Nemko Test Report:	1L0016RUS2
Applicant:	Allen Telecom Systems
Equipment Under Test: (E.U.T.)	MR803P-TR
In Accordance With:	**FCC Part 90, Subpart I** Private Land Mobile Repeater
Tested By:	Nemko Dallas Inc. 802 N. Kealy Lewisville, TX 75057-3136
Authorized By:	 Tom Tidwell, Wireless Group Manager
Date:	12/13/01
Total Number of Pages:	49

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Section 1. Summary of Test Results

Manufacturer: Allen Telecom

Model No.: MR803P-TR

Serial No.: 13

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

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".

Summary Of Test Data

NAME OF TEST	PARA. NO.	SPEC.	RESULT
RF Power Output	90.205		
Audio Frequency Response	TIA EIA-603.3.2.6	N/A	N/A
Audio Low-Pass Filter Response	TIA EIA-603.3.2.6	N/A	N/A
Modulation Limiting	TIA EIA-603.3.2.6	N/A	N/A
Occupied Bandwidth	90.210	Plots	Complies
Spurious Emissions at Antenna Terminals	90.210	-13 dBm	Complies
Field Strength of Spurious Emissions	90.210	-13 dBm	Complies
Frequency Stability	90.213	N/A	N/A
Transient Frequency Behavior	90.214	N/A	N/A

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.
(3) The EUT is an F1-F1 repeater

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Section 2. General Equipment Specification

Transmitter

Supply Voltage Input:		115 Vac
Frequency Range:	**Uplink**	806-824 MHz
	Downlink	851-869 MHz
Tunable Bands:		15 MHz
20 dB Passband:		

Type(s) of Modulation:

F3E (Voice)	**F1D**	**F2D**	**D7W (QAM)**	**Other**
☒	☐	☐	☒	☐

Gain:	70 dB
Output Impedance:	50 ohms
RF Power Output (rated): **Single:**	34 dBm
Channel Spacing(s):	12.5 kHz
Operator Selection of Operating Frequency:	Software
Power Output Adjustment Capability:	Software

Frequency Translation:

F1-F1	**F1-F2**	**N/A**
☒	☐	☐

Band Selection:

Software	**Duplexer Change**	**Fullband Coverage**
☒	☐	☐

Description of Modifications For Class II Permissive Change

Not Applicable

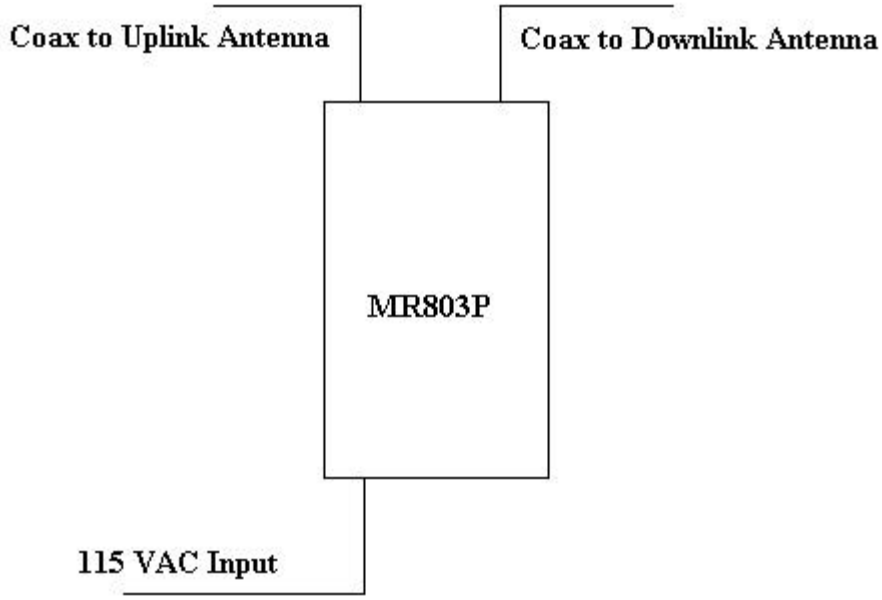
Modifications Made During Testing

Not Applicable

Theory of Operation

The repeater MRx03P is a band selective amplifier which bi-directionally amplifies signals between a base transceiver station and mobile stations in the corresponding network. It can provide highly selective amplification, thus enabling radio coverage in regions where satisfactory quality of communication is disabled.

