

**Nemko Test Report:** 5L0185RUS1

**Applicant:** Electronic Systems Technology  
415 N. Quay St. Suit 4  
Kennewick, WA 99336

**Equipment Under Test:  
(E.U.T.)** 192MHP  
Narrow Band Packet Burst Wireless Modem

**In Accordance With:** **FCC Part 90, Subpart I**  
Private Land Mobile Transmitter

**Tested By:** Nemko USA Inc.  
802 N. Kealy  
Lewisville, TX 75057-3136

**Authorized By:**



David Light, Senior Wireless Engineer

**Date:** 24 August 2005

## **Table of Contents**

Section 1.	Summary of Test Results.....	3
Section 2.	General Equipment Specification.....	5
Section 3.	RF Power Output .....	7
Section 4.	Modulation Characteristics.....	8
Section 5.	Occupied Bandwidth .....	9
Section 6.	Spurious Emissions at Antenna Terminals .....	15
Section 7.	Field Strength of Spurious Emissions .....	24
Section 8.	Frequency Stability.....	27
Section 9.	Transient Frequency Behavior .....	28
Section 10.	Test Equipment List .....	33
ANNEX A - TEST METHODOLOGIES.....		34
ANNEX B - TEST DIAGRAMS .....		40

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

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**Section 1. Summary of Test Results**

Manufacturer: Electronic Systems Technology

Model No.: 192MHP

Serial No.: MHP-12002

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 90, Subpart I.

- |                                     |                            |                                     |                     |
|-------------------------------------|----------------------------|-------------------------------------|---------------------|
| <input checked="" type="checkbox"/> | New Submission             | <input type="checkbox"/>            | Production Unit     |
| <input type="checkbox"/>            | Class II Permissive Change | <input checked="" type="checkbox"/> | 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. NONE  
See " Summary of Test Data".

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**Summary Of Test Data**

<b>NAME OF TEST</b>	<b>PARA. NO.</b>	<b>SPEC.</b>	<b>MEAS.</b>	<b>RESULT</b>
RF Power Output	90.205		10W/30W	Complies
Audio Frequency Response	TIA EIA-603.3.2.6	N/A	N/A	N/A
Audio Low-Pass Filter Response	TIA EIA-603.3.2.6	N/A	N/A	N/A
Modulation Limiting	TIA EIA-603.3.2.6	N/A	2.5kHz/ 3.5 kHz	Complies
Occupied Bandwidth	90.210	Mask C or D	Plots	Complies
Spurious Emissions at Antenna Terminals	90.210	Mask C or D	Plots	Complies
Field Strength of Spurious Emissions	90.210	Mask C or D	Table	Complies
Frequency Stability	90.213	5 ppm	1.1 ppm	Complies
Transient Frequency Behavior	90.214	Plot	Plots	Complies

**Footnotes:**

The EUT does not provide for voice modulation.

## Section 2. General Equipment Specification

### Transmitter

<b>Supply Voltage Input:</b>	13 Vdc nominal				
<b>Frequency Range:</b>	154-170 MHz				
<b>Tunable Bands:</b>	154-170 MHz				
<b>Necessary Bandwidth:</b>	16.6 kHz or 9.8 kHz				
<b>Type(s) of Modulation:</b>	<b>F3E (Voice)</b>	<b>F1D</b>	<b>F2D</b>	<b>D7W (QAM)</b>	<b>Other</b>
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Data Rate(s)</b>	9,600 bps or 19,200 bps				
<b>Internal/External Data Source:</b>	External				
<b>Emission Designator:</b>	9K8F2D (9,600 bps) or 16K6F2D (19,200 bps)				
<b>Output Impedance:</b>	50 ohm				
<b>RF Power Output (rated):</b>	10, 20, 30 W				
<b>Channel Spacing(s):</b>	12.5 or 25 kHz				
<b>Operator Selection of Operating Frequency:</b>	<b>U.S.A.</b>	Selectable by user.			
	<b>Canada</b>	Set at factory			
<b>Power Output Adjustment Capability:</b>	Pre-programmed.				

### **Description of EUT**

The EUT is a wireless data transceiver that operates in the 150 – 174 MHz band. Modulation level is 4 level FSK. The radio can generate a data rate of 9,600 bps in a 12.5 kHz channel or 19,200 bps in a 25 kHz channel.

### **Modulation Description and Necessary Bandwidth**

9K8F2D

Necessary Bandwidth:

$$\begin{aligned} B_n &= 2M + 2d \\ M &= 2,400 \text{ Hz} \\ D &= 2,500 \text{ Hz} \\ B_n &= 9.8 \text{ kHz} \end{aligned}$$

16K6F2D

Necessary Bandwidth:

$$\begin{aligned} B_n &= M + 2d \\ M &= 4,800 \text{ Hz} \\ D &= 3,500 \text{ Hz} \\ B_n &= 16.6 \text{ kHz} \end{aligned}$$



**Section 4. Modulation Characteristics**

The equipment does not provide for voice modulation.

Maximum Frequency Deviation with Data:

Channel Width (kHz)	Data Rate (bps)	Deviation (kHz)
12.5	9,600	2.5
25	19,200	3.5



*EQUIPMENT:* **192MHP**

PROJECT NO.: **5L0185RUS1**

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**Section 5. Occupied Bandwidth**

NAME OF TEST: Occupied Bandwidth	PARA. NO.: 2.989
TESTED BY: Kevin Rose	DATE: 4 Aug 05

