

Nemko Test Report: 2L0260RUS1

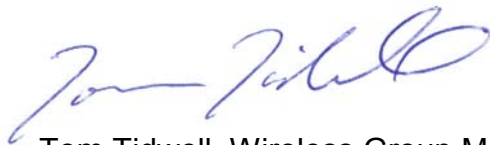
Applicant: Andrew Corporation
2601 Telecom Parkway
Richardson, TX 75082

**Equipment Under Test:
(E.U.T.)** MAAIS Bi-Directional Amplifier

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

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

Authorized By:



Tom Tidwell, Wireless Group Manager

Date: 7/30/02

Total Number of Pages: 39

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EQUIPMENT: **MAAIS Repeater**

Section 1. Summary of Test Results

Manufacturer: Andrew Corporation

Model No.: MAAIS

Serial No.: 12707G

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.

New Submission

Production Unit

Class II Permissive Change

Pre-Production Unit

A	M	P
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Equipment Code

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".

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Summary Of Test Data

NAME OF TEST	PARA. NO.	SPEC.	RESULT
RF Power Output	90.205		Complies
Audio Frequency Response	TIA EIA-603.3.2.6	N/A	N/A ¹
Audio Low-Pass Filter Response	TIA EIA-603.3.2.6	N/A	N/A ¹
Modulation Limiting	TIA EIA-603.3.2.6	N/A	N/A ¹
Occupied Bandwidth	90.210	Plots (Input/Output)	Complies
Spurious Emissions at Antenna Terminals	90.210	Plots	Complies
Field Strength of Spurious Emissions	90.210		Complies
Frequency Stability	90.213	N/A	N/A ²
Transient Frequency Behavior	90.214	N/A	N/A ¹

¹This device is an rf amplifier only and does not modulate the received or transmitted signal.

²This device is an amplifier and does not convert or translate the received signal.

Footnotes For N/A's:

- (1) Since the E.U.T. does not contain modulation circuitry modulation testing was not performed.
- (2) Since the E.U.T. is not a keyed carrier system, Transient Frequency Behavior was not performed.

EQUIPMENT: MAAIS Repeater

Section 2. General Equipment Specification

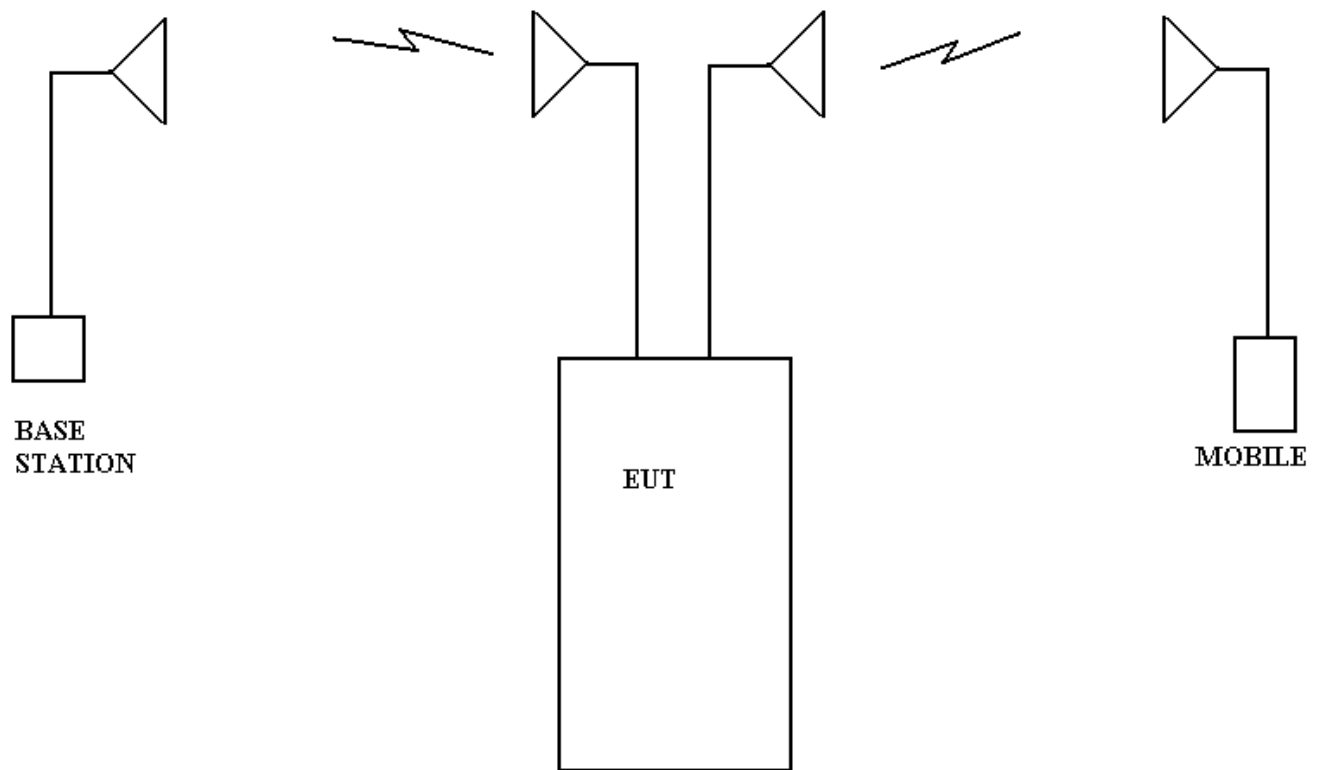
Transmitter

Supply Voltage Input:	115 Vac				
Frequency Range:	150 – 174 MHz 421 – 512 MHz				
Tunable Bands:	Channelized				
20 dB Passband:	20 kHz				
Type(s) of Modulation:	F3E (Voice) <input checked="" type="checkbox"/>	F1D <input type="checkbox"/>	F2D <input type="checkbox"/>	D7W (QAM) <input type="checkbox"/>	Other <input type="checkbox"/>
Gain:	100 dB Downlink 95 dB Uplink				
Maximum Input:	-70 dBm				
Output Impedance:	50 ohms				
RF Power Output (rated):	Downlink:	1 Watt max			
	Uplink:				
Operator Selection of Operating Frequency:	Preset at factory				
Power Output Adjustment Capability:	ALC set at factory				
Frequency Translation:	F1-F1 <input checked="" type="checkbox"/>	F1-F2 <input type="checkbox"/>	N/A <input type="checkbox"/>		
Band Selection:	Channelized <input checked="" type="checkbox"/>	Duplexer Change <input type="checkbox"/>	Fullband Coverage <input type="checkbox"/>		

Theory of Operation

The EUT is a channelized amplifier/booster operating in the 150-174 MHz and 421-512 MHz frequency bands

System Diagram



Refer to separate exhibit for detailed diagram.

EQUIPMENT: **MAAIS Repeater**

Section 3. RF Power Output

NAME OF TEST: RF Power Output	PARA. NO.: 2.985
TESTED BY: David Light	DATE:7/22/2002

Test Results: Complies.

Measurement Data:

Frequency (MHz)	Measured Power (dBm)	Rated Power (dBm)	Measured/Rated (dB)
154.010	28.0	30	-0.9
153.770	19.5	20	-0.5
460.400	28.6	30	-0.95
465.400	20.4	20	+0.4

EQUIPMENT: **MAAIS Repeater**

Section 4. Occupied Bandwidth

NAME OF TEST: Occupied Bandwidth	PARA. NO.: 2.989
TESTED BY: David Light	DATE: 7/26/2002

Test Results: Complies.

Test Data: See attached graph(s).

Note – Input signal is modulated at 2.5 kHz with +/-5 kHz deviation.

The data presented is to demonstrate that the modulated rf signal fed to the EUT is not degraded at the output of the EUT.

Test Plots – Occupied Bandwidth



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Data Plot

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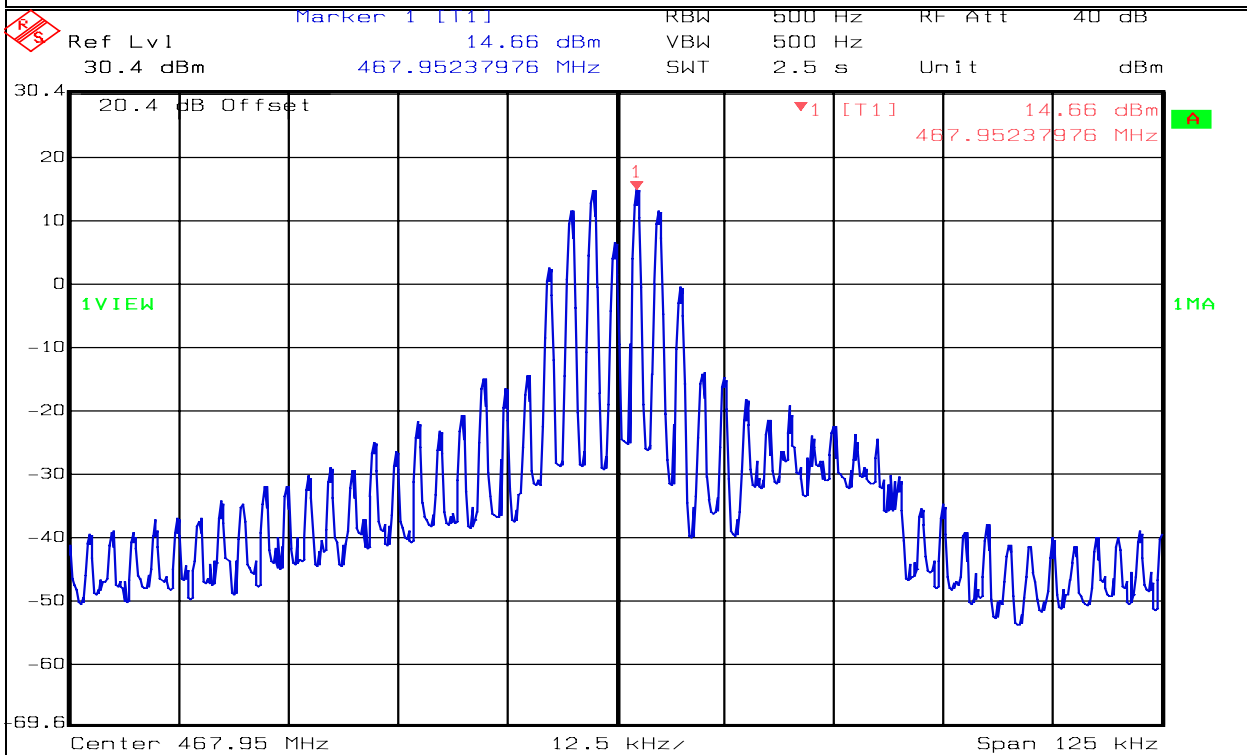
Job No.: 2L0260R Date: 7/22/02 Complete X
Preliminary _____