System Diagram



Section 3. RF Power Output

NAME OF TEST: RF Power Output	PARA. NO.: 2.985
TESTED BY: David Light	DATE: 7/25/01

Test Results: Complies.

Measurement Data:

Downlink

Frequency (MHz)	Modulation	Measured Power (dBm)	Rated Power (dBm)	Measured/Rated (dB)
851.6	IDEN	33.4	34	0.98/1
861.6	IDEN	34.0	34	1/1
868.6	IDEN	33.3	34	0.98/1
851.6	Voice	34.0	34	1/1
861.6	Voice	34.5	34	1/1
868.6	Voice	34.3	34	1/1

Uplink

Frequency (MHz)	Modulation	Measured Power (dBm)	Rated Power (dBm)	Measured/Rated (dB)
806.6	IDEN	33.7	34	0.99/1
816.6	IDEN	34.1	34	1/1
823.6	IDEN	34.1	34	1/1
851.6	Voice	34.3	34	1/1
861.6	Voice	34.6	34	1/1
868.6	Voice	34.0	34	1/1

Section 4. Occupied Bandwidth

NAME OF TEST: Occupied Bandwidth	PARA. NO.: 2.989
TESTED BY: Chinda Poy	DATE: 7/11/01

Test Results: Complies.

Test Data: See attached graph(s).

Test Data – Occupied Bandwidth

Nemko Dallas, Inc.

Dallas Headquarters:
802 N. Kealy
Lewisville, TX 75057
Tel: (972) 436-9600
Fax: (972) 436-2667

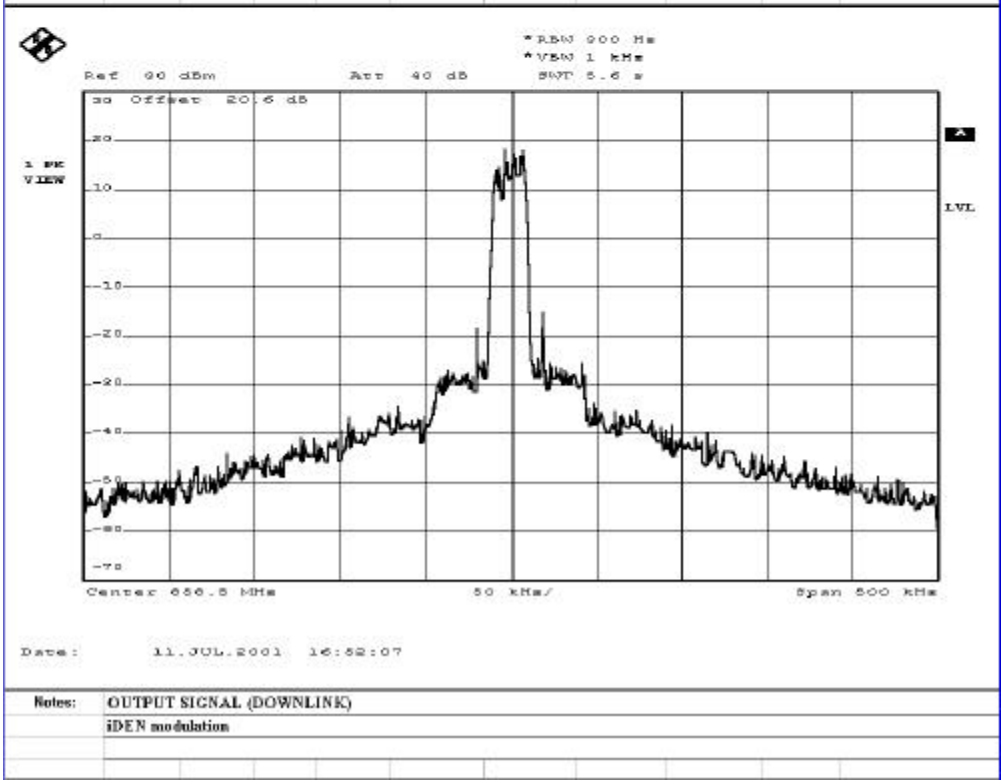
Data Plot OCCUPIED BANDWIDTH / iDEN

Page 1 of 4			Complete X
Job No.:	1L0016R	Date: 7/11/01	Preliminary
Specification:	Part 90	Temperature(°C): 25	
Tested By:	Chindo Poy	Relative Humidity(%): 50	
E.U.T.:	MR803P-TR		
Configuration:	TX FULL POWER		
Sample Number:	S01		
Location:	Lab 1	RBW: Refer to plots	
Detector Type:	Peak	VBW: Refer to plots	

