

**Application for Certification
For an RF amplifier**

**Janizary Holdings Inc.
5380 Sterling Center Drive
Westlake Village, CA 91361**

RF amplifier

FCC ID: RFK-CBAHP800

REPORT # RV58129A-002

This report was prepared in accordance with the requirements of the FCC Rules and Regulations Part 2, Subpart J, 2.1031 through 2.1057, and Part 22 and in accordance with Industry Canada Radio Standards Specification RSS-131 for Zone Enhancers and any other applicable sections of the rules as indicated herein.

Prepared By:

**DNB Engineering, Inc.
5969 Robinson Avenue
Riverside, Ca 92503-8620**

Industry Canada Lab Code: IC 4738

6 Jan 2006

TEST LAB PERSONNEL

Test Performed by:	Date	Signature
Thomas Elders	17 May 2005	<i>Thomas Elders</i>

APPROVAL

Management Approval	Date	Signature
Les Payne Sr. Engineering Manager	17 May 2005	<i>Les Payne JF</i>

REVISION APPROVAL

Management Approval	Date	Signature
Les Payne Sr. Engineering Manager	6 Jan 2006	<i>Les Payne JF</i>

Original report RV58129A-001
 Revised Report RV58129A-002

Dated 17 May 2005
 Dated 6 Jan 2006

TABLE OF CONTENTS

Title

Section
Sheet #

	Test Lab Personnel and Approvals	2
	Table of Contents	3
	Table of Figures	4
1.0	ADMINISTRATIVE DATA	5
1.1	Certifications and Qualifications	5
1.2	Measurements and Repeatability Information	5
1.3	Test Methodology	6
1.4	Test Equipment	6
1.5	Deviations	6
1.6	Test Description	7
Note:		
Paragraph numbers in this report follow the application section numbers found in the FEDERAL COMMUNICATIONS COMMISSION Rules and Regulations, Part 2, Subpart J for Certification of electronic equipment.		
2.1033 (C) (1)	Application for Certification	8
2.1033 (C) (2)	FCC Identifier	9
2.1033 (C) (3)	Installation and Operating Instructions (Service manual)	9
2.1033 (C) (4)	Type of Emissions	9
2.1033 (C) (5)	Frequency Range	9
2.1033 (C) (6)	Operating Power	9
2.1033 (C) (7)	Maximum Power Allowed in Applicable part(s) of the Rules	9
2.1033 (C) (8)	Final RF amplifier Input Power Characteristics	9
2.1033 (C) (9)	Tune Up Procedure	9
2.1033 (C) (10)	Schematic Diagram and Circuit Description	10
2.1033 (C) (11)	Equipment Identification Plate	10
2.1033 (C) (12)	Equipment Photographs (Internal)	10
2.1033 (C) (12)	Equipment Photographs (External)	10
2.1033 (C) (13)	Digital Modulation Techniques	10
2.1033 (C) (14)	Test Data	10
	Test Set-Up	11-12
2.1046 (RSS-131 cl4.3)	Measurement of RF Power Output	13-19
2.1049 (RSS-131 cl4.4)	Measurement of Occupied Bandwidth	20-40
2.1051 (RSS-131 cl4.5)	Spurious Emissions at Antenna Terminals	41-77
2.1053	Measurement of Field Strength of Spurious Radiation	78-84
	Conducted Emissions	85-87
	Radiated Emissions	88-89
2.1055 (RSS-131 cl4.5)	Measurement of Frequency Stability	90
2.1057	Frequency Spectrum to be Investigated	91
	RF Exposure	92-93
	Appendix A Photographs	94-98

TABLE OF FIGURES

Figure 1 : Test Equipment	6
Figure 2 : Test Result Summary	10
Figure 3 : Test Set Up Block Diagram	12
Figure 4 : Block Diagram Radiated Emissions	12
Figure 5 : Output Power Plots	14
Figure 6 : Occupied Bandwidth / Modulation Characteristic Plots	21
Figure 7 : Antenna Conducted Spurious Plots	42
Figure 8 : Radiated Spurious Tabular Data	79
Figure 9 : Unintentional Conducted Emissions	86
Figure 10 : Unintentional Radiated Emissions	89
Appendix A : Photos	95

1.0 ADMINISTRATIVE DATA

1.1 Certifications and Qualifications

I certify that DNB Engineering, Inc conducted the tests performed in order to obtain the technical data presented in this application. Also, based on the results of the enclosed data, I have concluded that the equipment tested meets or exceeds the requirements of the Rules and Regulations governing this application.