Name of Test: Occupied Bandwidth Temperature(°C): 22
Tested By: David Light Relative Humidity(%): 40
E.U.T.: channelized amplifier
Configuration: Typical
Sample Number: 1
Location: Safety lab
Detector Type: Peak

Test Equipment Used

Antenna: _____ Directional Coupler: _____
Pre-Amp: _____ Cable #1: 1081
Filter: _____ Cable #2: _____
Receiver: 1036 Cable #3: _____
Attenuator #1: 1604 Cable #4: _____
Attenuator #2: _____ Mixer: _____

Additional equipment used: _____
Measurement _____
Uncertainty: _____



Date: 22.JUL.2002 10:21:28
Notes: OUTPUT - UPLINK - UHF



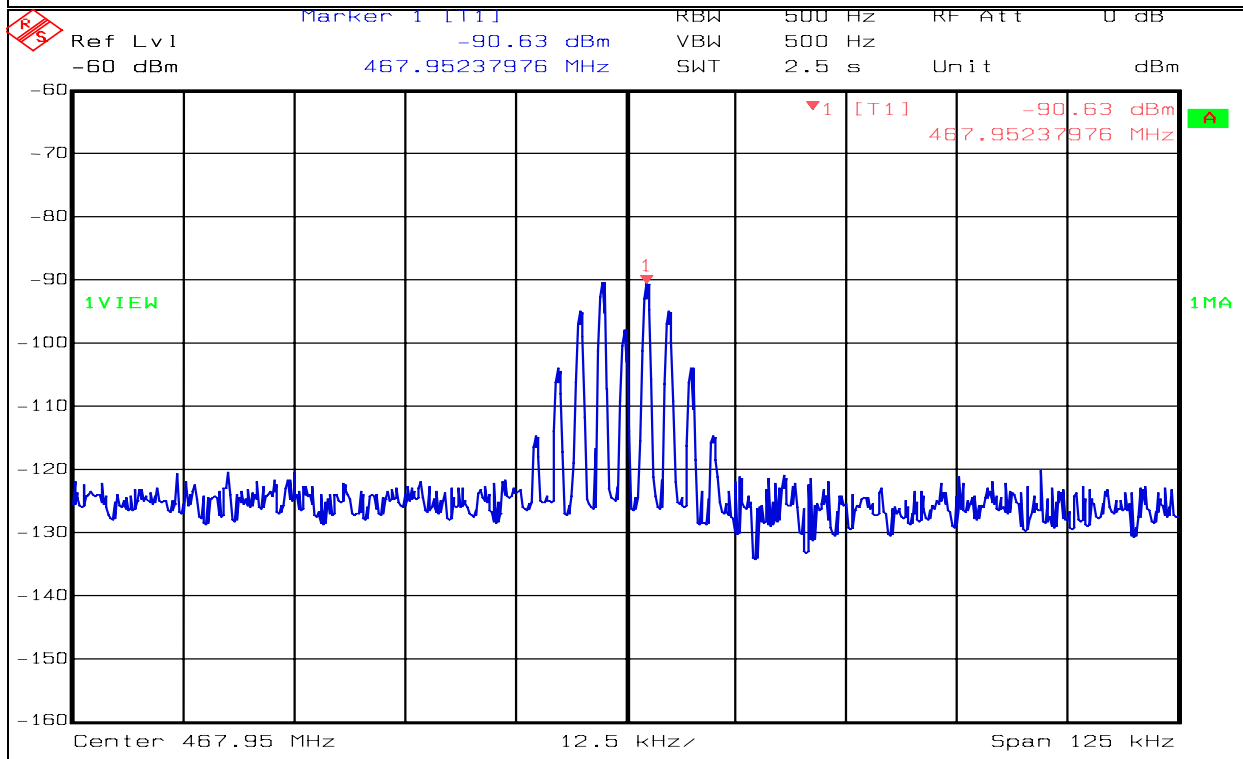
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Data Plot

Page 2 of 4

Job No.: 2L0260R Date: 7/22/02
Specification: #REF! Temperature(°C): 22
Tested By: David Light Relative Humidity(%) 40
E.U.T.: channelized ε
Configuration: Typical