**Measurement Results:** Complies.

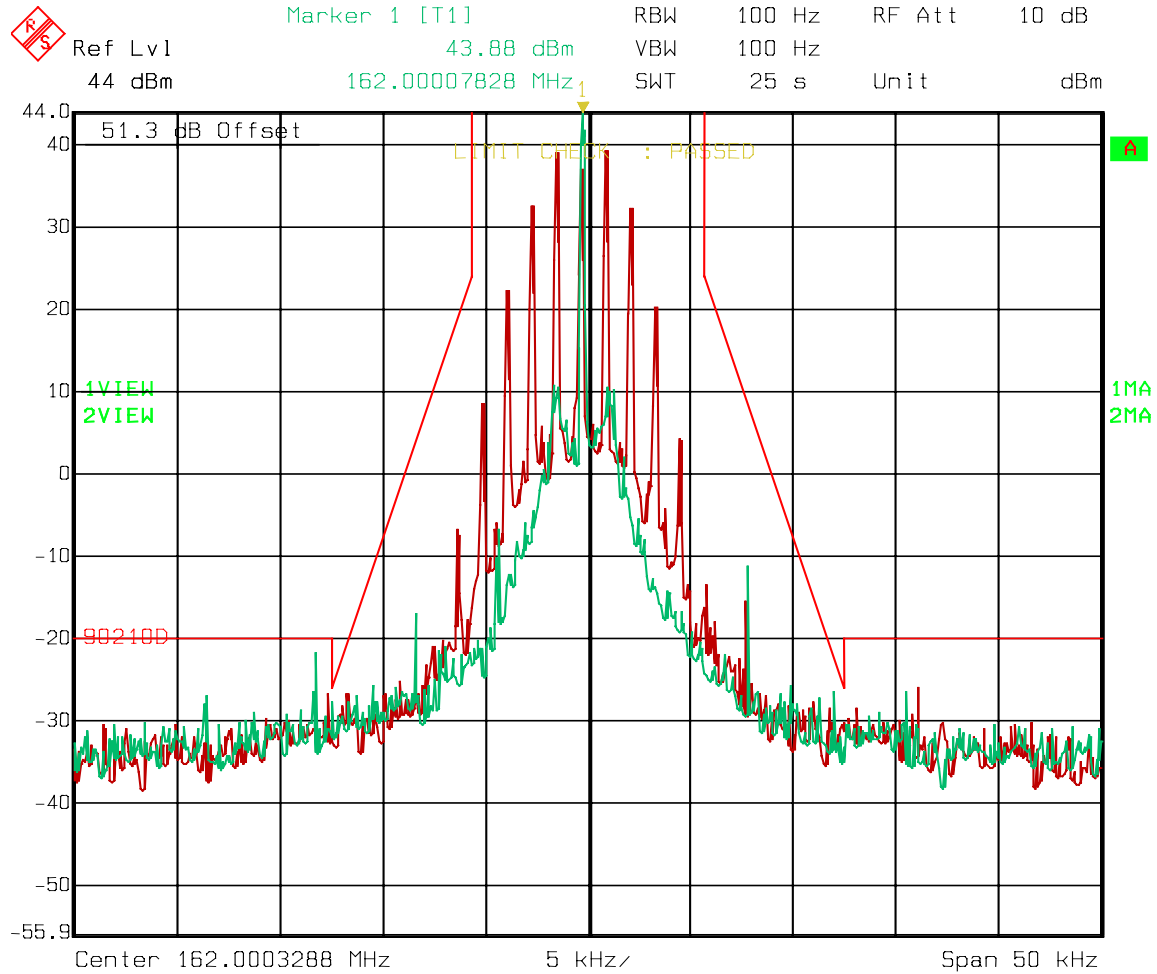
**Measurement Data:** See attached data

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

Spectral mask D  
Equipment 1036, 1561, 1562, 970, 809, 1625

30 watt mask D

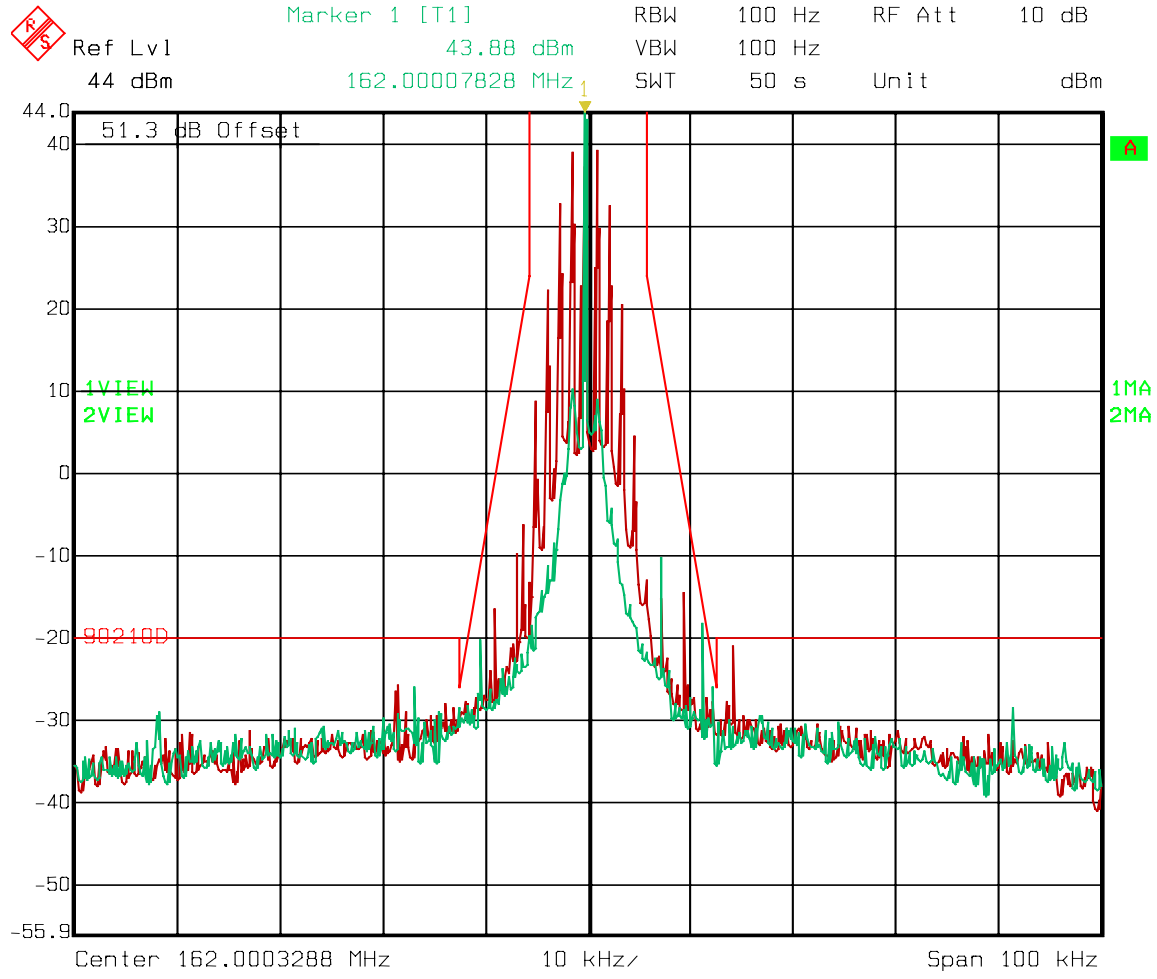


Date: 04.AUG.2005 14:54:47

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

30watt mask D

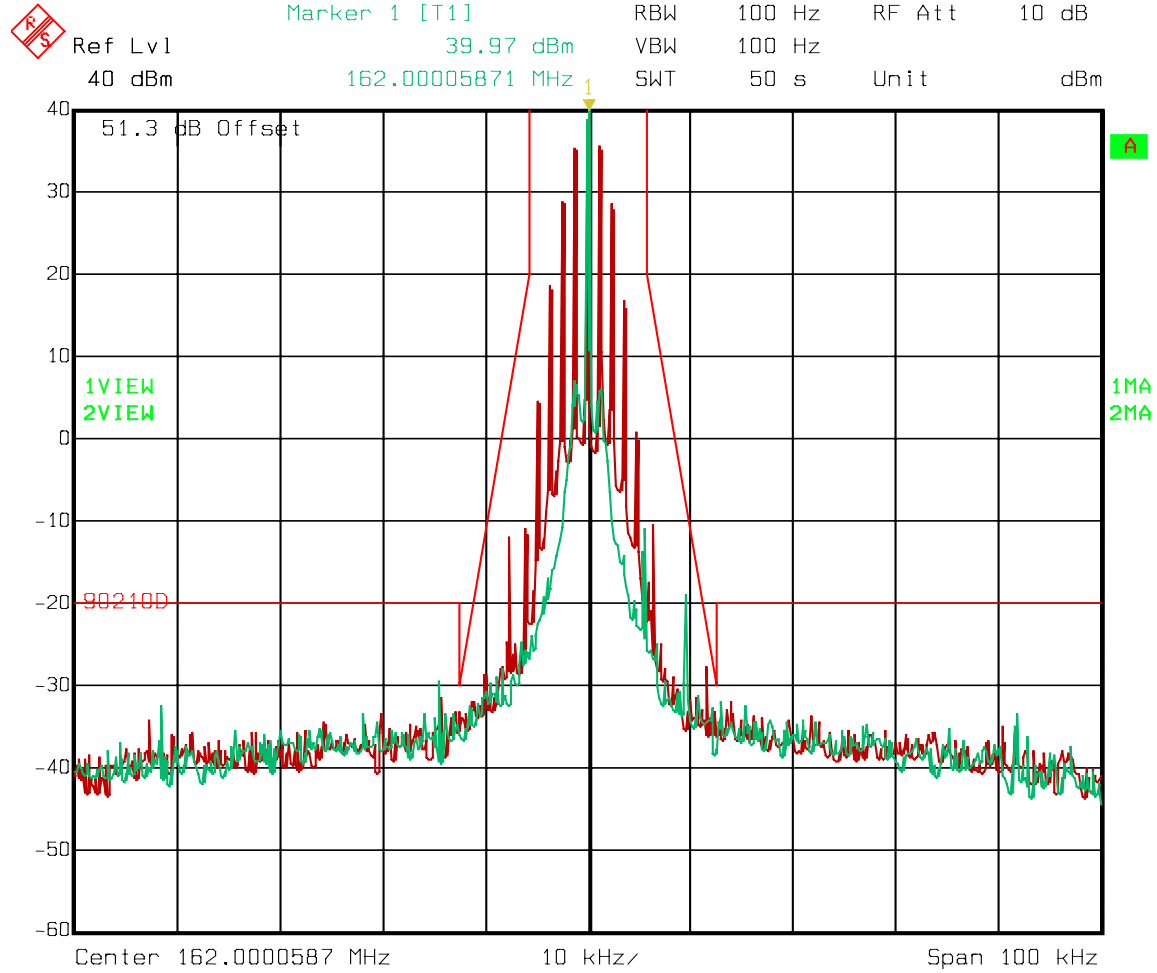


Date: 04.AUG.2005 15:08:17

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

10 watt mask D

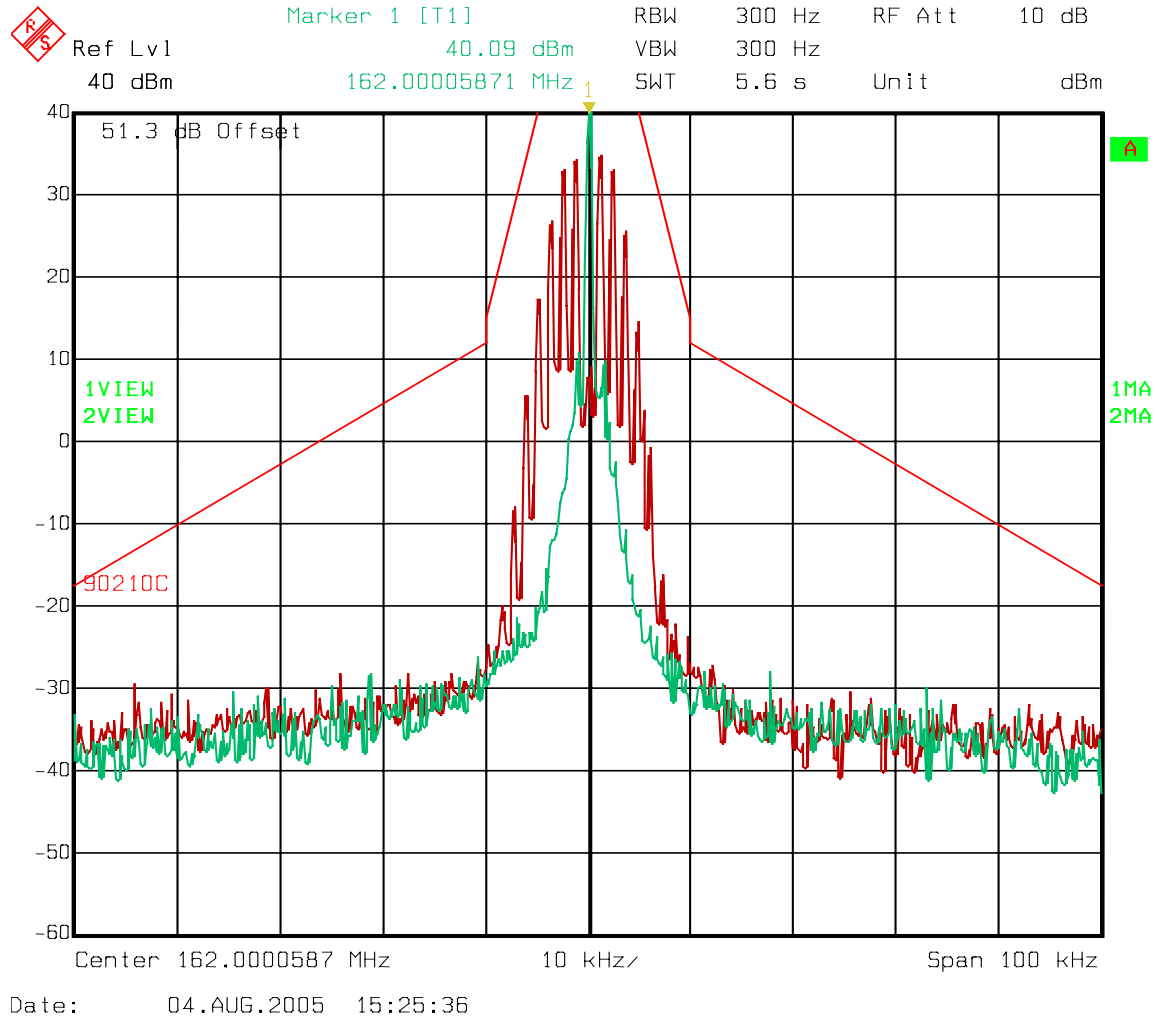


Date: 04.AUG.2005 15:20:01

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

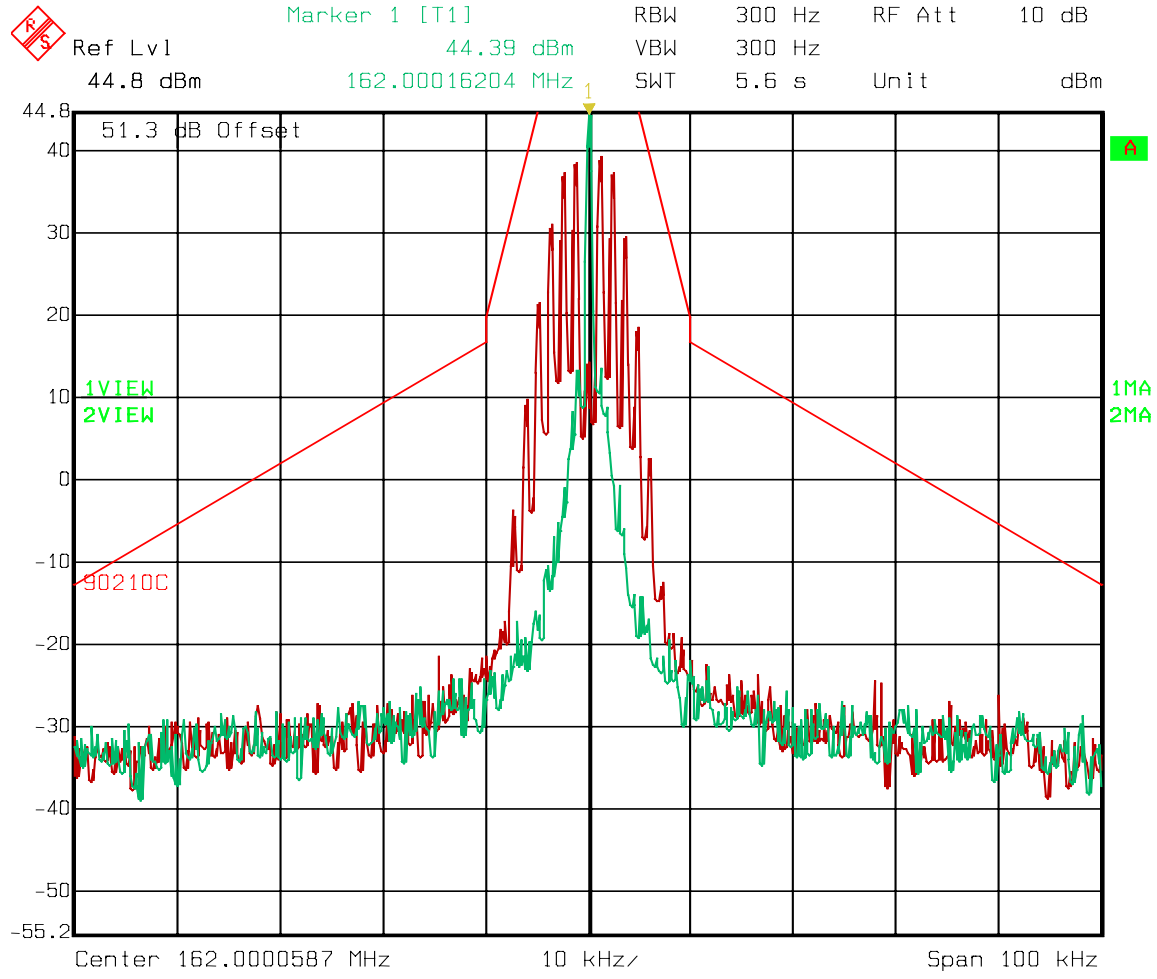
10 watt mask C



EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

30watts mask c



Date: 04.AUG.2005 15:28:39

*EQUIPMENT:* 192MHP

PROJECT NO.: 5L0185RUS1

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**Section 6. Spurious Emissions at Antenna Terminals**