1.2 Measurement Repeatability Information

The test data presented in this report has been acquired using the guidelines set forth in FCC Part 2.1031 through 2.1057, and Part 22, also included in this report is compliancy data for Industry Canada RS-131 for Zone Enhancers. The test results presented in this document are valid only for the equipment identified herein under the test conditions described. Repeatability of these test results will only be achieved with identical measurement conditions. These conditions include: The same test distance, EUT Height, Measurement Site Characteristics, and the same EUT System Components. The system must have the same Interconnecting Cables arranged in identical placement to that in the test set-up, with the system and/or EUT functioning in the identical mode of operation (i.e. software and so on) as on the date of the test. Any deviation from the test conditions and the environment on the date of the test may result in measurement repeatability difficulties.

All changes made to the EUT during the course of testing as identified in this test report must be incorporated into the EUT or identical models to ensure compliance with the FCC regulations.



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1.3 Test Methodology

The tests were performed in accordance with FCC Part 2 Subpart J, 2.1031 through 2.1057, 15, and 22, Industry Canada RSS-131 on a sample of the production model.

1.4 Test Equipment

FIGURE 1: TEST EQUIPMENT

Description	Manufacturer	M/N	S/N	Cal Date	Test Used On
Signal Generator	Agilent	E4432B	GB40051213	09/24/05	RF Power Out put, Emissions Lim, Cond Spur, Rad Spur, CE
Signal Generator	Marconi	2024	112231/034	02/02/05	RF Power Out put, Emissions Lim, Cond Spur, Rad Spur, CE
Spec Analyzer Display	H/P	85662A	259101-1	01/10/06	RF Power Out put, Emissions Lim, Cond Spur, Rad Spur, CE
Spectrum Analyzer	H/P	8566B	259101-2	01/10/06	RF Power Out put, Emissions Lim, Cond Spur, Rad Spur, CE
Spec Analyzer Display	H/P	85662A	2318A05282	8/14/05	RE
Spectrum Analyzer	H/P	85680B	2049A01403	6/2/05	RE
Quasi-Peak Adapter	H/P	85650A	2043A00184	6/2/05	RE
Bicon Antenna	H/P	85650A	2043A00184	6/2/05	RE
Log Antenna	AH Systems	SAS-200/540	524	12/26/05	RE
DRG Antenna	EMCO	3146	1284	1/2/06	RE
Spectrum Analyzer	Agilent	E4407B	MY45103462	9/9/05	RF Power/Bandwidth
Signal Generator	Rhode & Schwarz	SMU 200A	100094	6/9/05	RF Power/Bandwidth

1.5 DEVIATIONS

Deviations/Modifications to the EUT

None.

Deviations/Modifications from test standard.

None

1.6 TEST DESCRIPTION

1.6.1 RF Power Output

For RF amplifier.

1.6.2 Emissions Limitation and Occupied Bandwidth

Occupied Bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are equal to 0.5 percent of the total mean power radiated by a given emission. (also known as the 99% bandwidth)

1.6.3 Conducted Spurious Emissions at Antenna Terminals

Conducted Spurious Emissions are emissions at the antenna terminals on a frequency or frequencies which are outside an occupied band sufficient to ensure transmission of information of required quality for the class of communication desired. The reduction in the level of these spurious emissions will not affect the quality of the information being transmitted.

1.6.4 Radiated Field Strength of Spurious Emissions

Emissions from the equipment when connected into a non-radiating load on a frequency or frequencies which are outside an occupied band sufficient to ensure transmission of information of required quality for the class of communication desired. The reduction in the level of these spurious emissions will not affect the quality of the information being transmitted.