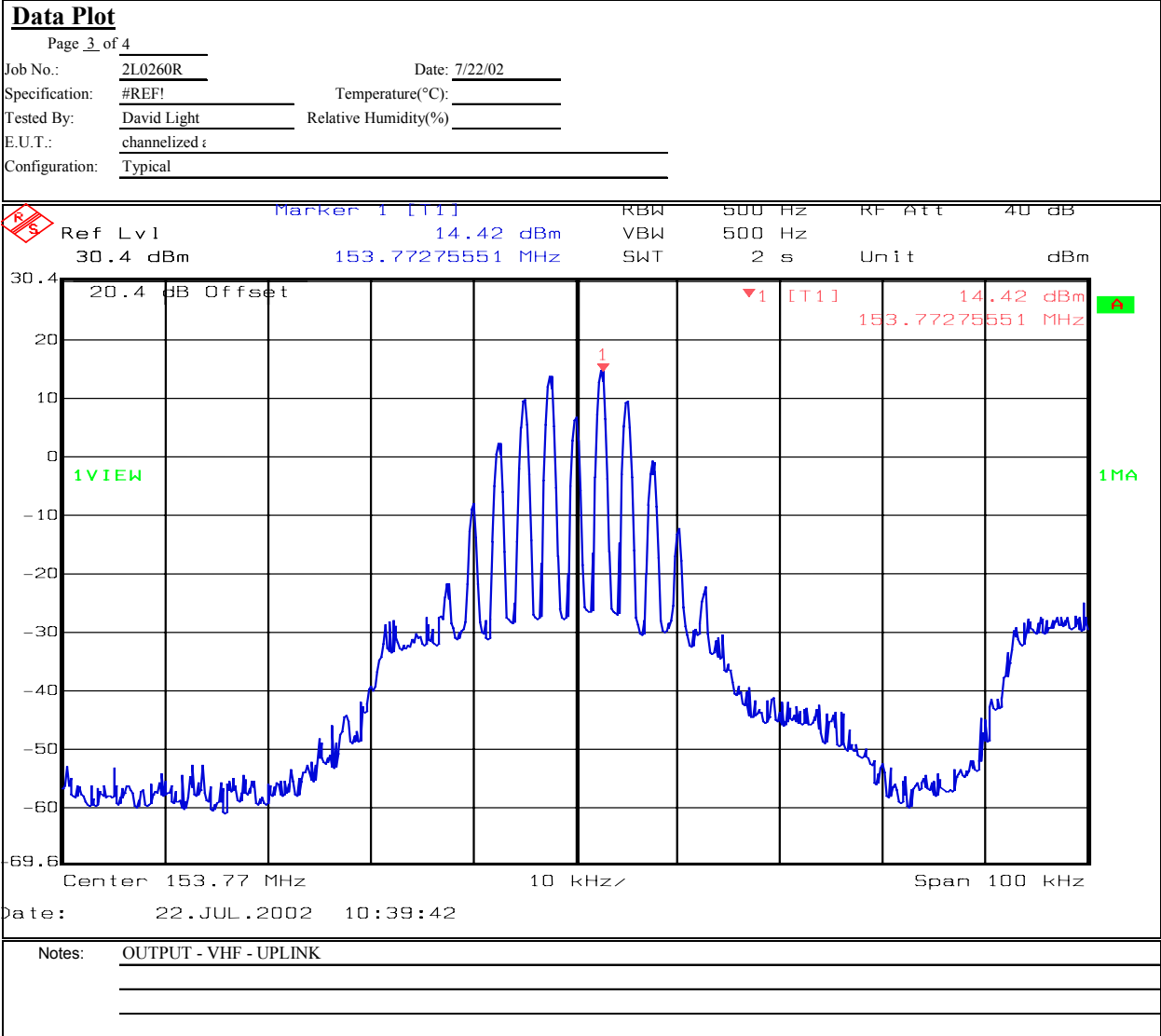
Date: 22.JUL.2002 10:26:00

Notes: INPUT SIGNAL - UHF UPLINK



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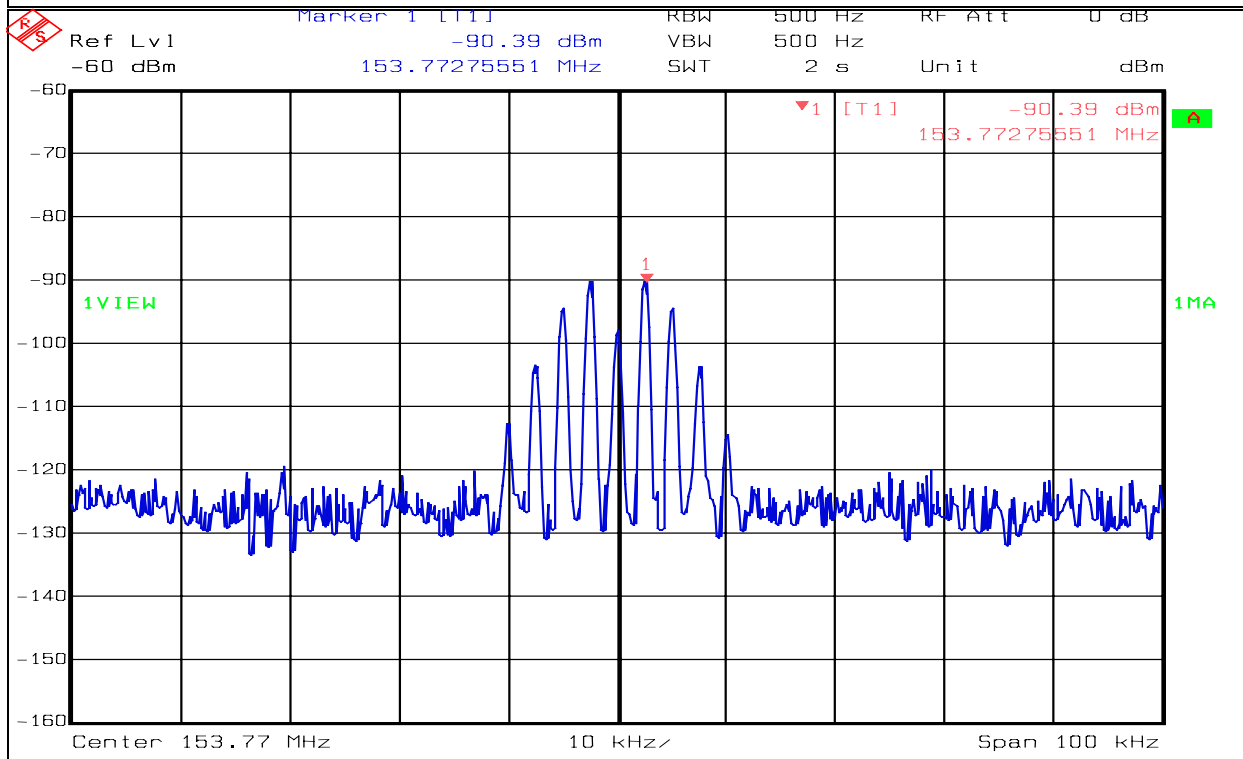
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Test Plot:

Page 4 of 4

Job No.: 2L0260R Date: 7/22/02
 Specification: #REF! Temperature(°C): _____
 Tested By: David Light Relative Humidity(%) _____
 E.U.T.: channelized ε
 Configuration: Typical



Date: 22.JUL.2002 10:42:29

Notes: INPUT - VHF - UPLINK



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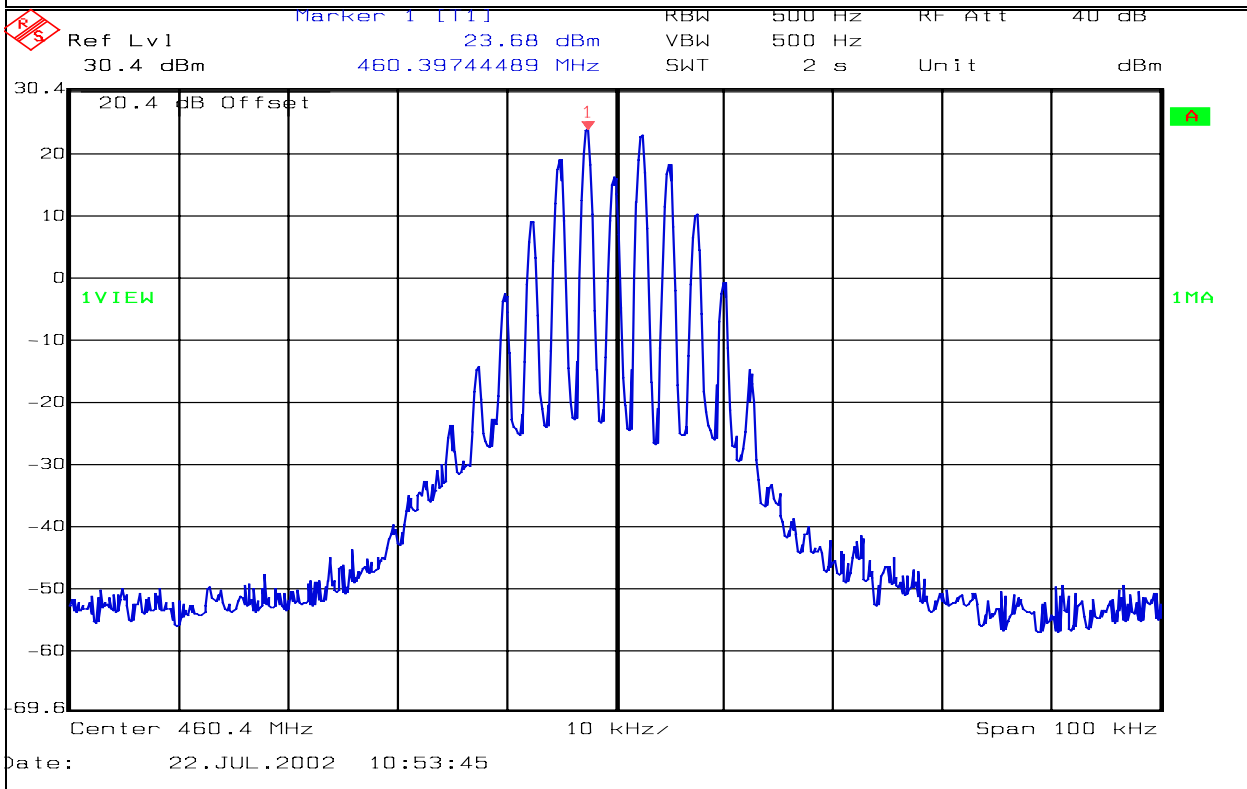
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Data Plot

Page 1 of 4 Complete X
 Preliminary _____
 Job No.: 2L0260R Date: 7/22/02
 Name of Test: Occupied Bandwidth Temperature(°C): 22
 Tested By: David Light Relative Humidity(%): 40
 E.U.T.: CHANNELIZED AMPLIFIER
 Configuration: TYPICAL
 Sample Number: 1
 Location: Safety lab
 Detector Type: Peak

Test Equipment Used

Antenna: _____ Directional Coupler: _____
 Pre-Amp: _____ Cable #1: 1045
 Filter: _____ Cable #2: _____
 Receiver: 1036 Cable #3: _____
 Attenuator #1: _____ Cable #4: _____
 Attenuator #2: 1604 Mixer: _____
 Additional equipment used: _____
 Measurement Uncertainty: _____



Notes: OUTPUT - DOWNLINK - UHF



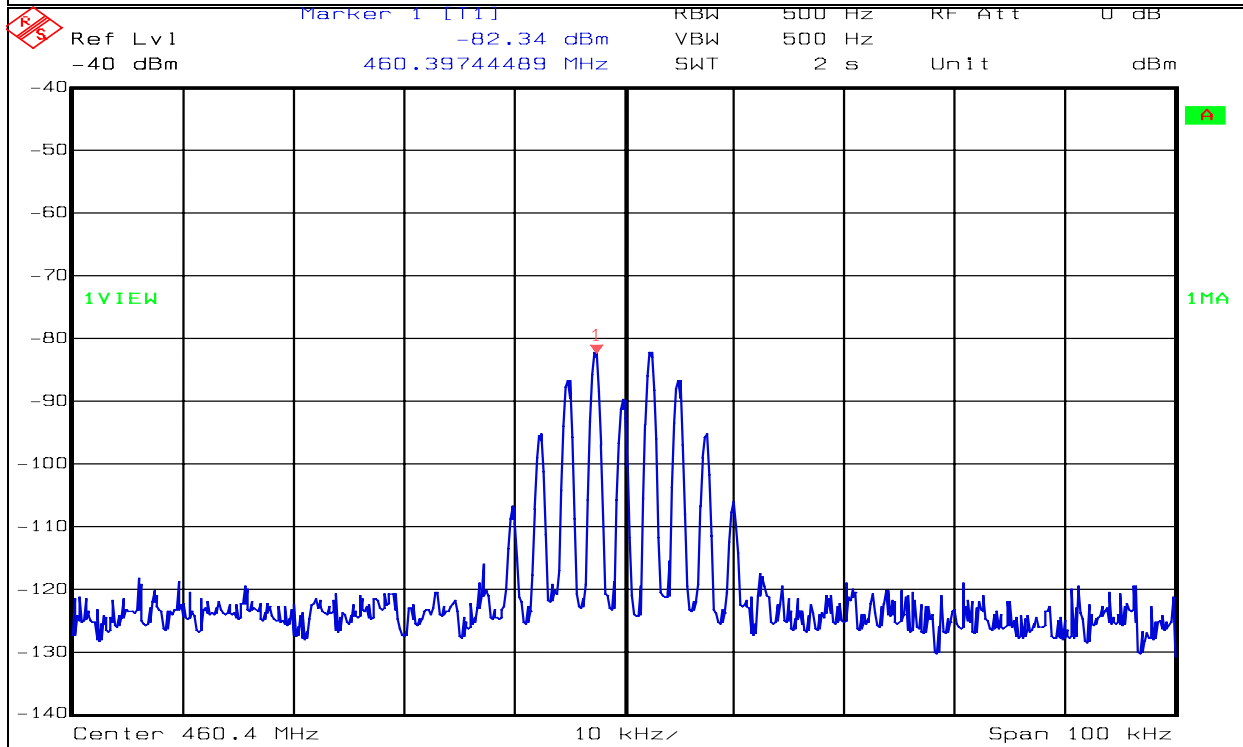
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Data Plot