Test Equipment Used

Antenna:		Directional Coupler:	
Pre-Amp:		Cable #1: 1082	
Filter:		Cable #2:	
Receiver:	86329	Cable #3:	
Attenuator #1:	16D+	Cable #4:	
Attenuator #2:		Mixer:	

Additional equipment used:
Measurement Uncertainty: +/-3.6 dB



Notes:	OUTPUT SIGNAL (DOWNLINK)
	iDEN modulation

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Data Plot **OCCUPIED BANDWIDTH / iDEN**

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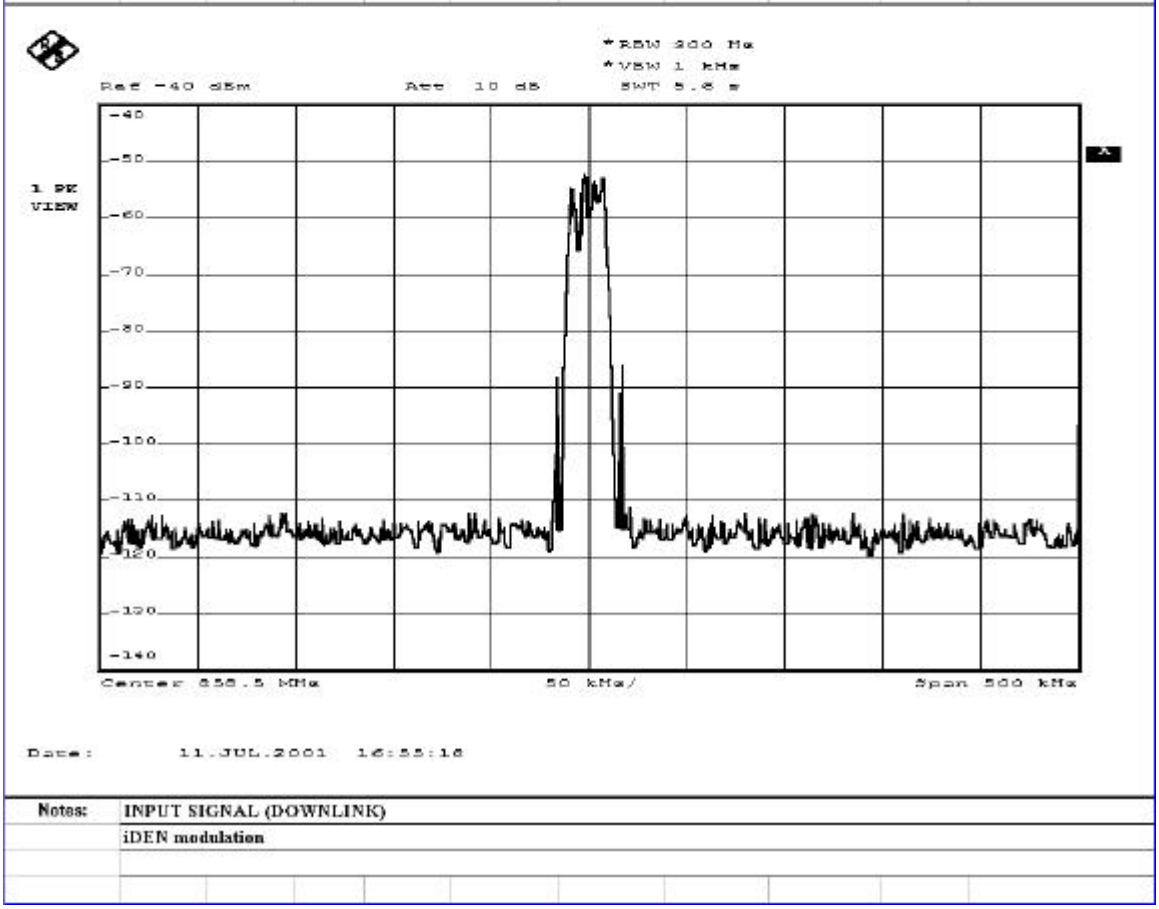
Job No.:	1L0016R	Date:	7/11/01
Specification:	Part 90	Temperature(°C):	25
Tested By:	Chinda Puy	Relative Humidity(%):	50
E.U.T.:	MR803P-TR		
Configuration:	TX FULL POWER		



