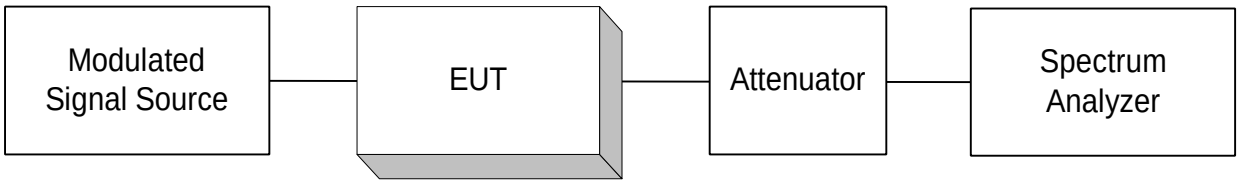
The E.U.T. is placed in an environmental chamber and allowed to stabilize at +20 degrees Celsius for at least 15 minutes. The frequency counter and signal generator are phase locked with the same 10 MHz reference frequency by connecting the 10 MHz ref. out of the counter to the 10 MHz ref, in of the signal generator. With the voltage input to the E.U.T. set to 85% S.T.V., the frequency is measured in 30 second intervals for a period of 5 minutes. This procedure is repeated at 100% S.T.V. and 115% S.T.V.

Frequency Stability With Temperature Variation

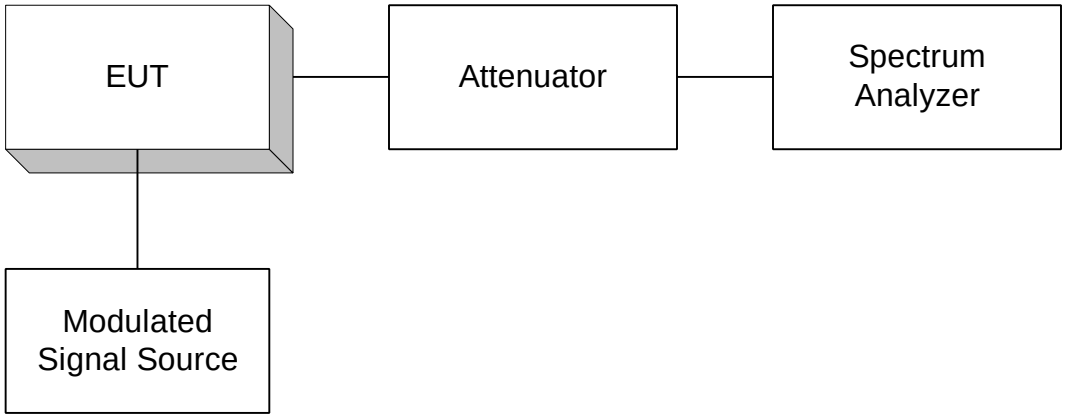
The input voltage to the E.U.T. is set to S.T.V. and the temperature of the environmental chamber is varied in 10 degree steps from -30 degrees C to +50 degrees C. The E.U.T. is allowed to stabilize at each temperature and the frequency is measured in 30 second intervals for a period of 5 minutes.