Page 2 of 4

Job No.: 2L0260R Date: 7/22/02
Specification: #REF! Temperature(°C): 22
Tested By: David Light Relative Humidity(%) 40
E.U.T.: CHANNELL
Configuration: TYPICAL



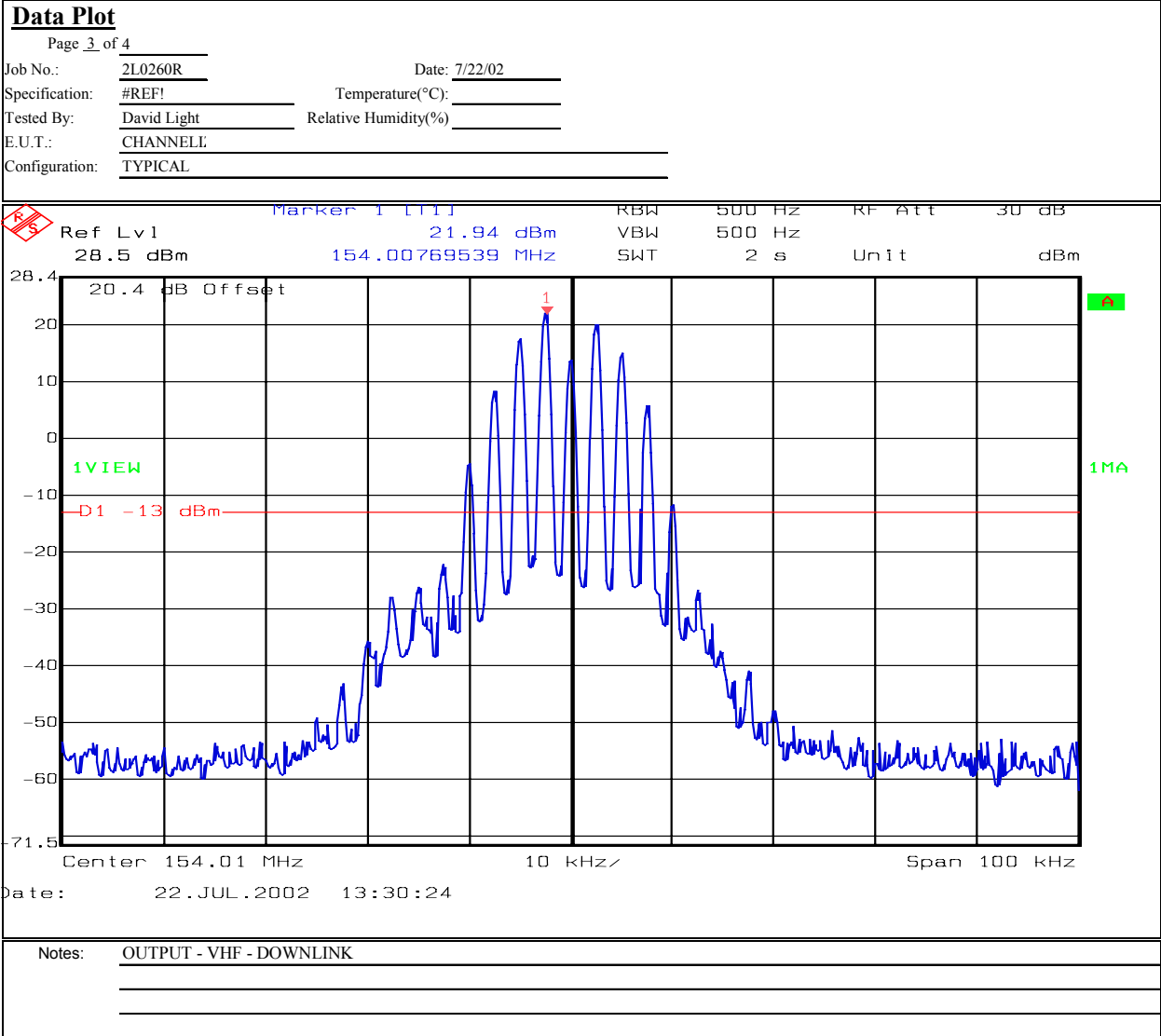
Date: 22.JUL.2002 10:56:00

Notes: INPUT SIGNAL - UHF - DOWNLINK



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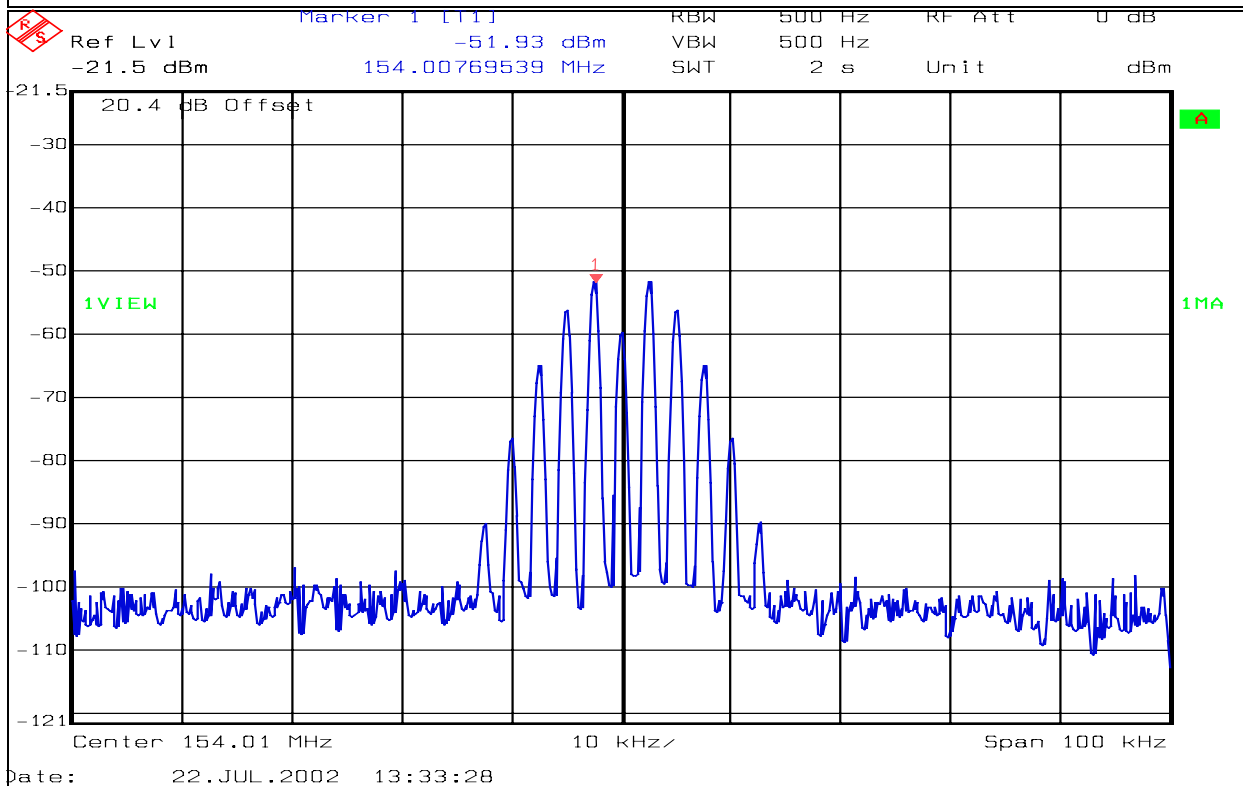
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Test Plot:

Page 4 of 4

Job No.: 2L0260R Date: 7/22/02
 Specification: #REF! Temperature(°C): _____
 Tested By: David Light Relative Humidity(%) _____
 E.U.T.: CHANNELL
 Configuration: TYPICAL



Notes: INPUT - VHF - DOWNLINK

Section 5. Spurious Emissions at Antenna Terminals

NAME OF TEST: Spurious Emissions @ Antenna Terminals	PARA. NO.: 2.1.51
TESTED BY: David Light	DATE: 7/22/2002

Test Results: Complies.

Test Data: See attached graph(s).