NAME OF TEST: Spurious Emissions @ Antenna Terminals	PARA. NO.: 2.991
TESTED BY: Kevin Rose	DATE: 8 Aug 05

**Measurement Results:** Complies.

**Measurement Data:** See attached data

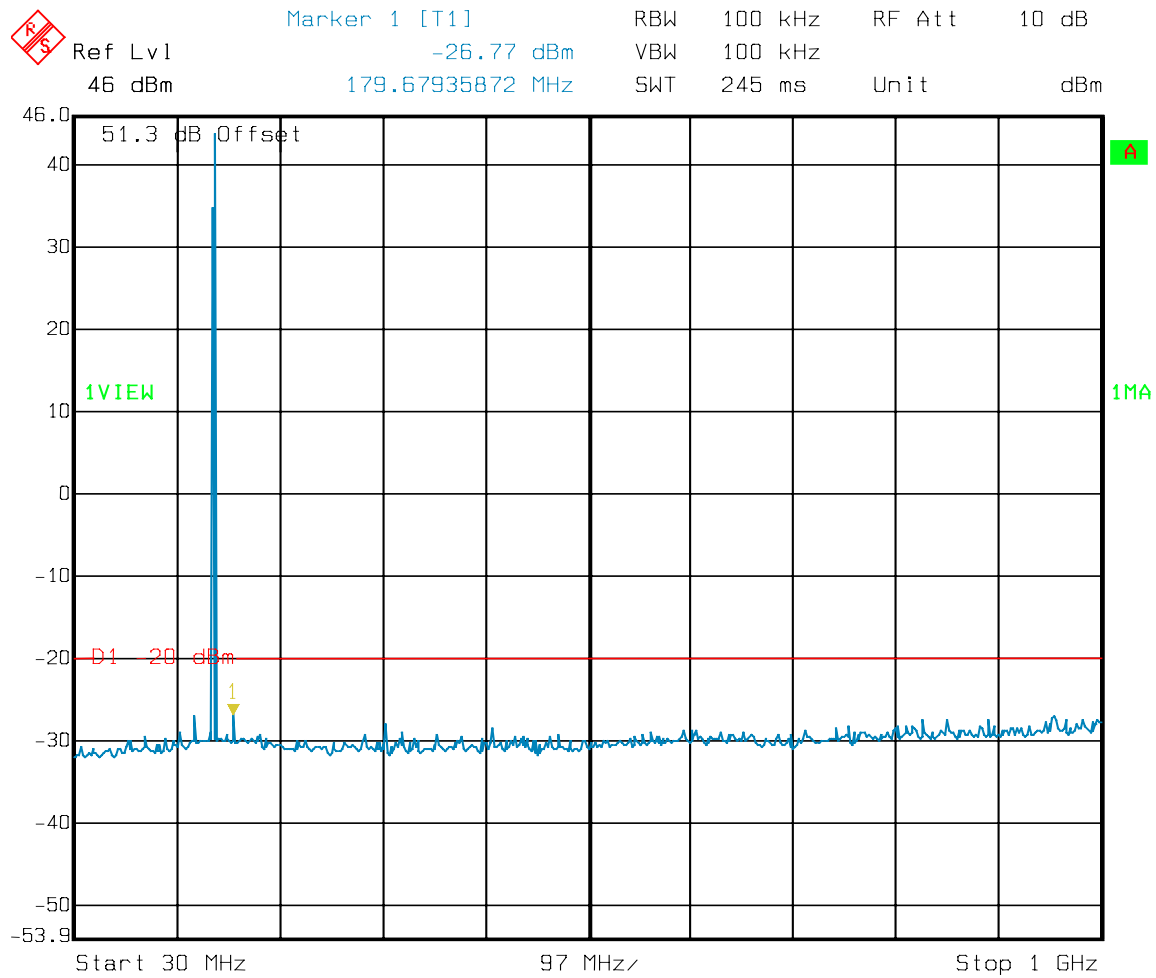
EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

**Spurious Emissions at Antenna Terminals**

Equipment 1036, 1561, 1562, 970, 809, 1625

30 watts mid channel 12.5kHz deviation



Date: 04.AUG.2005 14:09:46

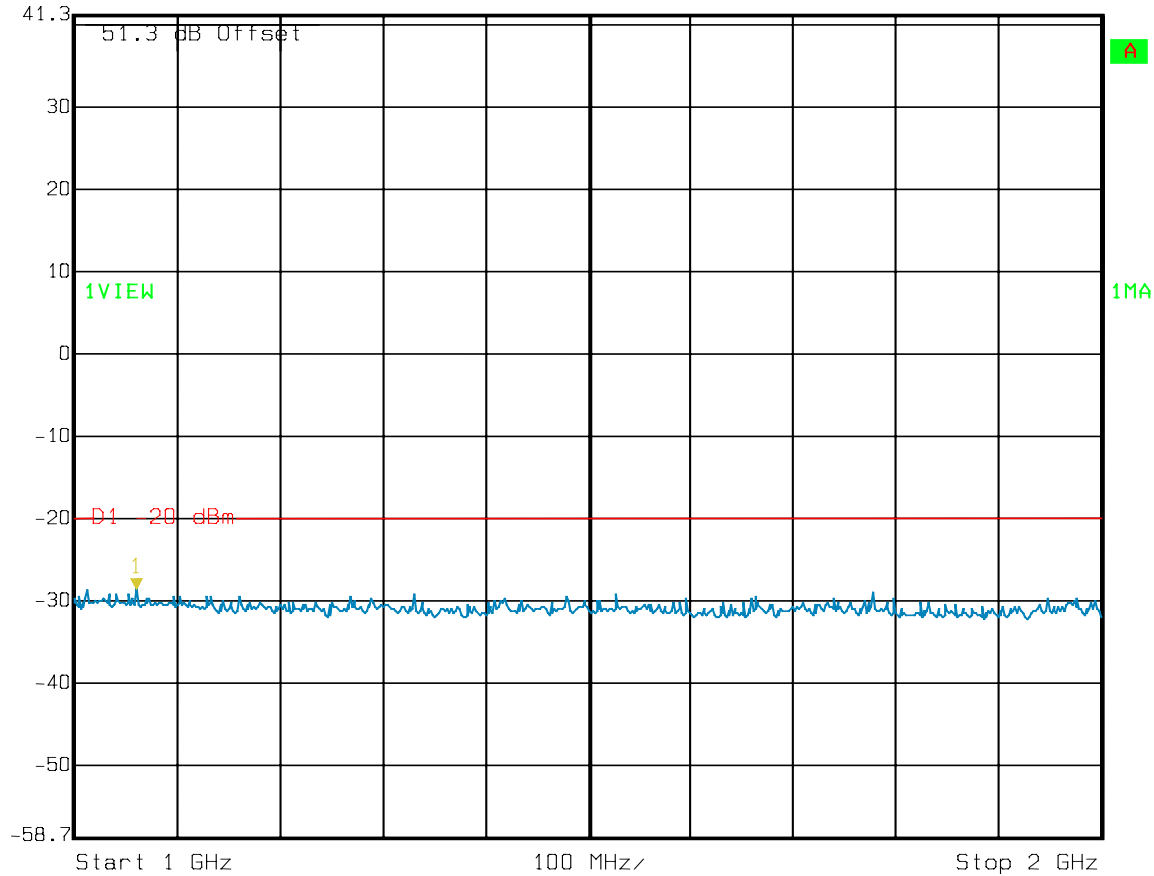


EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

30 watts mid channel 12.5kHz deviation

 Marker 1 [T1] RBW 1 MHz RF Att 0 dB  
Ref Lvl -28.62 dBm VBW 1 MHz  
41.3 dBm 1.06012024 GHz SWT 5 ms Unit dBm