Notes:	INPUT SIGNAL (DOWNLINK)
	iDEN modulation

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Data Plot OCCUPIED BANDWIDTH / iDEN

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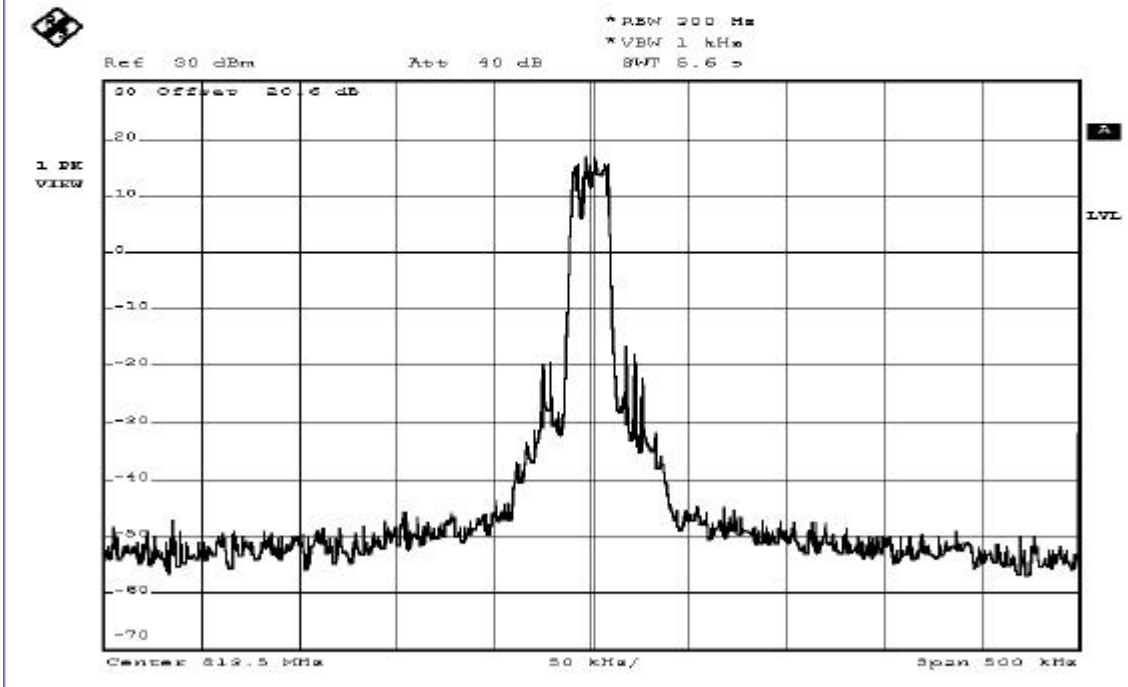
Job No.:	1L0016R	Date:	7/11/01
Specification:	Part 90	Temperature(°C):	25
Tested By:	Chinda Poy	Relative Humidity(%):	50
E.U.T.:	MR803P-TR		
Configuration:	TX FULL POWER		



Notes:	OUTPUT SIGNAL (UPLINK)
	iDEN modulation

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Test Plot: OCCUPIED BANDWIDTH / iDEN