ANNEX B - TEST DIAGRAMS

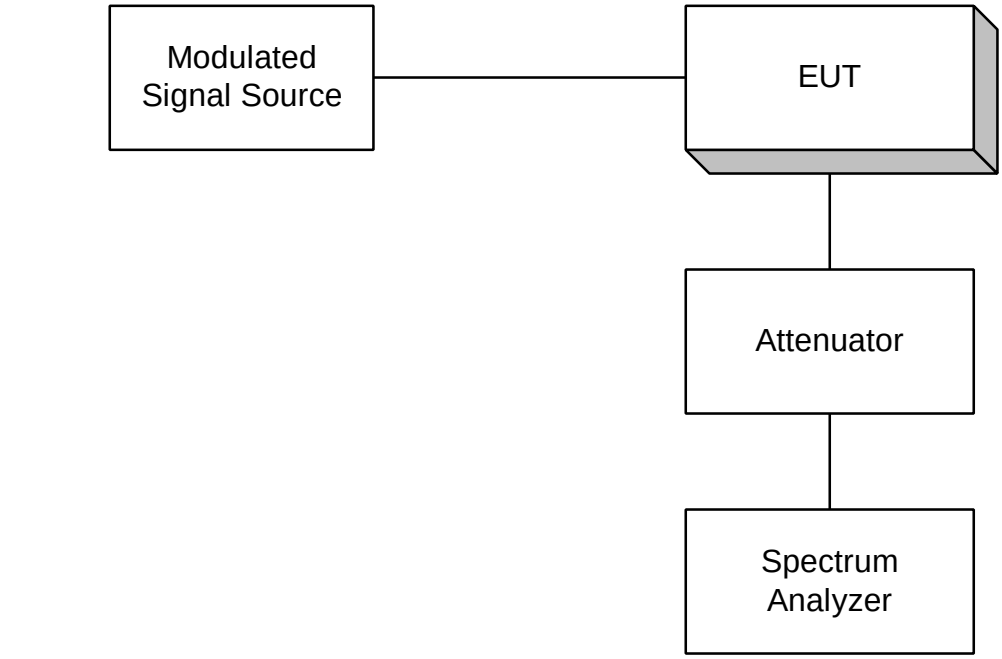
Para. No. 2.985 - R.F. Power Output

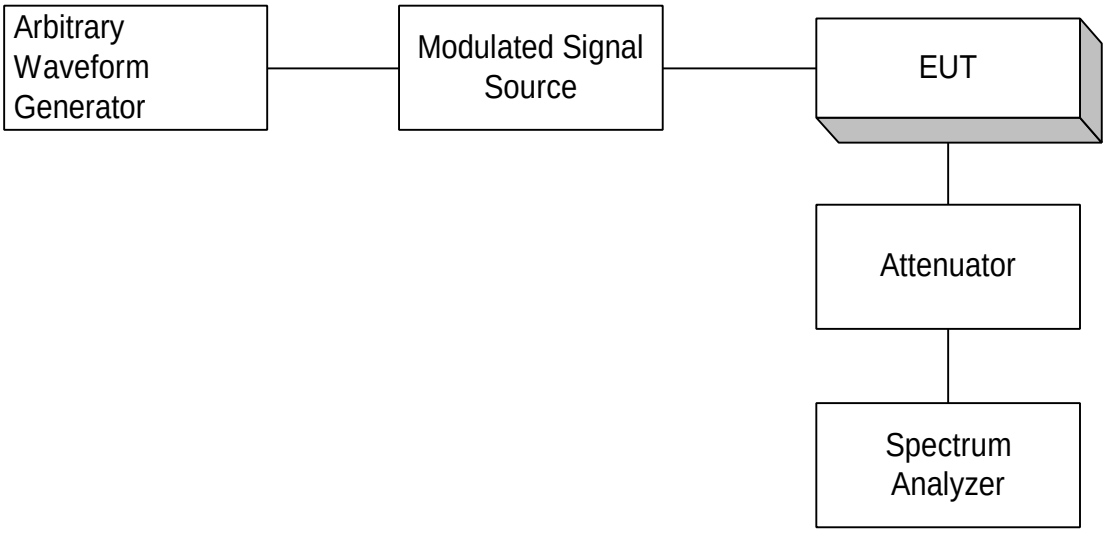


Para. No. 2.989 - Occupied Bandwidth

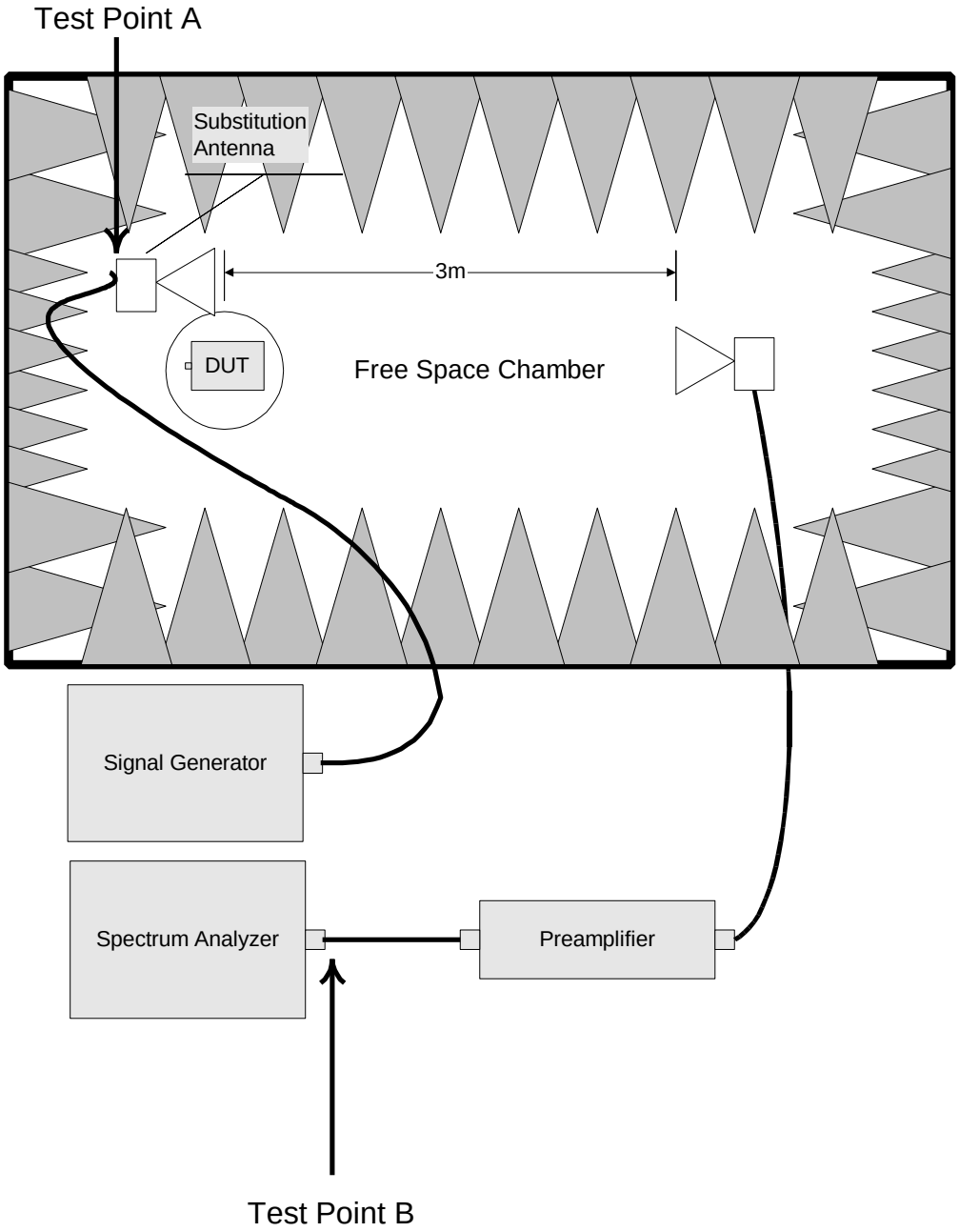


Para. No. 2.991 Spurious Emissions at Antenna Terminals





Para. No. 2.993 - Field Strength of Spurious Radiation



Para. No. 2.995 - Frequency Stability