NOTE: Intermodulation spurious emission was not tested since the amplified channels are not actively combined. Each repeated rf channel is repeated by a separate amplifier module.

Test Plots – Spurious Emissions at Antenna Terminals



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Data Plot

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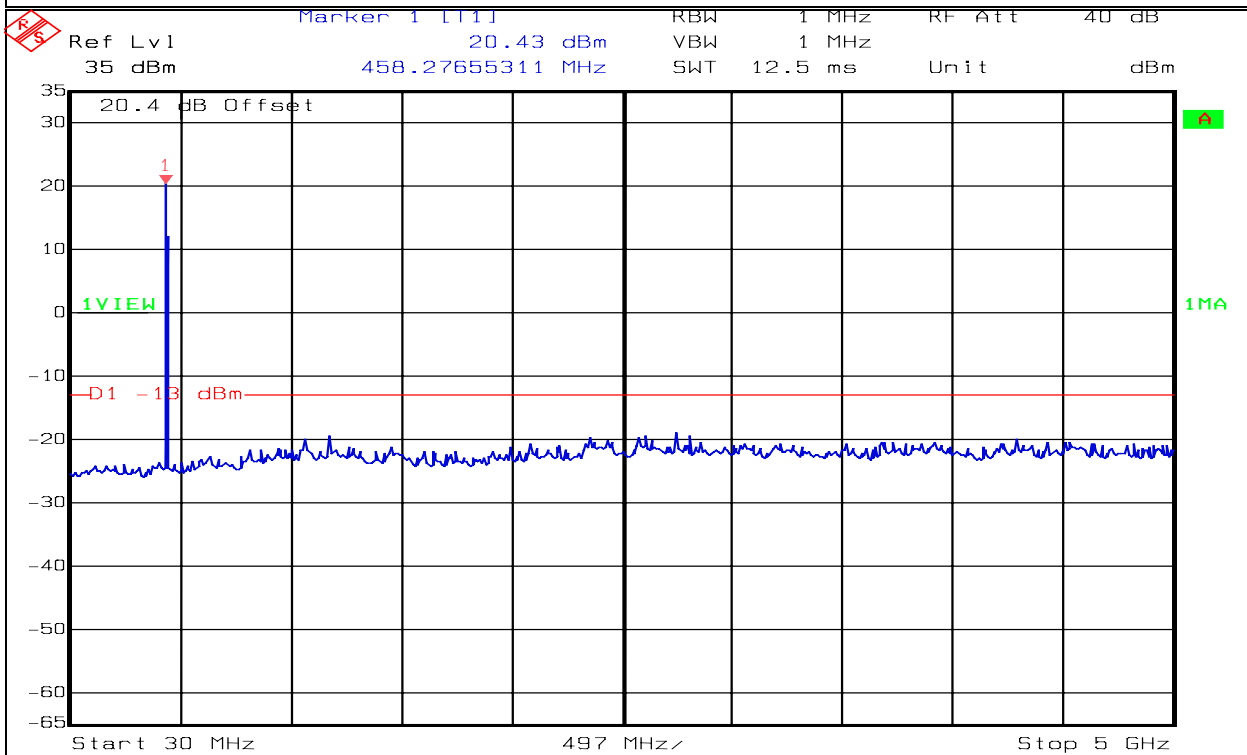
Job No.: 2L0260R Date: 12/1/00 Complete X
 Preliminary _____

Name of Test: TX Spurious Emissions(Conducted) Temperature(°C): 22
 Tested By: Tom Tidwell Relative Humidity(%): 40
 E.U.T.: CHANNELIZED AMPLIFIER
 Configuration: TYPICAL
 Sample Number: 1
 Location: Safety lab
 Detector Type: Peak

Test Equipment Used

Antenna: _____ Directional Coupler: _____
 Pre-Amp: _____ Cable #1: 1082
 Filter: _____ Cable #2: _____
 Receiver: 1036 Cable #3: _____
 Attenuator #1: 1604 Cable #4: _____
 Attenuator #2: _____ Mixer: _____

Additional equipment used: _____
 Measurement _____
 Uncertainty: _____



Date: 23.JUL.2002 08:26:13

Notes: UHF-UPLINK



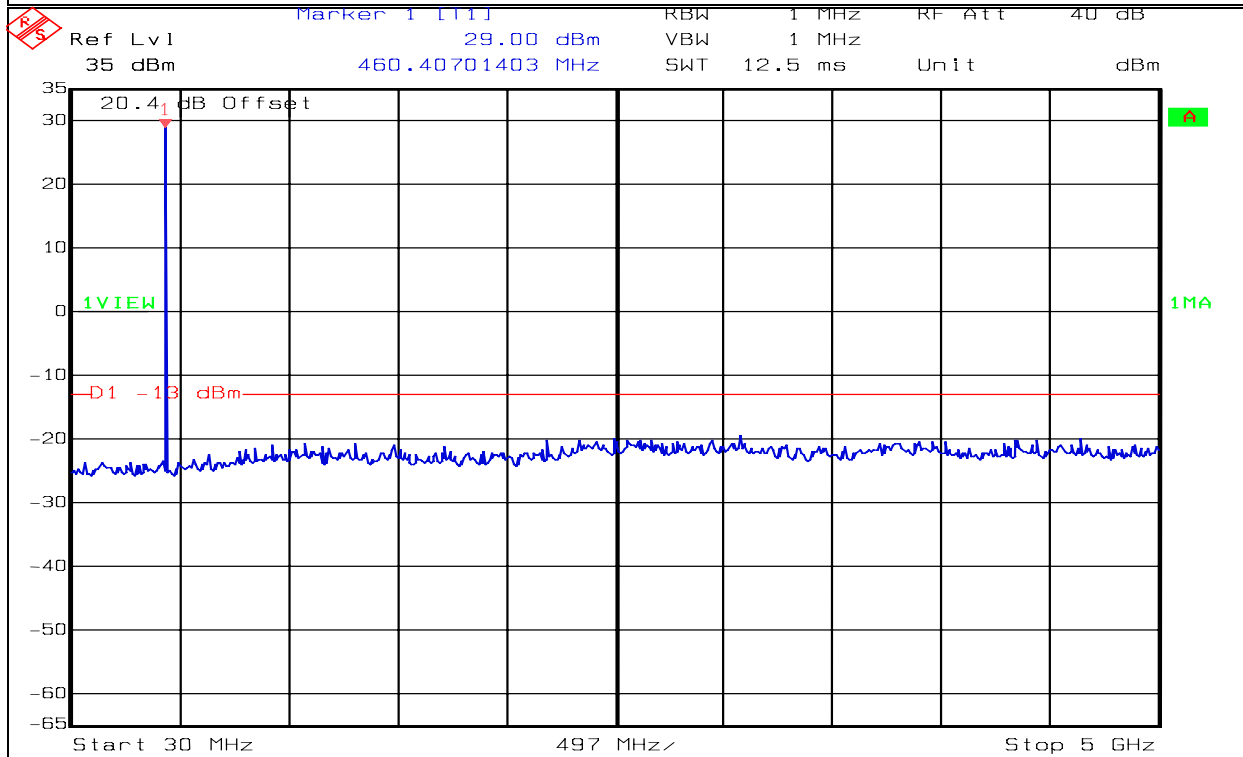
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Data Plot

Page 2 of 4

Job No.: 2L0260R Date: 12/1/00
Specification: #REF! Temperature(°C): 22
Tested By: Tom Tidwell Relative Humidity(%) 40
E.U.T.: CHANNELL
Configuration: TYPICAL



Date: 23.JUL.2002 08:43:12

Notes: DOWNLINK - UHF



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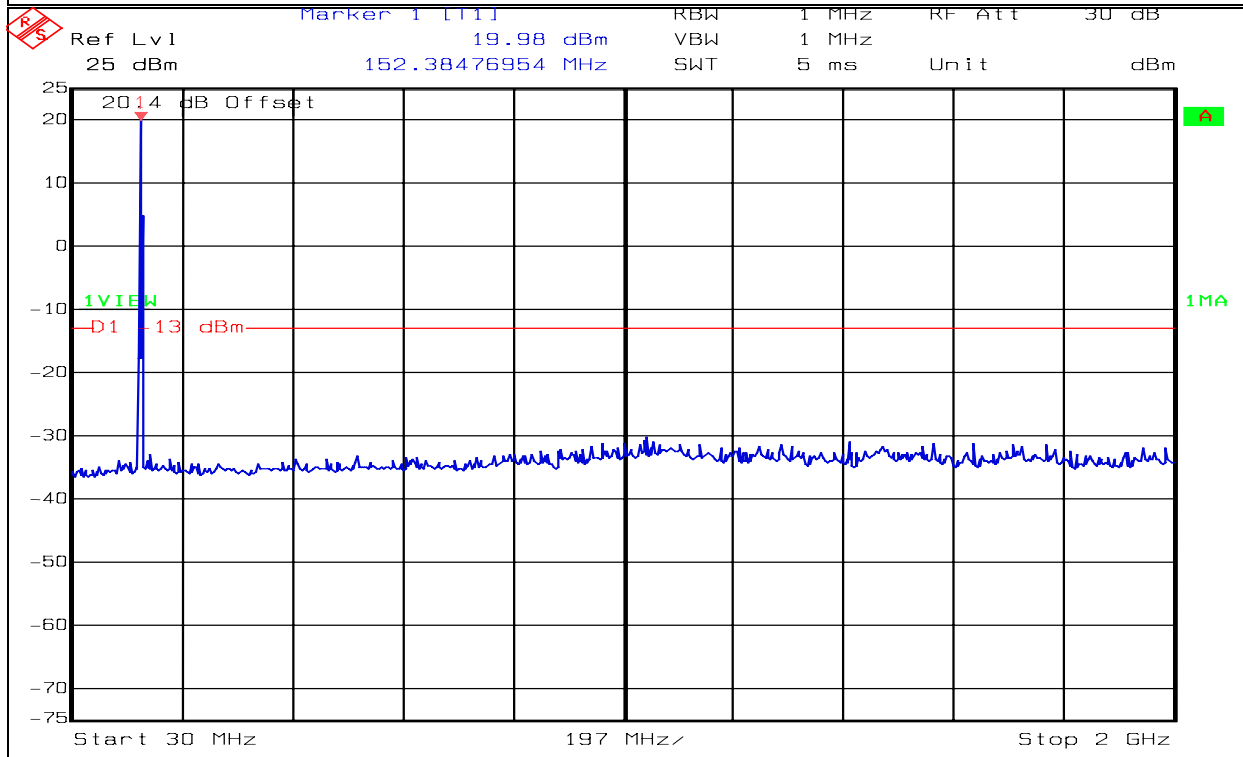
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Data Plot