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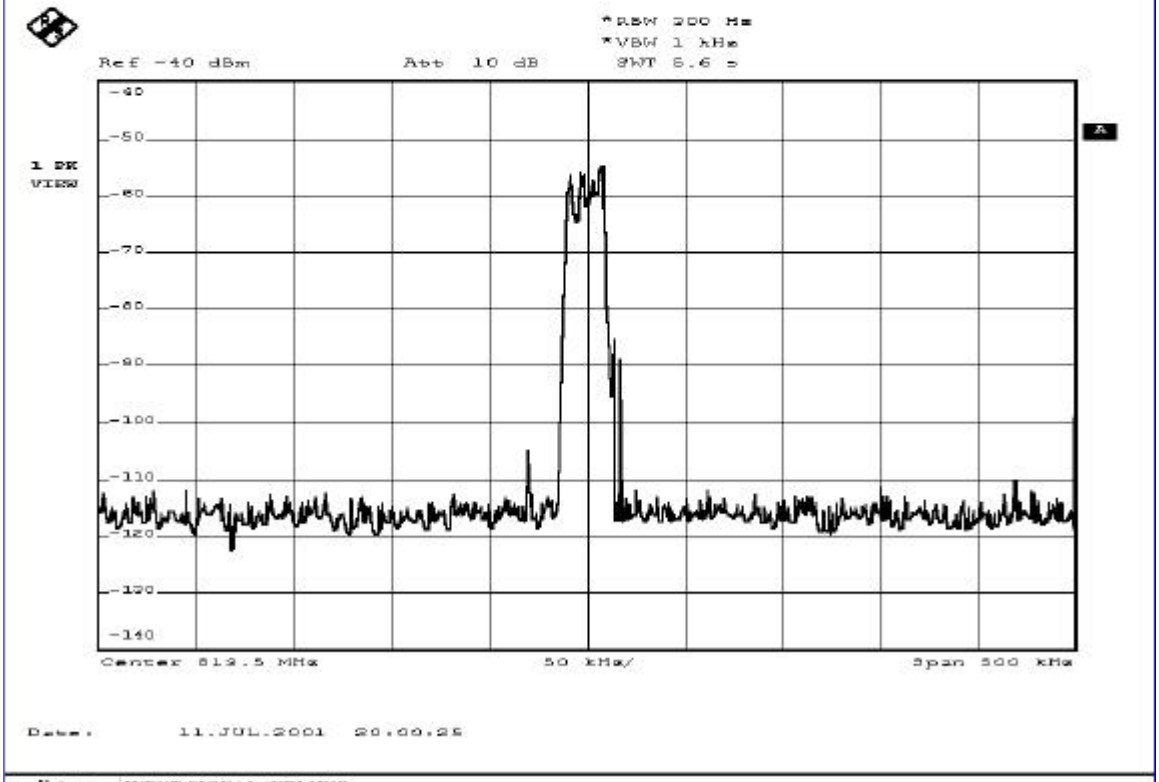
Job No.:	1L0016R	Date:	7/11/01
Specification:	Part 90	Temperature(°C):	25
Tested By:	Chinda Poy	Relative Humidity(%):	50
E.U.T.:	MR803P-TR		
Configuration:	TX FULL POWER		



Notes:	INPUT SIGNAL (UPLINK)
	iDEN modulation

Test Data – Occupied Bandwidth

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Data Plot OCCUPIED BANDWIDTH / VOICE