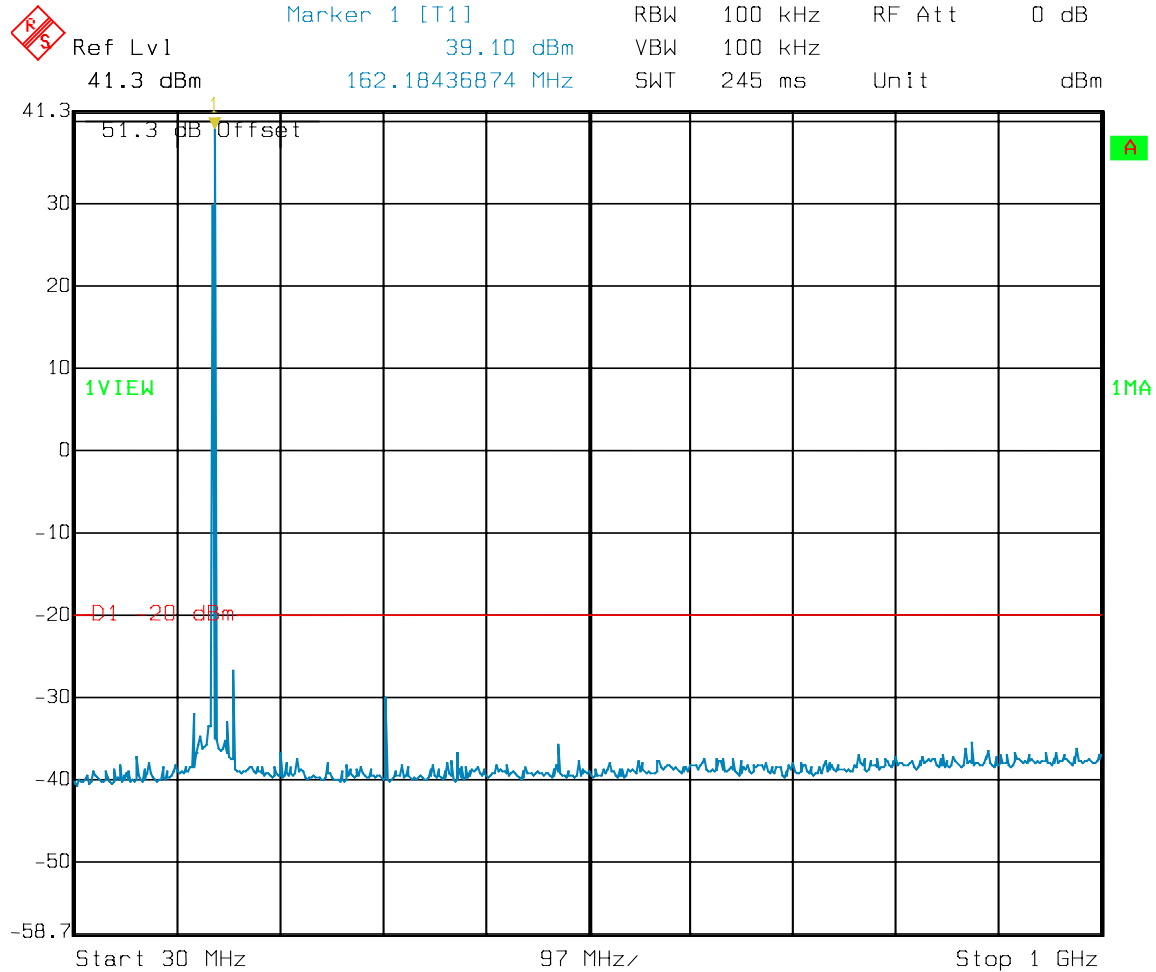


Date: 04.AUG.2005 14:13:24

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

10 watts mid channel 12.5kHz deviation



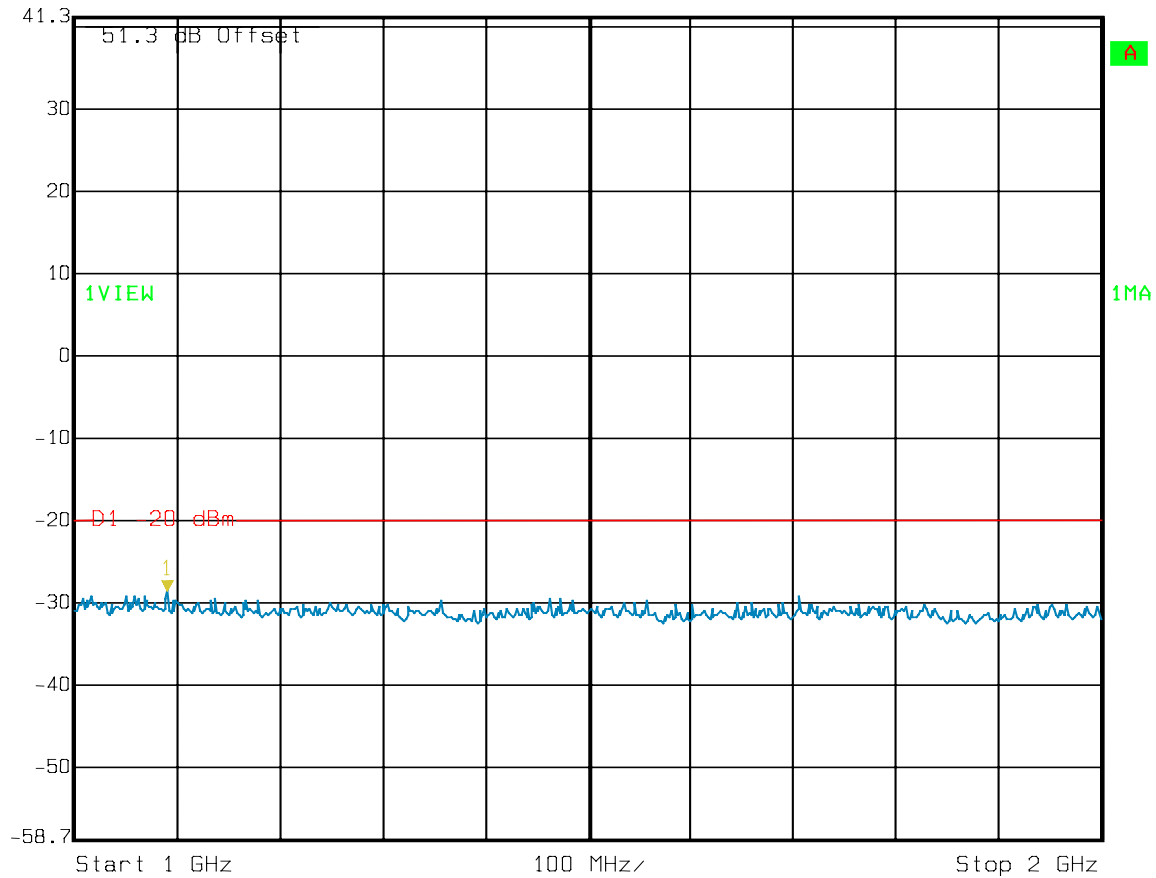
Date: 04.AUG.2005 14:18:36

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

10 watts mid channel 12.5kHz deviation

 Marker 1 [T1] RBW 1 MHz RF Att 0 dB  
Ref Lvl -28.55 dBm VBW 1 MHz  
41.3 dBm 1.09018036 GHz SWT 5 ms Unit dBm



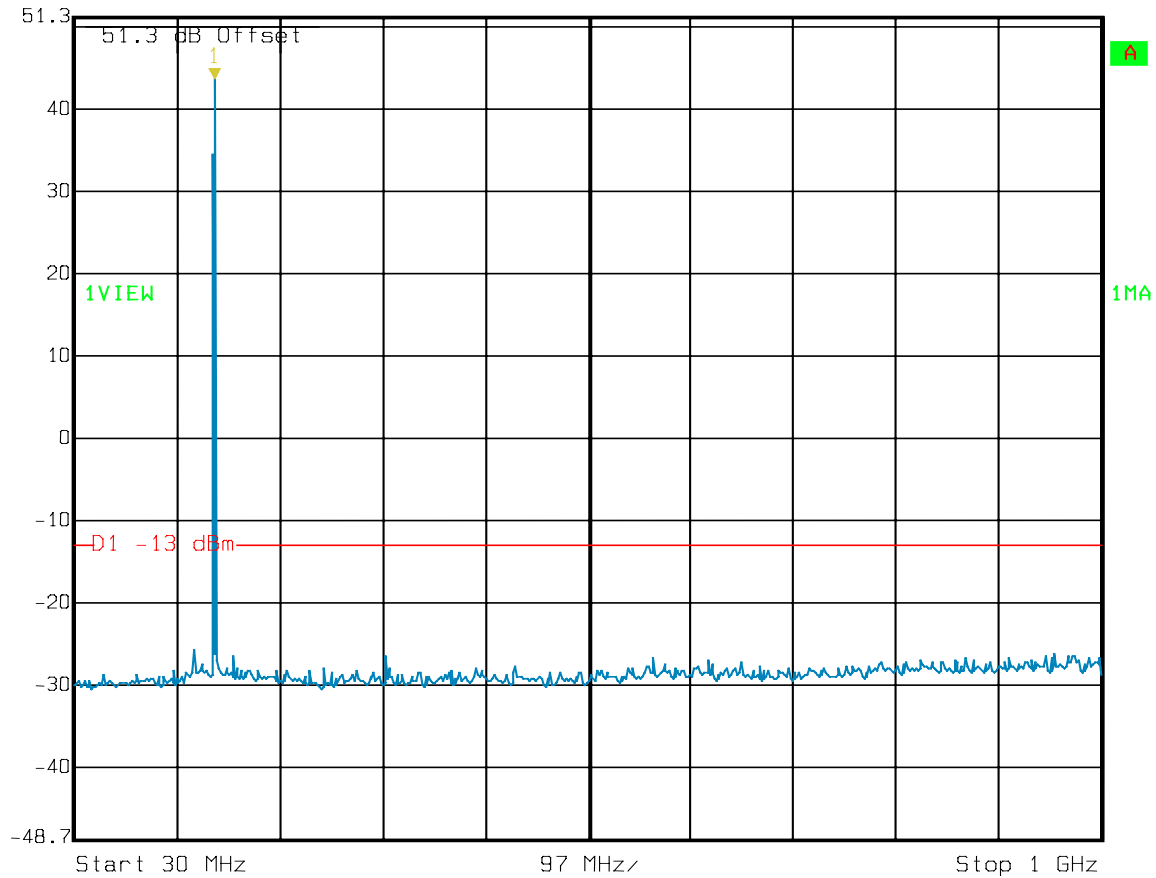
Date: 04.AUG.2005 14:15:56

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

30 watts 25 deviation mid channel

Marker 1 [T1] RBW 100 kHz RF Att 10 dB  
Ref Lvl 43.78 dBm VBW 100 kHz  
51.3 dBm 162.18436874 MHz SWT 245 ms Unit dBm



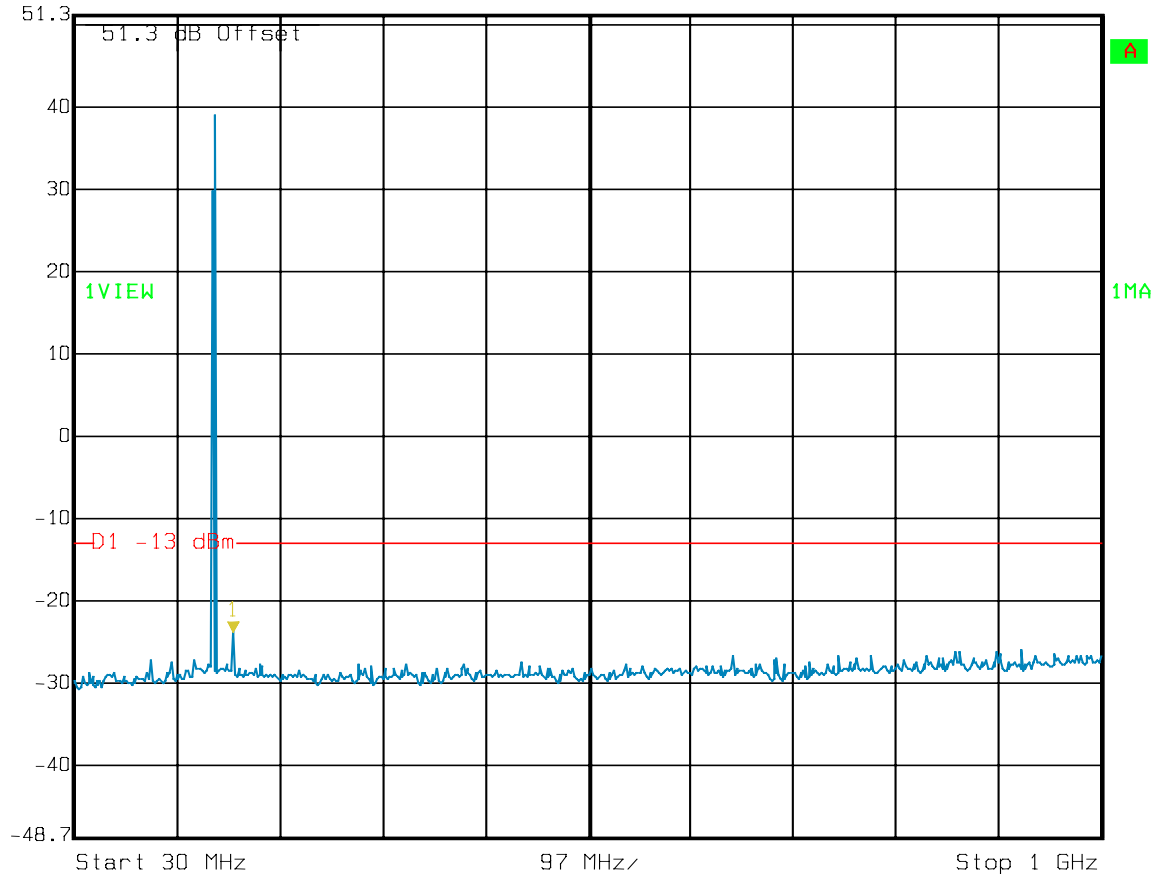
Date: 04.AUG.2005 14:24:12

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

10 watts 25 deviation mid channel

Marker 1 [T1] RBW 100 kHz RF Att 10 dB  
Ref Lvl -23.93 dBm VBW 100 kHz  
51.3 dBm 179.67935872 MHz SWT 245 ms Unit dBm