Page 3 of 4

Job No.: 2L0260R Date: 12/1/00
Specification: #REF! Temperature(°C):
Tested By: Tom Tidwell Relative Humidity(%):
E.U.T.: CHANNELL
Configuration: TYPICAL



Date: 23.JUL.2002 08:16:29

Notes: VHF - UPLINK



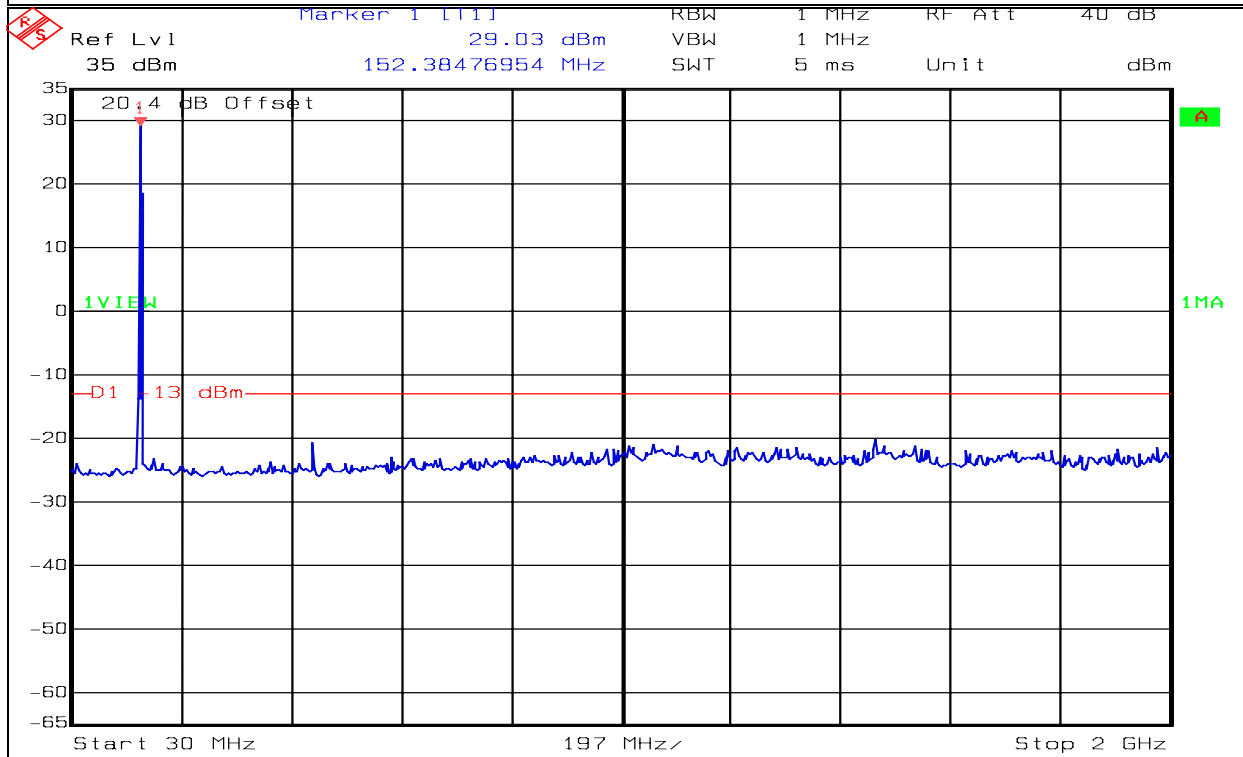
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Test Plot:

Page 4 of 4

Job No.: 2L0260R Date: 12/1/00
 Specification: #REF! Temperature(°C): _____
 Tested By: Tom Tidwell Relative Humidity(%) _____
 E.U.T.: CHANNELL
 Configuration: TYPICAL



Date: 23.JUL.2002 08:47:55

Notes: DOWNLINK-VHF

Section 6. Field Strength of Spurious Emissions

NAME OF TEST: Field Strength of Spurious Emissions	PARA. NO.: 2.993
TESTED BY:	DATE:

Test Results: Complies.

Test Data: See attached table.

Note: See page A5 for applicable limit.

NOTE: The correction factor shown on the attached tables is a calibration factor which is the difference between a known signal fed into the transmit substitution antenna and the received signal level at that frequency.

Test Data – Radiated Spurious Emissions



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ERP Substitution Method

Page 1 of 2

Job No.: 2L0260R Date: 7/23/2002 Complete X
 Preliminary _____

Specification: 2.1057 Temperature(°C): 22

Tested By: David Light Relative Humidity(%) 40

E.U.T.: CHANNELIZED AMPLIFIER

Configuration: TYPICAL

Sample No: 1

Location: Safety lab RBW: 100 kHz Measurement
 Detector Type: Peak VBW: 100 kHz Distance: 3 m

Test Equipment Used

Antenna: 1304 Directional Coupler: _____
 Pre-Amp: _____ Cable #1: 1528
 Filter: _____ Cable #2: 1082
 Receiver: 1036 Cable #3: _____
 Attenuator #1: _____ Cable #4: _____
 Attenuator #2: _____ Mixer: _____

Additional equipment used: 993 411 1404

Measurement Uncertainty: +/-3.6 dB

Frequency (MHz)	Meter Reading (dBm)	Correction Factor (dB)	Pre-Amp Gain (dB)	Substitution Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Polarity	Comments
307.5	-90.0	24.1	0	-2.2	-68.1	0.0000	V	Noise floor
461.3	-90.0	23.0	0	-2.2	-69.2	0.0000	V	Noise floor
615.1	-90.0	28.2	0	-2.2	-64.0	0.0000	V	Noise floor
768.9	-90.0	31.8	0	-2.2	-60.4	0.0000	V	Noise floor
922.6	-90.0	33.0	0	-2.2	-59.2	0.0000	V	Noise floor
1076.4	-90.0	28.9	0	4.8	-56.3	0.0000	V	Noise floor
1230.2	-92.0	31.3	0	6.5	-54.2	0.0000	V	Noise floor
1383.9	-92.0	31.3	0	6.5	-54.2	0.0000	V	Noise floor
1537.7	-92.0	29.2	0	7.2	-55.6	0.0000	V	Noise floor
307.5	-90.0	22.4	0	-2.2	-69.8	0.0000	H	Noise floor
461.31	-90.0	23.0	0	-2.2	-69.2	0.0000	H	Noise floor
615.08	-90.0	27.0	0	-2.2	-65.2	0.0000	H	Noise floor
768.85	-90.0	30.6	0	-2.2	-61.6	0.0000	H	Noise floor
922.62	-90.0	34.0	0	-2.2	-58.2	0.0000	H	Noise floor
1076.39	-90.0	28.9	0	4.8	-56.3	0.0000	H	Noise floor
1230.16	-92.0	33.0	0	6.5	-52.5	0.0000	H	Noise floor
1383.93	-92.0	33.0	0	6.5	-52.5	0.0000	H	Noise floor
1537.7	-92.0	30.7	0	7.2	-54.1	0.0000	H	Noise floor

Notes: Transmit at 153.770 MHz
Searched to the 10th harmonic of carrier frequency