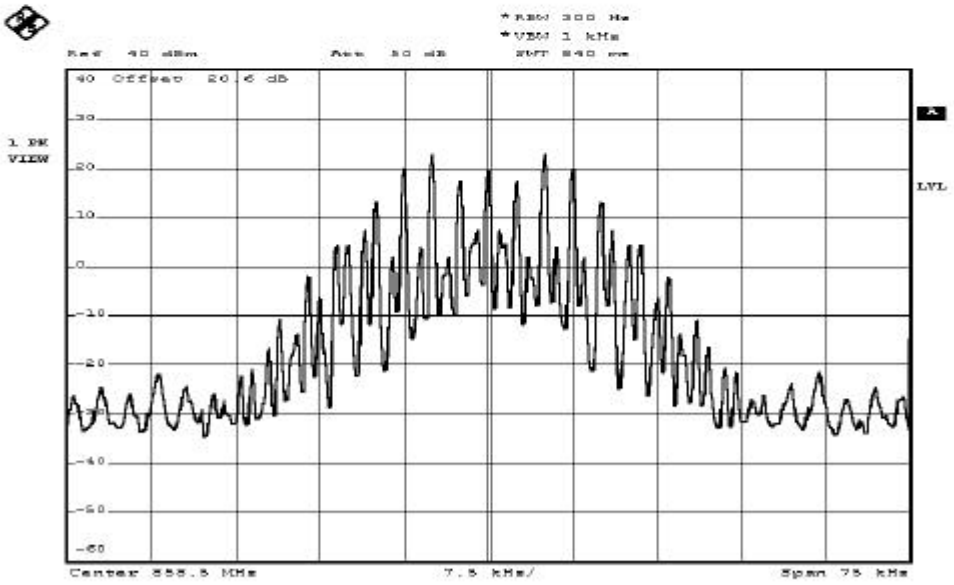
Page 1 of 4			Complete: X
Job No.: 1L0016R		Date: 7/11/01	Preliminary:
Specification: Part 90		Temperature(°C): 25	
Tested By: Chinda Poy		Relative Humidity(%): 50	
E.U.T.: MR803P-TR			
Configuration: TX FULL POWER			
Sample Number:			
Location: Lab 1		RBW: Refer to plots	
Detector Type: Peak		VBW: Refer to plots	

Test Equipment Used

Antenna:		Directional Coupler:	
Pre-Amp:		Cable #1: 1062	
Filter:		Cable #2:	
Receiver: 36329		Cable #3:	
Attenuator #1: 1604		Cable #4:	
Attenuator #2:		Mixer:	

Additional equipment used:

Measurement Uncertainty: +/-3.6 dB



Notes:	OUTPUT SIGNAL (DOWNLINK)
	Voice modulation

Test Data – Occupied Bandwidth

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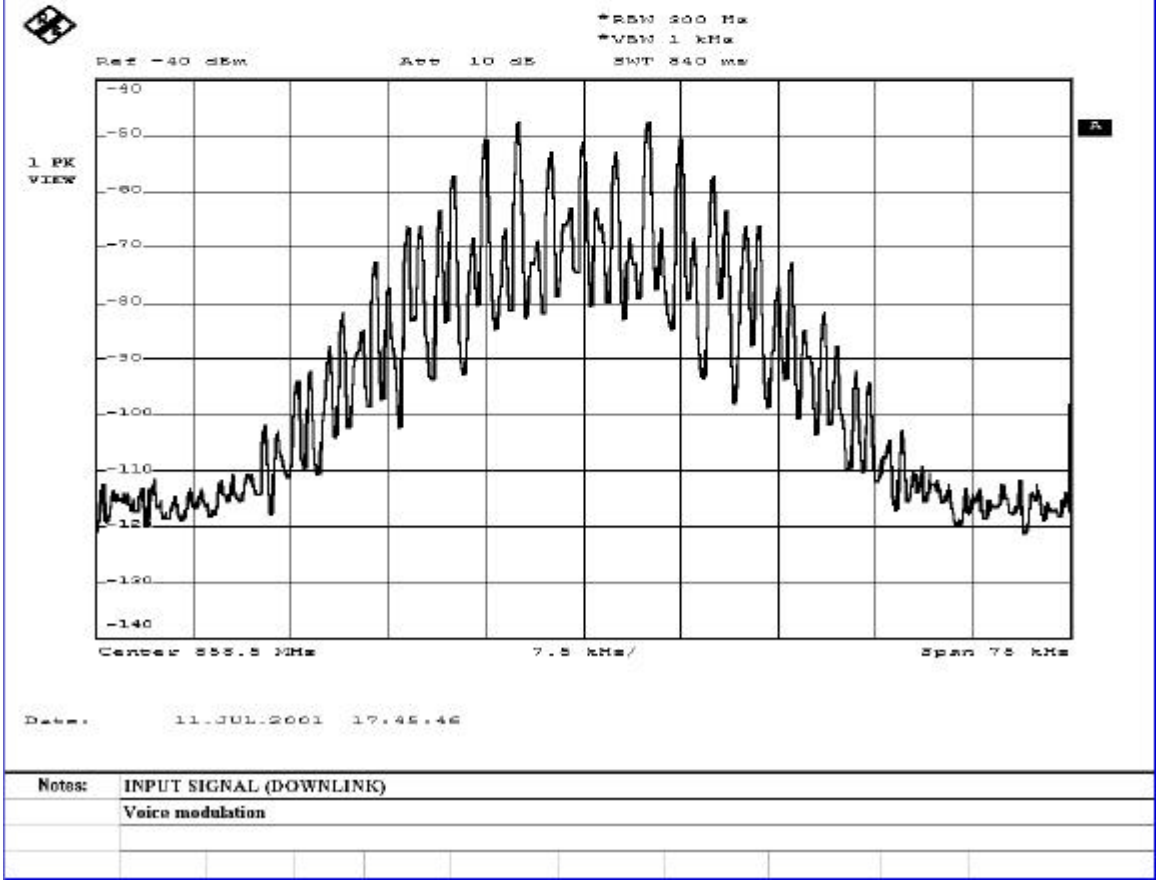
Data Plot OCCUPIED BANDWIDTH / VOICE