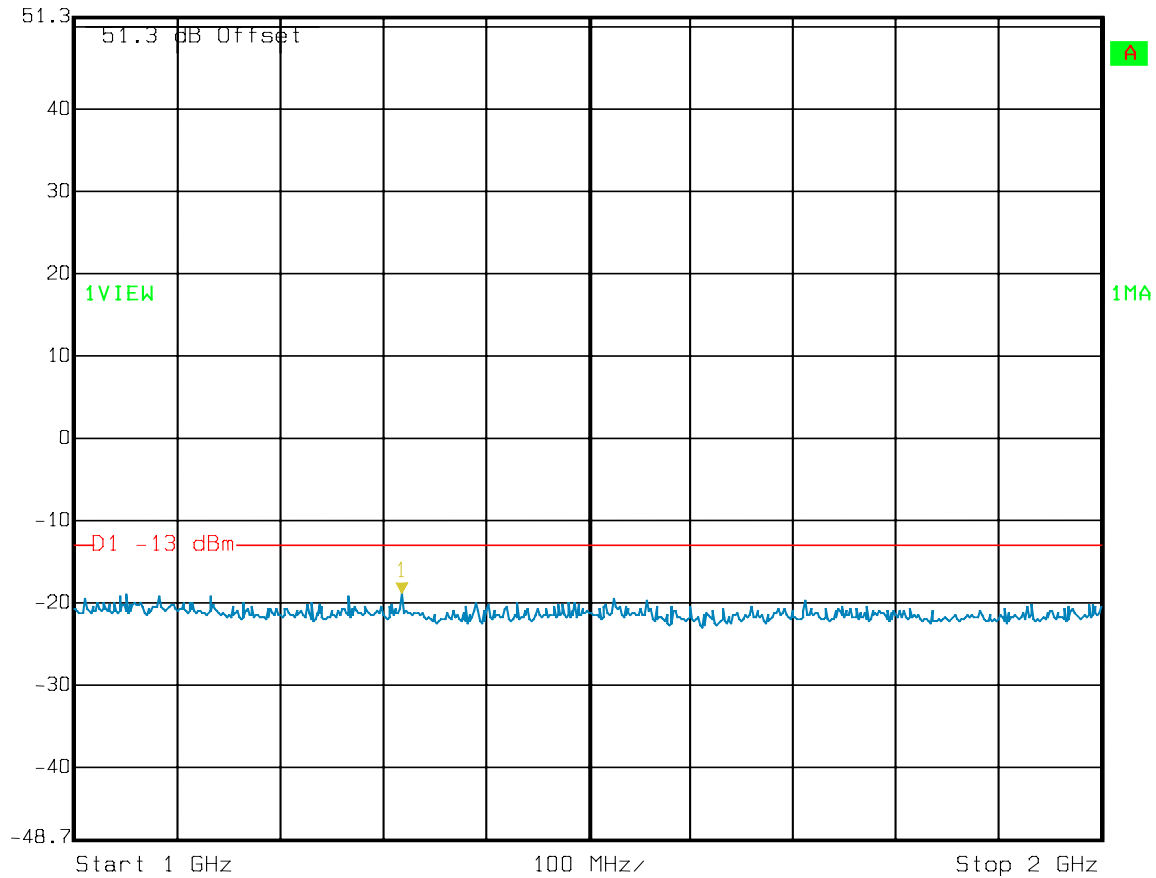
Date: 04.AUG.2005 14:27:20

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

10 watts 25 deviation 1-2 ghz

 Marker 1 [T1] RBW 1 MHz RF Att 10 dB  
Ref Lvl -18.87 dBm VBW 1 MHz  
51.3 dBm 1.31863727 GHz SWT 5 ms Unit dBm



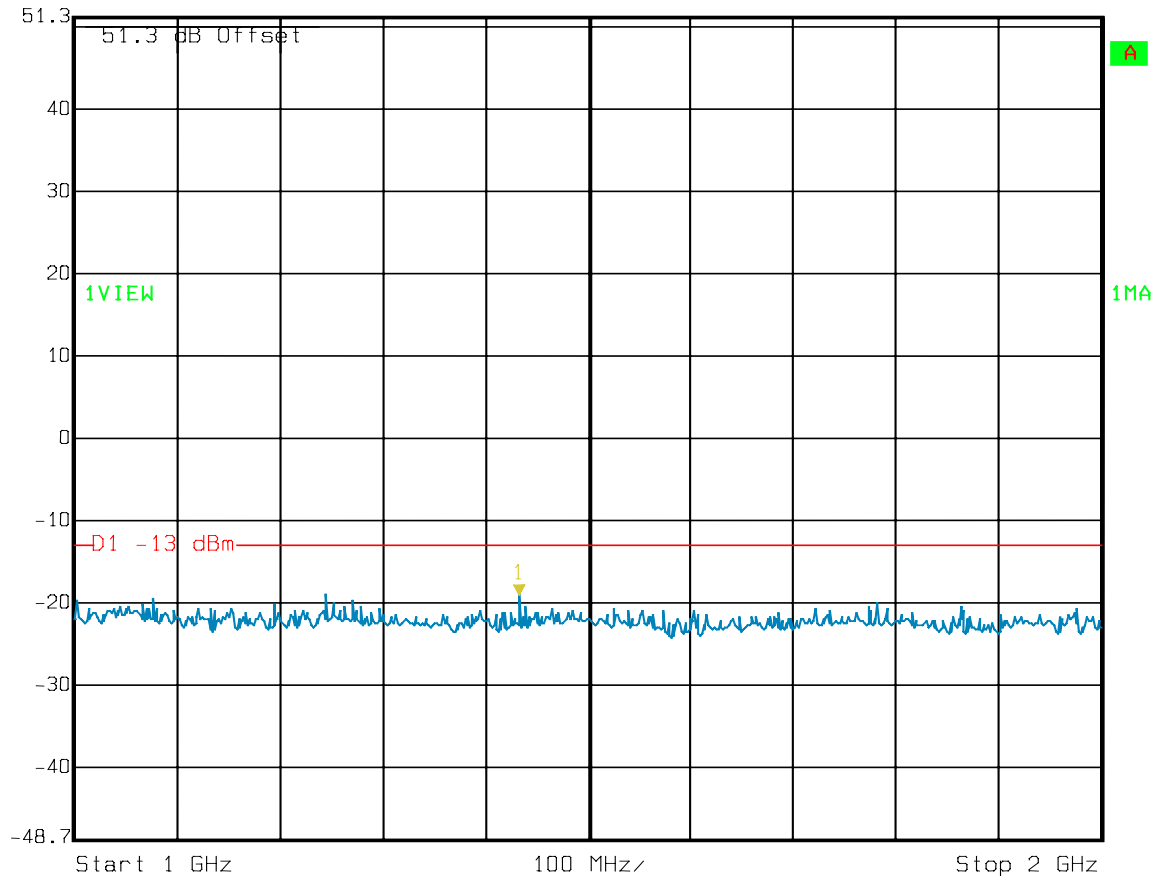
Date: 04.AUG.2005 14:29:24

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

30 watt's 25 khz 1-2ghz

 Marker 1 [T1] RBW 1 MHz RF Att 10 dB  
Ref Lvl -19.04 dBm VBW 1 MHz  
51.3 dBm 1.43286573 GHz SWT 5 ms Unit dBm



Date: 04.AUG.2005 14:36:05

*EQUIPMENT:* **192MHP**

PROJECT NO.: **5L0185RUS1**

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**Section 7. Field Strength of Spurious Emissions**

NAME OF TEST: Field Strength of Spurious Emissions	PARA. NO.: 2.993
TESTED BY: Kevin Rose	DATE: 8 Aug 05

**Measurement Results:** Complies.

**Measurement Data:** See attached data



Test Data - Radiated Emissions

<b>Field Strength of Spurious Emissions</b>											
Page 1 of 1									Complete	X	
Job No.:	5L0185		Date:		8/17/2005		Preliminary				
Specification:	P190		Temperature(°C):		24						
Tested By:	Kevin Rose		Relative Humidity(%):		45						
E.U.T.:	192										
Configuration:	TX into load										
Sample No.:	1										
Location:	A-OATS		RBW:		100 kHz		Measurement				
Detector Type:	Peak		VBW:		100 kHz		Distance:		3 m		
<b>Test Equipment Used</b>											
Antenna:	760		Directional Coupler:								
Antenna 2:	1508		Cable #1:		1514						
PreAmp:	1554		Cable #2:								
Receiver:	765		Cable #3:								
Attenuator #1			Cable #4:								
Attenuator #2:			Mixer:								
Additional equipment used:											
Measurement Uncertainty:	+/-1.7 dB										
Frequency (MHz)	Meter Reading (dBm)	Correction Factor (dB)		Pre-Amp Gain (dB)	Substitution Antenna Gain (dBi)		ERP (dBm)	ERP (mW)	Polarity	Comments	
386	-57.5	30.7		24.6	1.0		-50.4	0.0000	V		
486	-49.4	34.6		24.8	1.0		-38.6	0.0001	V		
648	-37.9	37.3		25	1.0		-24.6	0.0035	V		
810	-52.6	40.2		24.5	1.0		-35.9	0.0003	V		
972	-60.3	44.6		24.8	1.0		-39.5	0.0001	V		
386	-54.5	30.7		24.6	1.0		-47.4	0.0000	H		
486	-51.1	34.6		24.8	1.0		-40.3	0.0001	H		
648	-38.2	37.3		25	1.0		-24.9	0.0032	H		
810	-48.2	40.2		24.5	1.0		-31.5	0.0007	H		
972	-64.7	44.6		24.8	1.0		-43.9	0.0000	H		
<b>Notes: Searched spectrum from 30 MHz to 10th harmonic of carrier. All emissions are reported.</b>											

**Photographs of Test Setup**



EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

**Section 8. Frequency Stability**

NAME OF TEST: Frequency Stability	PARA. NO.: 2.995
TESTED BY: Kevin Rose	DATE: 8 Aug 05

Measurement Results: Complies.

**Measurement Data:**

Measurement Conditions: Temperature: 23 °C  
Humidity: 62 %

Measurement Uncertainty: +/- 10<sup>-7</sup> ppm

Test Equipment: 1036, 1561, 1562, 970, 809, 1625, 298, 619

Mode CW  
Standard Test Frequency: 160 MHz

Temp (°C)	Measured Frequency (MHz)	Rho	Test Voltage	Frequency Error (Hz)	Limit (+/-Hz)	Error (ppm)	Comment
20	162.000198		13	0	810.0	0	
20	162.000196		11.05	-2	810.0	0.0	
20	162.000194		14.95	-4	810.0	0.0	
50	162.000043		13	-155	810.0	-1.0	
40	162.000024		13	-174	810.0	-1.1	
30	162.000189		13	-9	810.0	-0.1	
10	162.00016		13	-38	810.0	-0.2	
0	162.000155		13	-43	810.0	-0.3	
-10	162.000063		13	-135	810.0	-0.8	
-20	162.000121		13	-77	810.0	-0.5	
-30	162.000239		13	41	810.0	0.3	
Notes:							

\* Change compared to frequency at 20 degree C.