Uplink – VHF

EQUIPMENT: MAAIS Repeater



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ERP Substitution Method										
Page <u>1</u> of 2								Complete <u>X</u>		
Job No.:	2L0260R	Date:		7/23/2002		Preliminary _____				
Specification:	2.1057	Temperature(°C):		<u>22</u>						
Tested By:	David Light	Relative Humidity(%)		<u>40</u>						
E.U.T.:	CHANNELIZED AMPLIFIER									
Configuration:	TYPICAL									
Sample No.:	<u>1</u>									
Location:	Safety lab	RBW:		<u>100 kHz</u>		Measurement				
Detector Type:	Peak	VBW:		<u>100 kHz</u>		Distance:		<u>3 m</u>		
Test Equipment Used										
Antenna:	<u>993</u>	Directional Coupler:		_____						
Pre-Amp:	_____	Cable #1:		<u>1528</u>						
Filter:	_____	Cable #2:		<u>1082</u>						
Receiver:	<u>1036</u>	Cable #3:		_____						
Attenuator #1:	_____	Cable #4:		_____						
Attenuator #2:	_____	Mixer:		_____						
Additional equipment used:	<u>1304</u>	<u>411</u>	<u>1404</u>							
Measurement Uncertainty:	<u>+/-3.6 dB</u>									
Frequency (MHz)	Meter Reading (dBm)	Correction Factor (dB)	Pre-Amp Gain (dB)	Substitution Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Polarity	Comments		
308.02	-93.0	24.1		-2.2	-71.1	0.0000	V	Noise floor		
462.03	-90.0	23.0		-2.2	-69.2	0.0000	V	Noise floor		
616.04	-90.0	28.2		-2.2	-64.0	0.0000	V	Noise floor		
770.05	-92.0	31.8		-2.2	-62.4	0.0000	V	Noise floor		
924.06	-89.0	33.0		-2.2	-58.2	0.0000	V	Noise floor		
1078.07	-90.0	28.9		4.8	-56.3	0.0000	V	Noise floor		
1232.08	-90.0	31.3		6.5	-52.2	0.0000	V	Noise floor		
1386.09	-92.0	31.3		6.5	-54.2	0.0000	V	Noise floor		
1540.1	-90.0	29.2		7.2	-53.6	0.0000	V	Noise floor		
308.02	-89.0	22.4		-2.2	-68.8	0.0000	H			
462.03	-90.0	23.0		-2.2	-69.2	0.0000	H	Noise floor		
616.04	-90.0	27.0		-2.2	-65.2	0.0000	H	Noise floor		
770.05	-92.0	30.6		-2.2	-63.6	0.0000	H	Noise floor		
924.06	-89.0	34.0		-2.2	-57.2	0.0000	H	Noise floor		
1078.07	-90.0	28.9		4.8	-56.3	0.0000	H	Noise floor		
1232.08	-90.0	33.0		6.5	-50.5	0.0000	H	Noise floor		
1386.09	-92.0	33.0		6.5	-52.5	0.0000	H	Noise floor		
1540.1	-90.0	30.7		7.2	-52.1	0.0000	H	Noise floor		
Notes: Transmit at 154.010 MHz Searched to the 10th harmonic										

Downlink – VHF

EQUIPMENT: MAAIS Repeater



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ERP Substitution Method

Page 1 of 2 Complete X
Preliminary _____

Job No.: 210260r Date: 7/23/2002

Specification: 2.1057 Temperature(°C): 22

Tested By: David Light Relative Humidity(%) 40

E.U.T.: Channelized amplifier

Configuration: Typical

Sample No: 1

Location: Safety lab RBW: 100 kHz Measurement

Detector Type: Peak VBW: 100 kHz Distance: 3 m

Test Equipment Used

Antenna: 993 Directional Coupler: _____

Pre-Amp: _____ Cable #1: 1528

Filter: _____ Cable #2: 1082

Receiver: 1036 Cable #3: _____

Attenuator #1: _____ Cable #4: _____

Attenuator #2: _____ Mixer: _____

Additional equipment used: 1304 411 1404

Measurement Uncertainty: +/-3.6 dB

Frequency (MHz)	Meter Reading (dBm)	Correction Factor (dB)	Pre-Amp Gain (dB)	Substitution Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Polarity	Comments
930.8	-90.0	33.0		-2.2	-59.2	0.0000	V	Noise floor
1396.2	-80.4	31.3		6.5	-42.6	0.0001	V	
1861.6	-85.7	35.0		6.7	-44.0	0.0000	V	
2327.0	-87.0	34.7		7.9	-44.4	0.0000	V	
2792.4	-82.6	35.7		7.9	-39.0	0.0001	V	
3257.8	-86.0	35.7		7.9	-42.4	0.0001	V	
930.8	-90.0	33.0		-2.2	-59.2	0.0000	H	Noise floor
1396.2	-82.0	31.3		6.5	-44.2	0.0000	H	
1861.6	-82.4	35.0		6.7	-40.7	0.0001	H	
2327	-90.0	34.7		7.9	-47.4	0.0000	H	Noise floor
2792.4	-85.4	35.7		7.9	-41.8	0.0001	H	
3257.8	-85.0	35.7		7.9	-41.4	0.0001	H	

Notes: Transmit at 465.400 MHz
Searched to the 10th harmonic of carrier frequency

Uplink – UHF

EQUIPMENT: MAAIS Repeater



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ERP Substitution Method

Page 1 of 2

Job No.: 2L0260R Date: 7/23/2002 Complete X
 Preliminary _____

Specification: 2.1057 Temperature(°C): 22

Tested By: David Light Relative Humidity(%) 40

E.U.T.: Channelized amplifier

Configuration: Typical

Sample No: 1

Location: Safety lab RBW: 100 kHz Measurement
 Detector Type: Peak VBW: 100 kHz Distance: 3 m

Test Equipment Used

Antenna: 993 Directional Coupler: _____

Pre-Amp: _____ Cable #1: 1528

Filter: _____ Cable #2: 1082

Receiver: 1036 Cable #3: _____

Attenuator #1: _____ Cable #4: _____

Attenuator #2: _____ Mixer: _____

Additional equipment used: 1304 411 1404

Measurement Uncertainty: +/-3.6 dB

Frequency (MHz)	Meter Reading (dBm)	Correction Factor (dB)		Pre-Amp Gain (dB)	Substitution Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Polarity	Comments
920.8	-78.2	33.0		0	-2.2	-47.4	0.0000	V	
1381.2	-75.9	31.3		0	6.5	-38.1	0.0002	V	
1841.6	-86.2	35.0		0	6.7	-44.5	0.0000	V	
2302.0	-80.6	34.7		0	7.9	-38.0	0.0002	V	
2762.4	-86.0	35.7		0	7.9	-42.4	0.0001	V	
3222.8	-90.0	35.7		0	7.9	-46.4	0.0000	V	Noise floor
920.8	-79.0	33.0		0	-2.2	-48.2	0.0000	H	
1381.2	-80.9	31.3		0	6.5	-43.1	0.0000	H	
1841.6	-86.0	35.0		0	6.7	-44.3	0.0000	H	
2302	-90.0	34.7		0	7.9	-47.4	0.0000	H	Noise floor
2762.4	-85.6	35.7		0	7.9	-42.0	0.0001	H	
3222.8	-90.0	35.7		0	7.9	-46.4	0.0000	H	Noise floor

Notes: Transmit at 460.400 MHz
Searched to the 10th harmonic

Downlink - UHF

Photographs of Test Setup

FRONT VIEW



REAR VIEW



Section 7. Test Equipment List

Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date	Calibration Due
1304	HORN ANTENNA	ELECTRO METRICS RGA-60	6151	07/30/01	07/31/03
993	Horn antenna	A.H. Systems SAS-200/571	XXX	01/08/02	01/09/04
1036	SPECTRUM ANALYZER	ROHDE & SCHWARZ FSEK30	830844/006	12/18/01	12/19/03
1604	ATTENUATOR	NARDA 776B-20	NONE	09/13/01	09/13/02
1528	CABLE 4M 30 MHz-18.0 Ghz	Storm PR90-010-144	00-07-001	10/23/01	10/23/02
1404	Dipole set	EMCO 3121C	9701-1256	06/10/02	06/10/03
411	SIGNAL GENERATOR	MARCONI 2022D	119223029	CNR	N/A
1082	CABLE 2m	Astrolab 32027-2-29094-72TC	N/A	CBU	CBU

ANNEX A - TEST METHODOLOGIES

NAME OF TEST: RF Power Output	PARA. NO.: 2.985
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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: MAAIS Repeater

NAME OF TEST: Spurious Emissions at Antenna Terminals	PARA. NO.: 2.991
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Test Method: RBW: 1% of emission bandwidth in the 0 - 1 GHz range.
1 MHz at frequencies above 1 GHz.

VBW: \Rightarrow RBW

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

EQUIPMENT: MAAIS Repeater

NAME OF TEST: Occupied Bandwidth	PARA. NO.: 2.989
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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

EQUIPMENT: MAAIS Repeater

NAME OF TEST: Field Strength of Spurious

PARA. NO.: 2.993

Minimum Standard: Para. No. 90.210, see table 1 for applicable mask.

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.