Page 2 of 4

Job No.:	1L0016R	Date:	7/11/01
Specification:	Part 90	Temperature(°C):	25
Tested By:	Chinda Poy	Relative Humidity(%):	50
E.U.T.:	MR803P-TR		
Configuration:	TX FULL POWER		



Notes:	INPUT SIGNAL (DOWNLINK)
	Voice modulation

Test Data – Occupied Bandwidth

Voice modulation

Nemko

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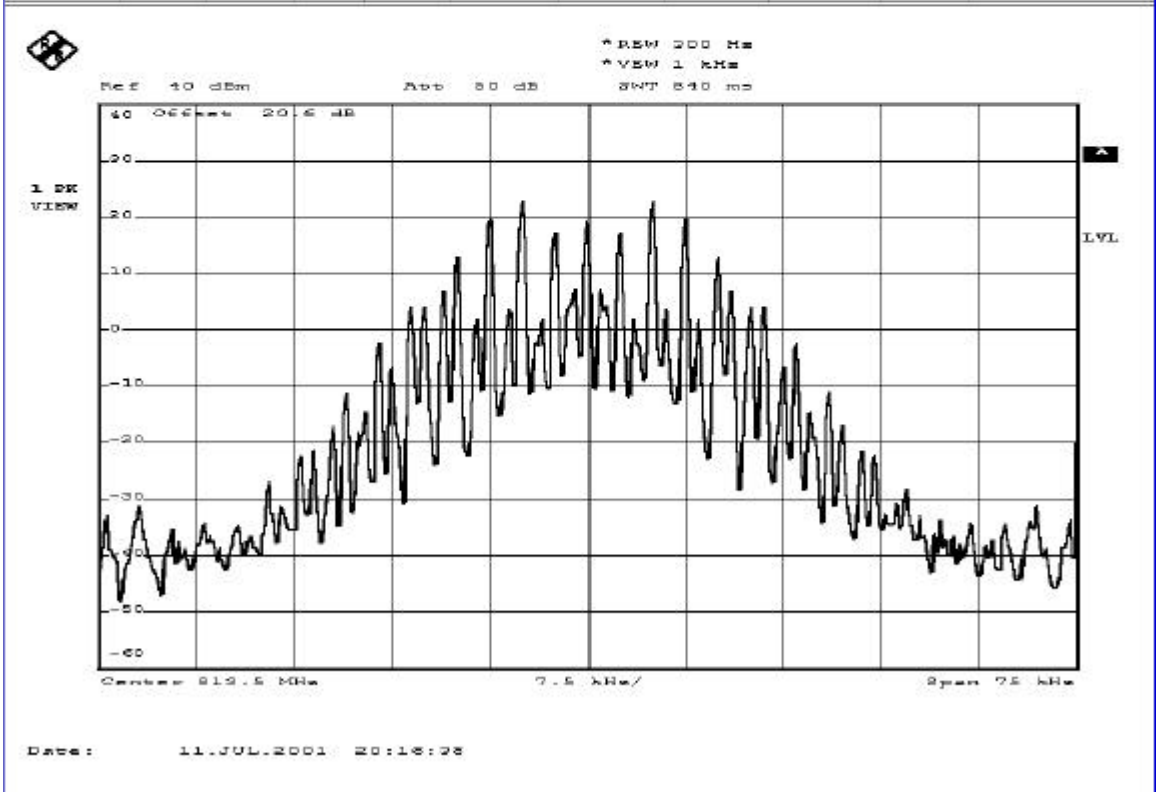
Data Plot OCCUPIED BANDWIDTH / VOICE