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

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**Section 9. Transient Frequency Behavior**

NAME OF TEST: Transient Frequency Behaviour	PARA. NO.: 90.214
TESTED BY: Kevin Rose	DATE: 8 Aug 05

**Measurement Results:** Complies.

**Measurement Data:** See attached plots

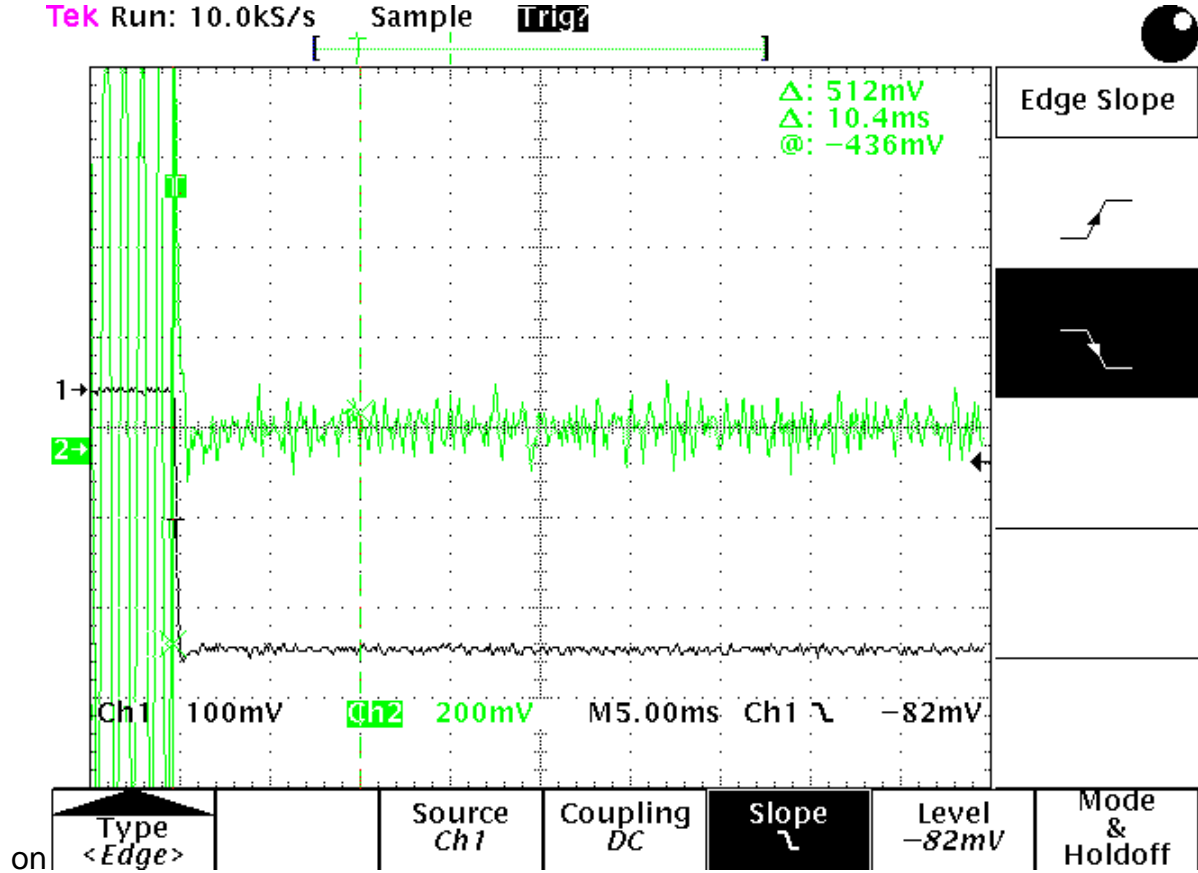
**Measurement Conditions:** Temperature: 23 °C  
Humidity: 60 %

Transient Frequency Response

Equipment used

765, 1626, 2075, 1463, 973, 1036, 1087, 1054, 1561, 1562, and a SMIQ signal generator and 436A Diode Detector