EQUIPMENT: MAAIS Repeater

NAME OF TEST: Frequency Stability	PARA. NO.: 2.995
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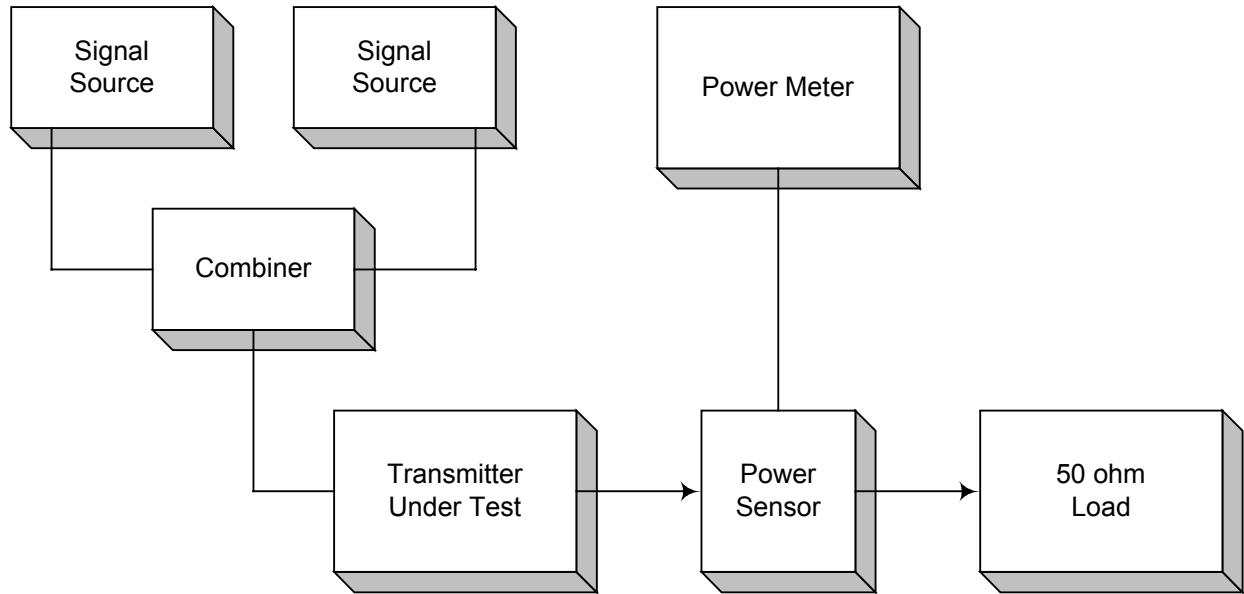
Minimum Standard: Para. No. 990.213. The transmitter carrier frequency shall remain within the assigned frequency below in ppm.

Table 2

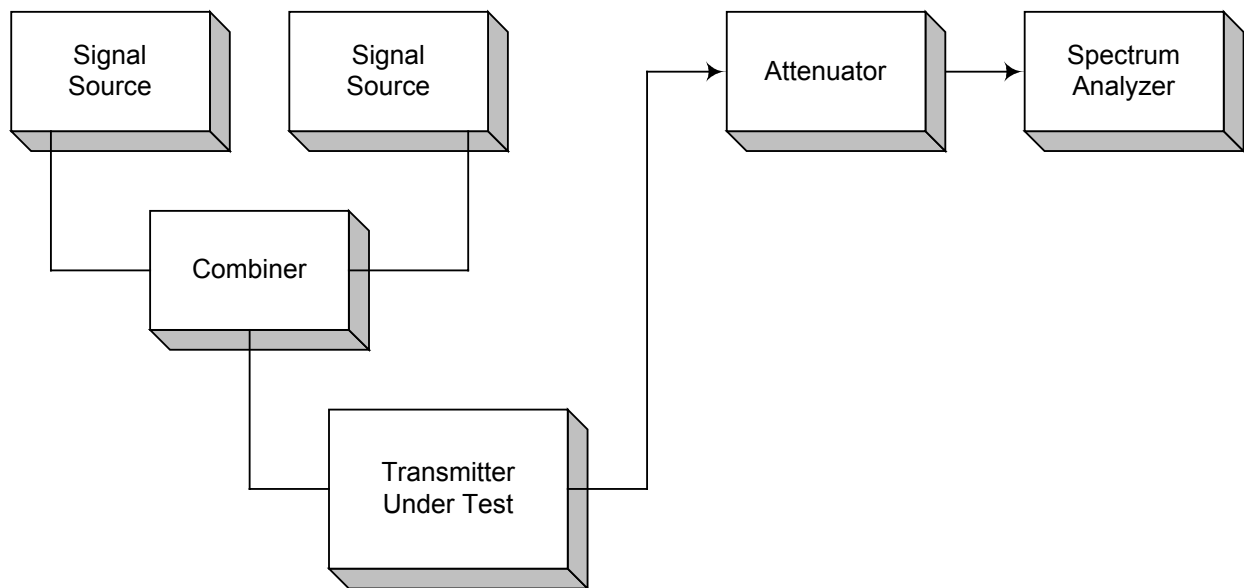
Frequency Band (MHz)	Fixed And Base Stations	Mobile Stations	
		> 2 Watts o/p pwr	< 2 Watts o/p pwr
Below 25	100	100	200
25 - 50	20	20	50
72 - 76	5	-	50
150 - 174	5	5	5
220 - 222	0.1	1.5	1.5
421 - 512	2.5	5	5
806 - 821	1.5	2.5	2.5
821 - 824	1.0	1.5	15
851 - 866	1.5	2.5	2.5
866 - 869	1.0	1.5	1.5
869 - 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	-	-	-

ANNEX B - TEST DIAGRAMS

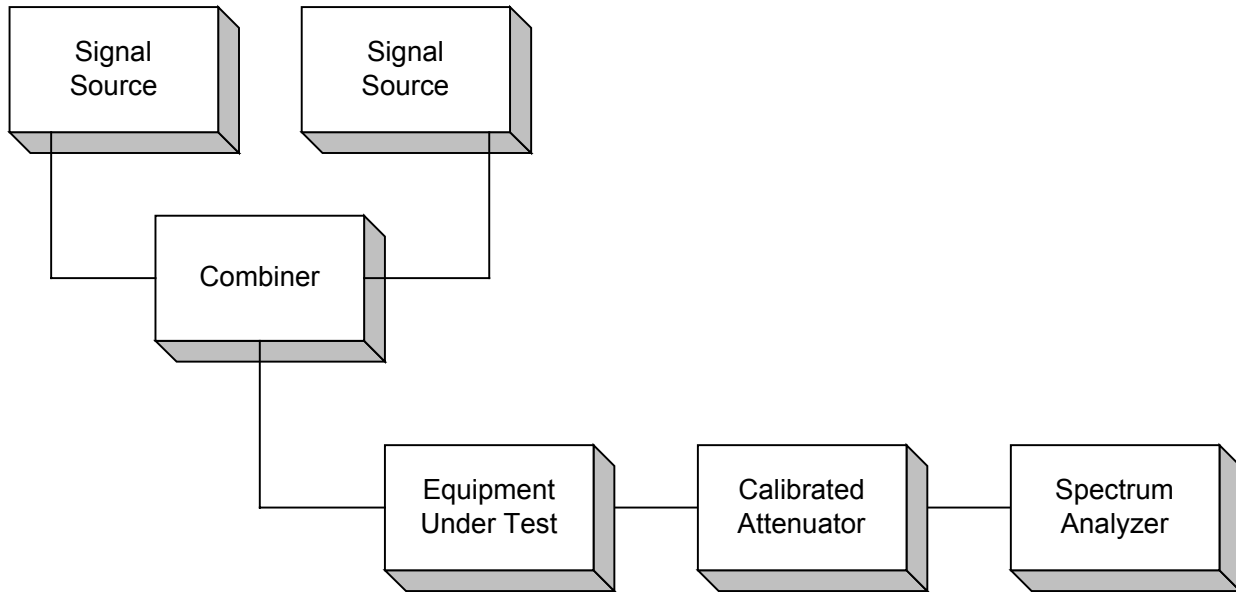
Para. No. 2.985 - R.F. Power Output



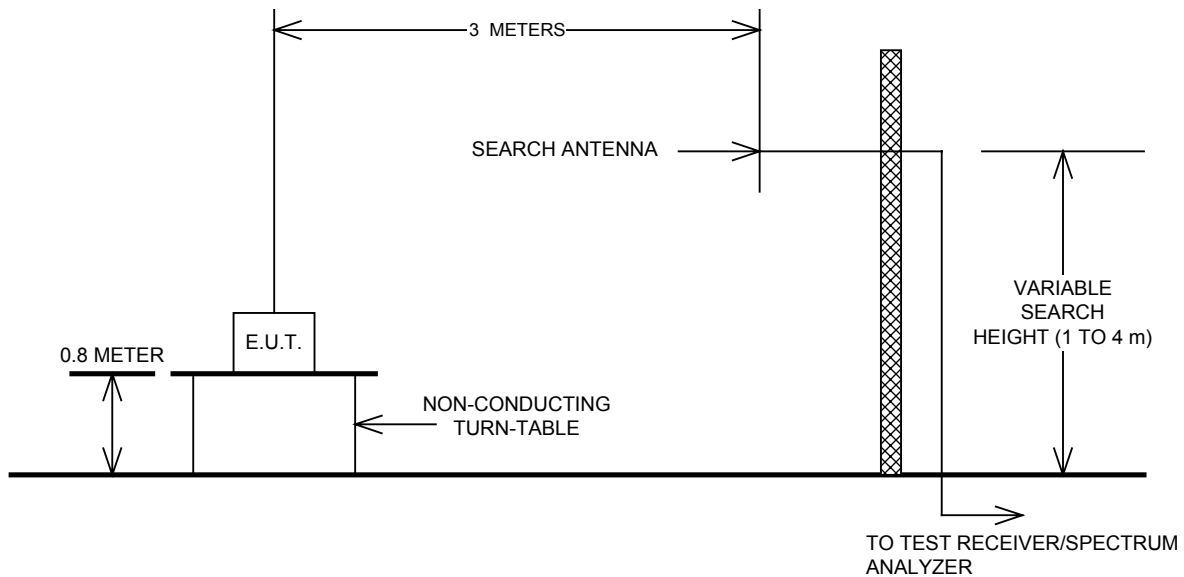
Para. No. 2.989 - Occupied Bandwidth



Para. No. 2.991 - Spurious Emissions at Antenna Terminals



Para. No. 2.993 - Field Strength of Spurious Radiation



EQUIPMENT: MAAIS Repeater

Para. No. 2.995 - Frequency Stability