Page 3 of 4

Job No.:	1L0016R	Date:	7/11/01
Specification:	Part 90	Temperature(°C):	23
Tested By:	Chinda Poy	Relative Humidity(%):	50
E.U.T.:	MR803P-TR		
Configuration:	TX FULL POWER		



Notes: OUTPUT SIGNAL (UPLINK)
Voice modulation

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Test Plot: OCCUPIED BANDWIDTH / VOICE

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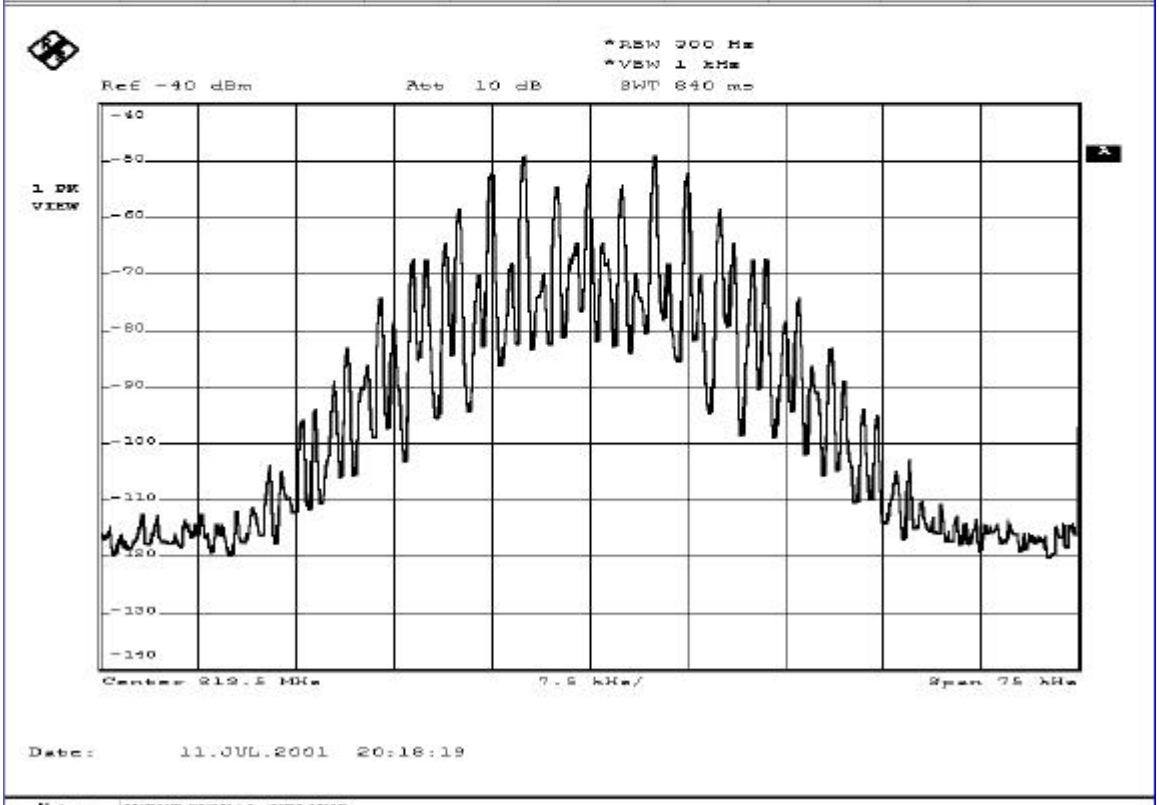
Job No.:	1L0016R	Date:	7/11/01
Specification:	Part 90	Temperature(°C):	25
Tested By:	Chinda Poy	Relative Humidity(%):	50
E.U.T.:	MR803P-TR		
Configuration:	TX FULL POWER		



Notes:	INPUT SIGNAL (UPLINK)
	Voice modulation