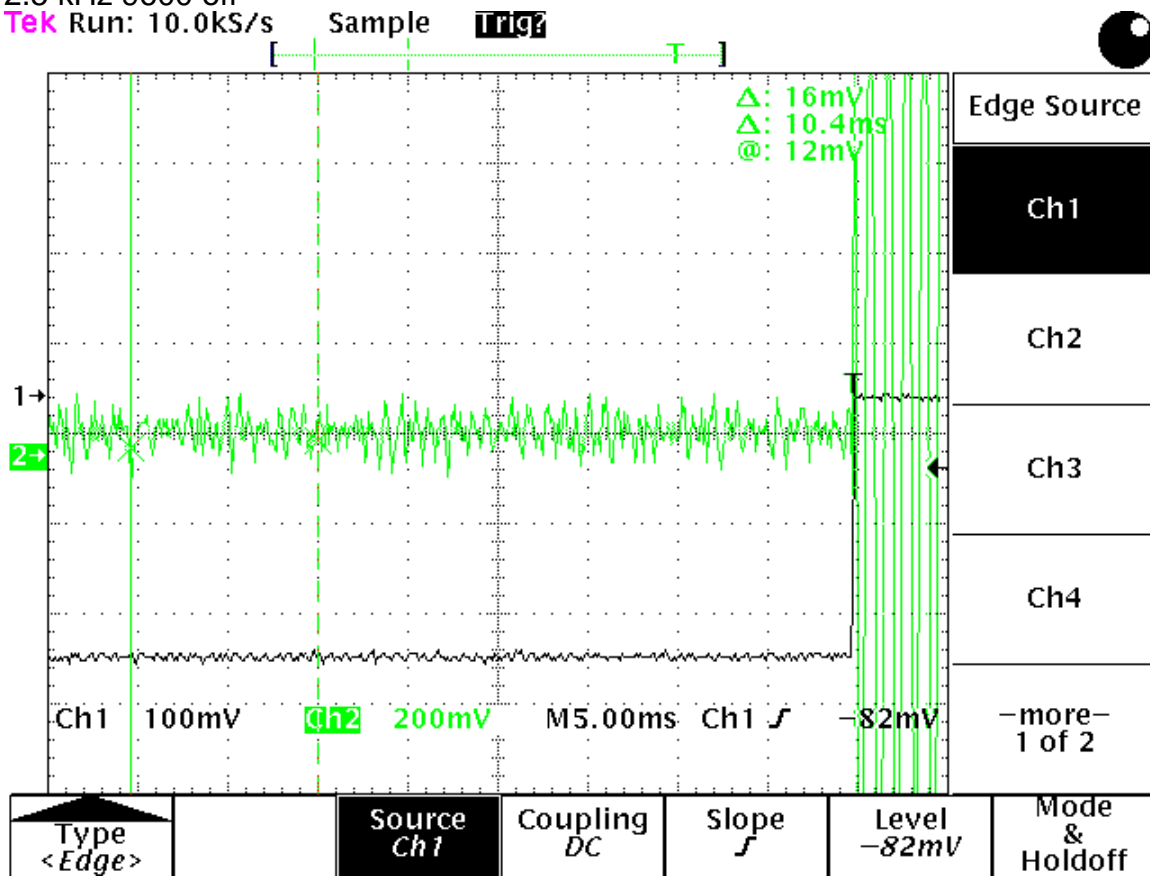
2.5 kHz 9600



EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

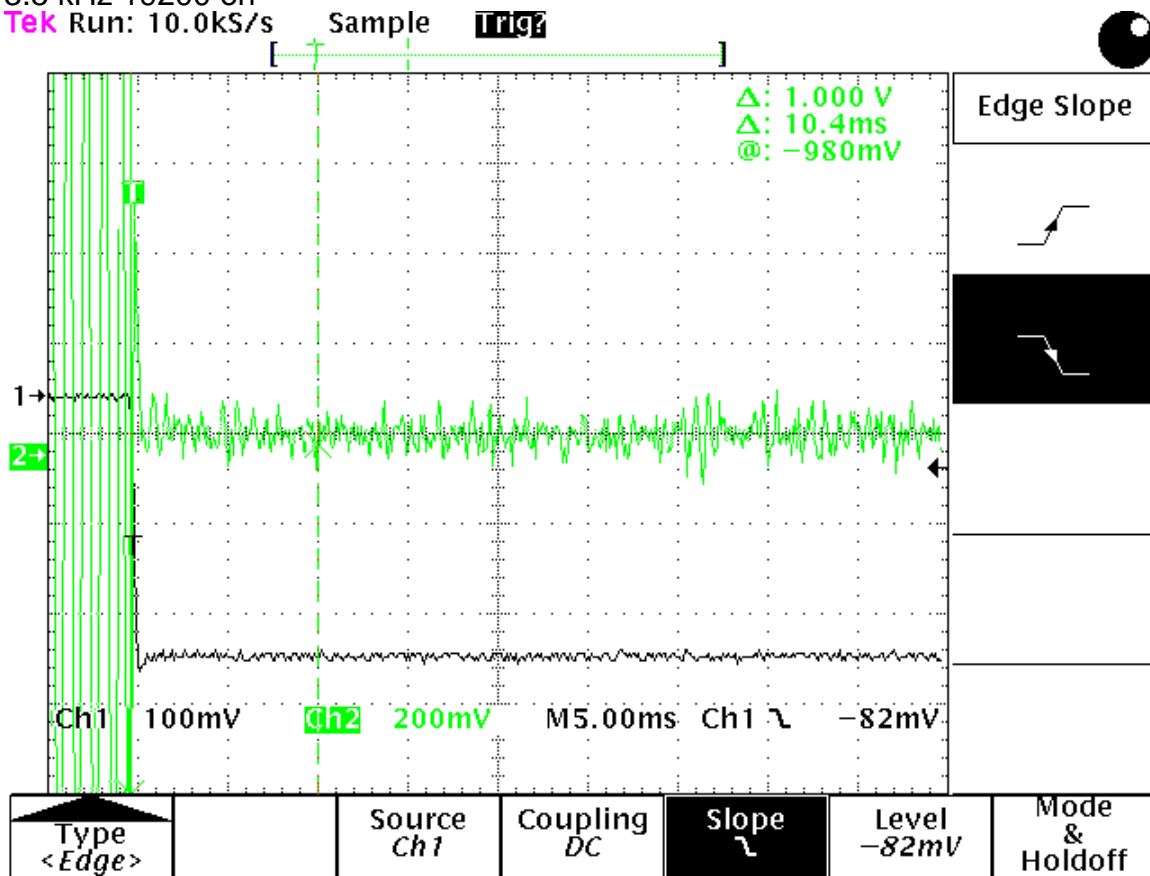
2.5 kHz 9600 off  
Tek Run: 10.0kS/s



EQUIPMENT: 192MHP

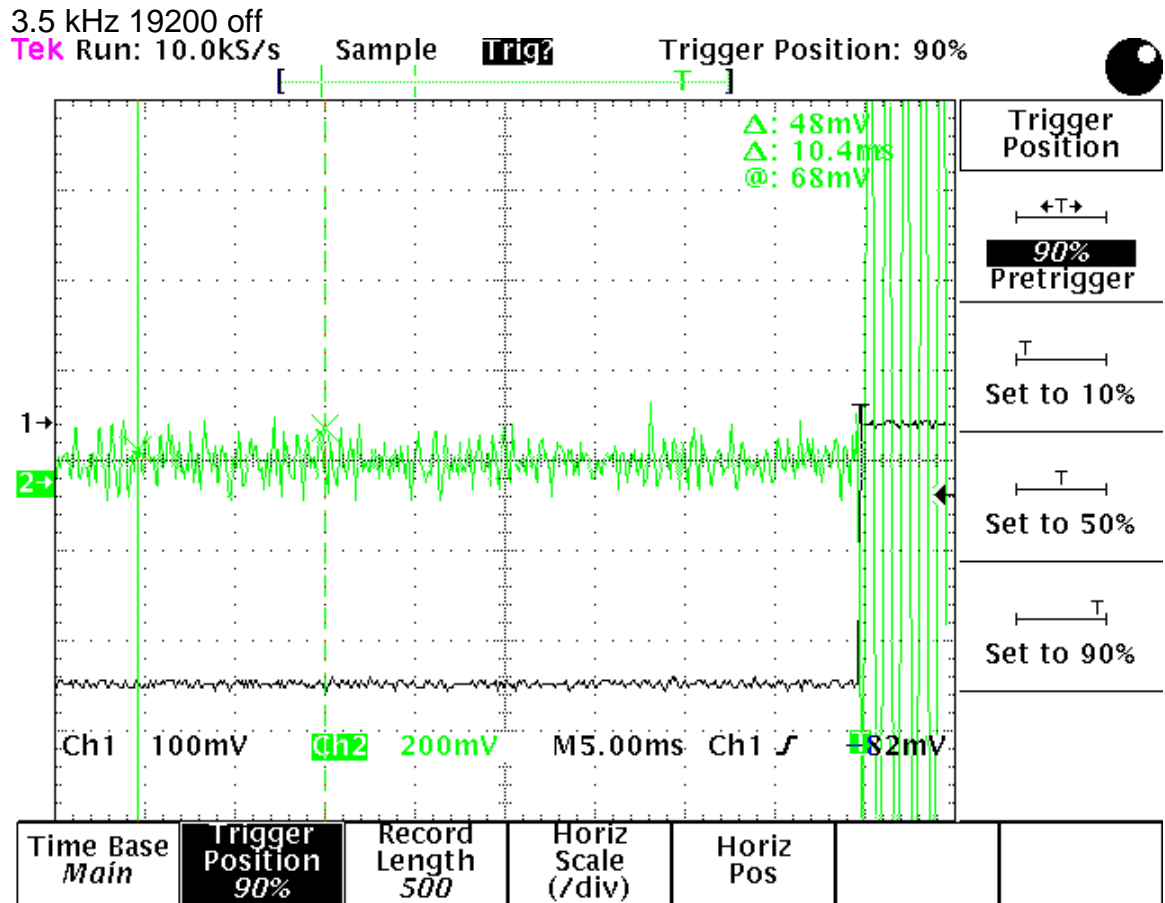
PROJECT NO.: 5L0185RUS1

3.5 kHz 19200 on  
Tek Run: 10.0kS/s



EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1





**Section 10. Test Equipment List**

Nemko ID	Description	Manufacturer	Serial Number	Calibration Date	Calibration Due
		Model Number			
1036	SPECTRUM ANALYZER	ROHDE & SCHWARZ	830844/006	03/22/04	03/23/06
		FSEK30			
1561	Attenuator 10db	Midwest Microwave	NONE	CBU	N/A
		392-10			
970	CABLE, 14.8m	KTL	N/A	08/26/04	08/26/05
		RG223			
1625	CABLE, 18 ft	MEGAPHASE	N/A	08/26/04	08/26/05
		10311 1GVT4			
809	Coaxial attenuator	Bird Electronic	1036	CBU	CBU
		8325			
283	Environmental Chamber with controller # 1189006	ENVIROTRONICS	129010083	04/22/03	04/21/04
		SH27 & 2030-22844			
1016	Pre-Amp	HEWLETT PACKARD	2749A00159	11/12/04	11/12/05
		8449A			
1048	50 OHM LOAD	NARDA	254	Cal B4 Use	N/A
		27470			
1064	ATTENUATOR	NARDA	NONE	CBU	N/A
		776B-20			
1463	Color 4 Ch Digitizing Oscilloscope	Tektronix	B010460	02/03/05	02/03/06
		TDS684A			
1464	Spectrum analyzer	Hewlett Packard	3551A04428	01/14/05	01/15/07
		8563E			
1484	Cable 2.0-18.0 Ghz	Storm	N/A	08/26/04	08/26/05
		PR90-010-072			
1485	Cable 2.0-18.0 Ghz	Storm	N/A	08/26/04	08/26/05
		PR90-010-216			
1990	CABLE, 4.8m	KTL	N/A	04/20/05	04/20/06
		RG214			
619	THERMOMETER	FLUKE	4520028	09/16/04	09/16/05
		51			

## **ANNEX A - TEST METHODOLOGIES**

<b>NAME OF TEST: RF Power Output</b>	<b>PARA. NO.: 2.985</b>
--------------------------------------	-------------------------

**Minimum Standard:** Para. No. 90.205(a). The maximum allowable station ERP is dependent upon the stations HAAT and required service area and will be authorized in accordance with Table 1 of 90.205(d).

**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:

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

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

EQUIPMENT: 192MHP

PROJECT NO.: 5L0185RUS1

**NAME OF TEST: Audio Frequency Response**

**PARA. NO.: 2.987(a)**

**Test Method:** TIA/EIA-603

**Minimum Standard:** TIA/EIA-603, Para. 3.2.6 from 300 Hz to 3000 Hz.

The

transmitter audio frequency response shall have a nominal 6 dB per octave pre-emphasis characteristic.

**NAME OF TEST: Audio Low-Pass Filter Frequency Response**

**PARA. NO.: 2.987(a)**

**Test Method:** TIA/EIA-603

**Minimum Standard:** TIA/EIA-603

**NAME OF TEST: Modulation Limiting**

**PARA. NO.: 2.987(a)**

**Test Method:** TIA/EIA-603

**Minimum Standard:** TIA/EIA-603

<b>NAME OF TEST: Occupied Bandwidth</b>	<b>PARA. NO.: 2.989</b>
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**Minimum Standard:** Para. No. 90.210, see table 1 below for applicable mask.

**Table 1**

Frequency Band (MHz)	Mask for equipment with Low Pass Filter	Mask for equipment without Low Pass Filter
Below 25	A or B	A or C
25 - 50	B	C
72 - 76	B	C
150 - 174	B, D or E	C, D or E
150 Paging only	B	C
220 - 222	F	F
421 - 512	B, D or E	C, D or E
450 paging only	B	H
806 - 821/ 851 - 866	B	G
821 - 824/ 866 - 869	B	H
896 - 901/ 935 - 940	I	J
902 - 928	K	K
929 - 930	B	G
Above 940	B	C
All other bands	B	C

**Test Method:**

RBW: 1% of emission bandwidth in 0 - 1 GHz range. 1 MHz at frequencies above 1 GHz.

VBW: ⇒ RBW

The spectrum is search up to 10 times the fundamental frequency.

<b>NAME OF TEST: Field Strength of Spurious</b>	<b>PARA. NO.: 2.993</b>
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**Minimum Standard:** Para. No. 90.210, see table 1 for applicable mask.

**Calculation of Field Strength Limit**

An example of attenuation requirement of 50 + 10 Log P is equivalent to -20 dBm (1 x 10<sup>-5</sup> Watts) at the antenna terminal. We determine the field strength limit by using the plane wave relation.

$$GP/4\pi R^2 = E^2/120\pi$$

For emissions ≤ 1 GHz:

- G = 1.64 (Dipole Gain)
- P = 10<sup>-5</sup> Watts (Maximum spurious output power)
- R = 3m (Measurement Distance)

$$E = \frac{\sqrt{30GP}}{R} = E = \frac{\sqrt{30 \times 1.64 \times 10^{-5}}}{3} = 0.00739 \text{ V / m} = 77.4 \text{ dB}\mu\text{V / m}$$

For emissions > 1 GHz:

- G = 1 (Isotropic Gain)
- P = 1 x 10<sup>-5</sup> Watts (Maximum spurious output power)
- R = 3m (Measurement Distance)

$$E = 77.4 - 20\text{Log}\sqrt{1.64} = 75.2\text{dB}\mu\text{V / m@3m}$$

MASK	Spurious Limit	FS Limit Below 1 GHz	FS Limit Above 1 GHz
A,B,C,G,H,I	-13dBm	84.4 dBμV/m@3m	82.2 dBμV/m@3m
D,J	-20dBm	77.4 dBμV/m@3m	75.2 dBμV/m@3m
E,F,K	-25dBm	72.4 dBμV/m@3m	70.2 dBμV/m@3m

**NAME OF TEST: Frequency Stability** **PARA. NO.: 2.995**

**Minimum Standard:** Para. No. 990.213. The transmitter carrier frequency shall remain within the assigned frequency below in ppm.

**Table 2**

Frequency Band (MHz)	Fixed And Base Stations	Mobile Stations	
		> 2 Watts o/p pwr	< 2 Watts o/p pwr
Below 25	100	100	200
25 - 50	20	20	50
72 - 76	5	-	50
150 - 174	5	5	5
220 - 222	0.1	1.5	1.5
421 - 512	2.5	5	5
806 - 821	1.5	2.5	2.5
821 - 824	1.0	1.5	15
851 - 866	1.5	2.5	2.5
866 - 869	1.0	1.5	1.5
869 - 901	0.1	1.5	1.5
902 - 928	2.5	2.5	2.5
929 - 930	1.5	-	-
935 - 940	0.1	1.5	1.5
1427 - 1435	300	300	300
Above 2450	-	-	-

**NAME OF TEST: Transient Frequency Behaviour** **PARA. NO.: 2.214**

**Minimum Standard:**

**Transient Frequency Behaviour for Equipment Designed to Operate on 25 kHz Channels**

Time intervals <sup>1,2</sup>	Maximum Frequency difference <sup>3</sup> (kHz)	Frequency ranges (MHz) All equipment					
		Base station and portable radios			Mobile Radios		
		150 - 174 (ms)	450 - 500 (ms)	500 - 512 (ms)	150 - 174 (ms)	450 - 500 (ms)	500 - 512 (ms)
t <sub>1</sub> <sup>4</sup>	± 25	5.0	10.0	20.0	5.0	10.0	5.0
t <sub>2</sub>	± 12	20.0	25.0	50.0	20.0	25.0	20.0
t <sub>3</sub> <sup>4</sup>	± 25	5.0	10.0	10.0	5.0	10.0	5.0

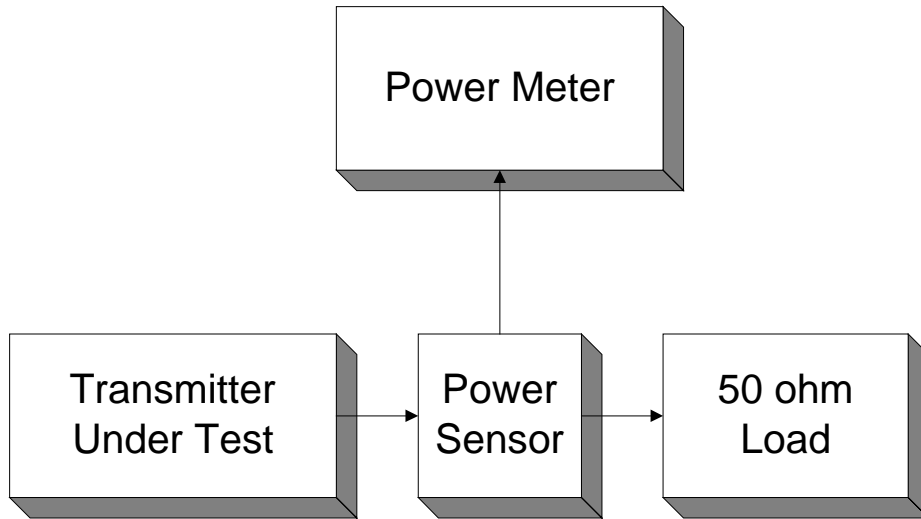
**Transient Frequency Behaviour for Equipment Designed to Operate on 12.5 kHz & 6.25 kHz Channels**

Time intervals <sup>1,2</sup>	Maximum Frequency difference <sup>3</sup> (kHz)	Frequency ranges (MHz) All equipment		
		150 - 174 (ms)	450 - 500 (ms)	500 - 512 (ms)
t <sub>1</sub> <sup>4</sup>	± 12.5 / ± 6.25	5.0	10.0	20.0
t <sub>2</sub>	± 6.25 / ± 3.125	20.0	25.0	50.0
t <sub>3</sub> <sup>4</sup>	± 12.5 / ± 6.25	5.0	10.0	10.0

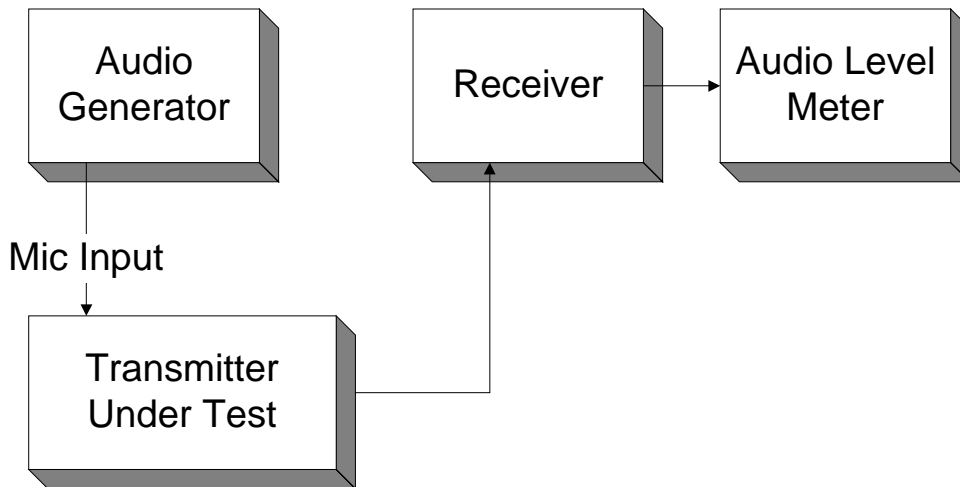
## **ANNEX B - TEST DIAGRAMS**



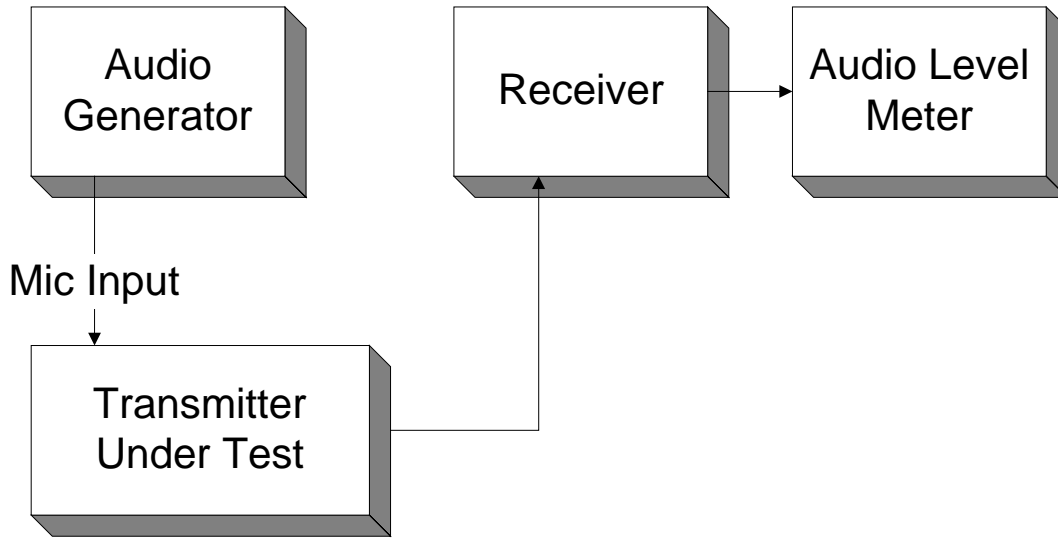
**Para. No. 2.985 - R.F. Power Output**



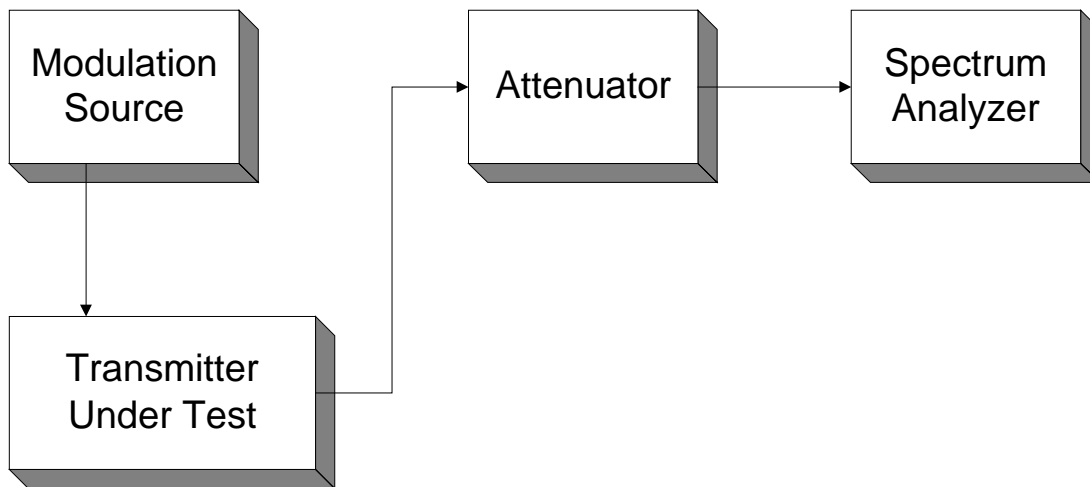
**Para. No. 2.987(a) - Audio Frequency Response**



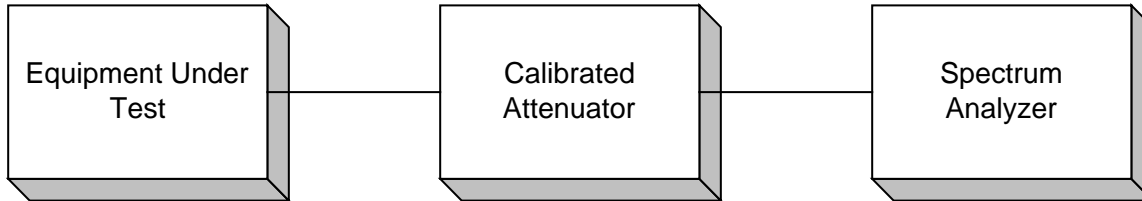
**Para. No. 2.987(b) - Modulation Limiting**



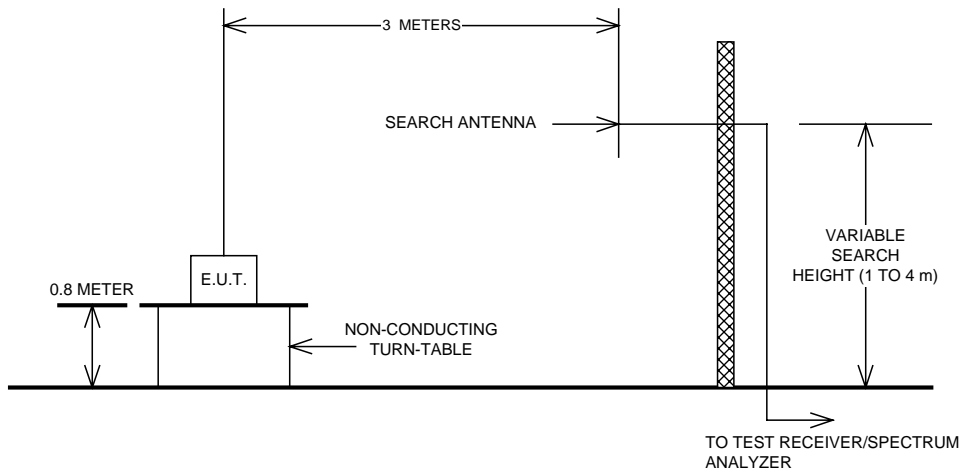
**Para. No. 2.989 - Occupied Bandwidth**



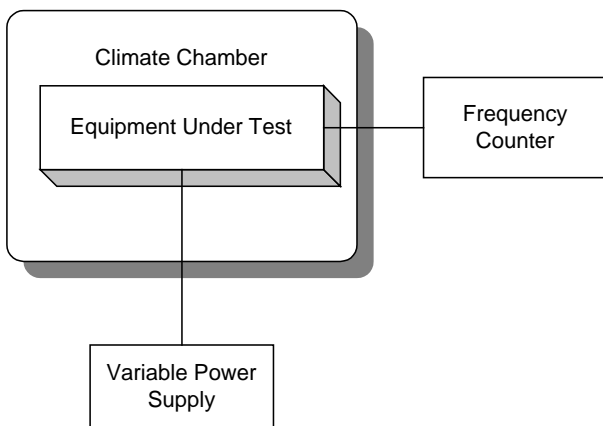
**Para. No. 2.991 - Spurious Emissions at Antenna Terminals**



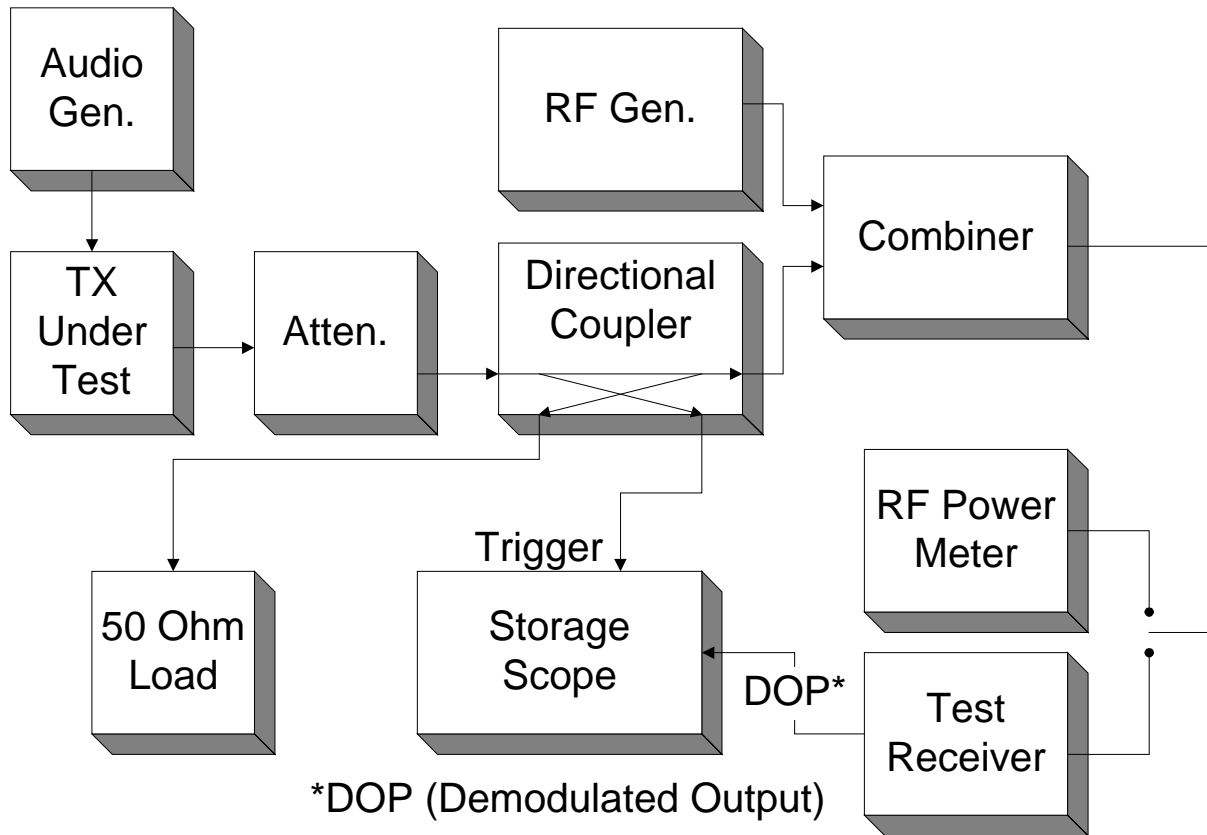
**Para. No. 2.993 - Field Strength of Spurious Radiation**



**Para. No. 2.995 - Frequency Stability**



**Para. No. 90.214 - Transient Frequency Behaviour**



**Voice**

This measurement was made using measurement procedure TIA/EIA Land Mobile FM or PM Communications Equipment Measurement and Performance Standards TIA/EIA-603 February 1993 Telecommunications Industry Association (American National Standard ANSI/TIA/EIA-603-1992 Approved: October 27, 1992) Para. no. 2.2 Methods of Measurement for Transmitters

Para. no. 2.2.19 Transient Frequency Behaviour (page no. 83).

**Data**

This measurement was made using measurement procedure TIA/EIA Digital C4FM/CQPSK Transceiver Measurement Methods TSB102.CAAA Para. no. 2.2.17 Transient Frequency Behaviour (page no. 74).