1.6.5 Conducted Emissions

Emissions which are conducted onto the AC power mains.

1.6.6 Radiated Emissions

Emissions which emanate from the EUT.

2.1033 (C) (1) Application for Certification

Name of Applicant: Janizary Holdings Inc.
5380 Sterling Center Drive
Westlake Village, CA 91361

FRN: 0009486226

Applicant is: Manufacturer
 Vendor
 Licensee
 Prospective Licensee
 Other

Name of Manufacturer Janizary Holdings Inc.

Description: Cellular RF amplifier

Part Number: CB-HP-800

Anticipated Production Quantity: Multiple Units

Applicable FCC Parts: 22

Applicable IC Standard: RSS-131

FCC ID No: RFK-CBAHP800

FCC Emissions Designator: 22H F8W
22H F1D
22H DXW
22H F9W

Frequency Range: Uplink 824.2-848.8 MHz
Downlink 869.2-893.8 MHz

Rated ERP: 4.932W (inclusive of antenna gain and cable loss)

2.1033 (C) (2) FCC Identifier

FCC ID: RFK-CBAHP800

2.1033 (C) (4) Type of Emission

824.2 – 848.8 MHz	22H	F8W
824.2 – 848.8 MHz	22H	F1D
824.8 – 848.3 MHz	22H	DXW
824.2 – 848.8 MHz	22H	F9W

2.1033 (C) (5) Frequency Range

Uplink	824.2 – 848.8 MHz	Downlink	869.2 – 893.8 MHz
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2.1033 (C) (6) Operating Power

Uplink	824.2 – 848.8 MHz	4.529W	(+ 36.6dBm)
Downlink	869.2 – 893.8 MHz	4.932W	(+ 36.9dBm)

2.1033 (C) (7) Maximum Power Allowed in Applicable Part(s) of the Rules

<u>RULES PART</u>	<u>MAXIMUM ERP (WATTS)</u>
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Part 22.913	7
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2.1033 (C) (8) Input Power Characteristics 2.8nW Maximum**2.1033 (C) (9) Tune Up Procedure** Customer will provide.

2.1033 (C) (10) Schematic Diagram and Circuit Description

Customer will provide.

2.1033 (C) (11) Equipment Identification Plate

Customer will provide.

2.1033 (C) (12) Equipment Photographs - Internal

Customer will provide.

2.1033 (C) (12) Equipment Photographs - External

Customer will provide.

2.1033 (C) (13) Digital Modulation Techniques

AMPS / CDMA / TDMA /GSM

2.1033 (c) (14) Test Data

See 2.1046-2.1053 and Radiated Emissions

FIGURE 2: TEST RESULT SUMMARY

NAME OF TEST	FCC PARA. NO.	Industry Canada No. (RSS-131)	RESULTS
RF Power Output	2.1046	RSS-131 Cl 4.3	Complies
Emissions Limitations: TDMA	2.1049	RSS-131 Cl 4.2	Complies
Emissions Limitations: GSM	2.1049	RSS-131 Cl 4.2	Complies
Occupied Bandwidth: TDMA/GSM	2.1049	RSS-131 Cl 4.2	Complies
Conducted Spurious Emissions at Antenna Terminals	2.1051	RSS-131 Cl4.4	Complies
Radiated Field Strength of Spurious Emissions	2.1053	RSS-131 Cl 4.4	Complies
Conducted Emissions	15 Class B	CIPSR 22 Class B	Complies
Radiated Emissions	15 Class B	CIPSR 22 Class B	Complies
Intermodulation		RSS-131 Cl 4.3 RSS-131 Cl 4.4	Complies

2.1033 (c) (14) Photograph of Test Set Up



2.1033 (c) (14)

FIGURE 3: TEST SET UP BLOCK DIAGRAM FOR RF POWER OUTPUT, EMISSIONS LIMITATIONS GSM/TDMA, OCCUPIED BANDWIDTH GSM/TDMA, CONDUCTED SPURIOUS EMISSIONS AT ANTENNA TERMINALS.

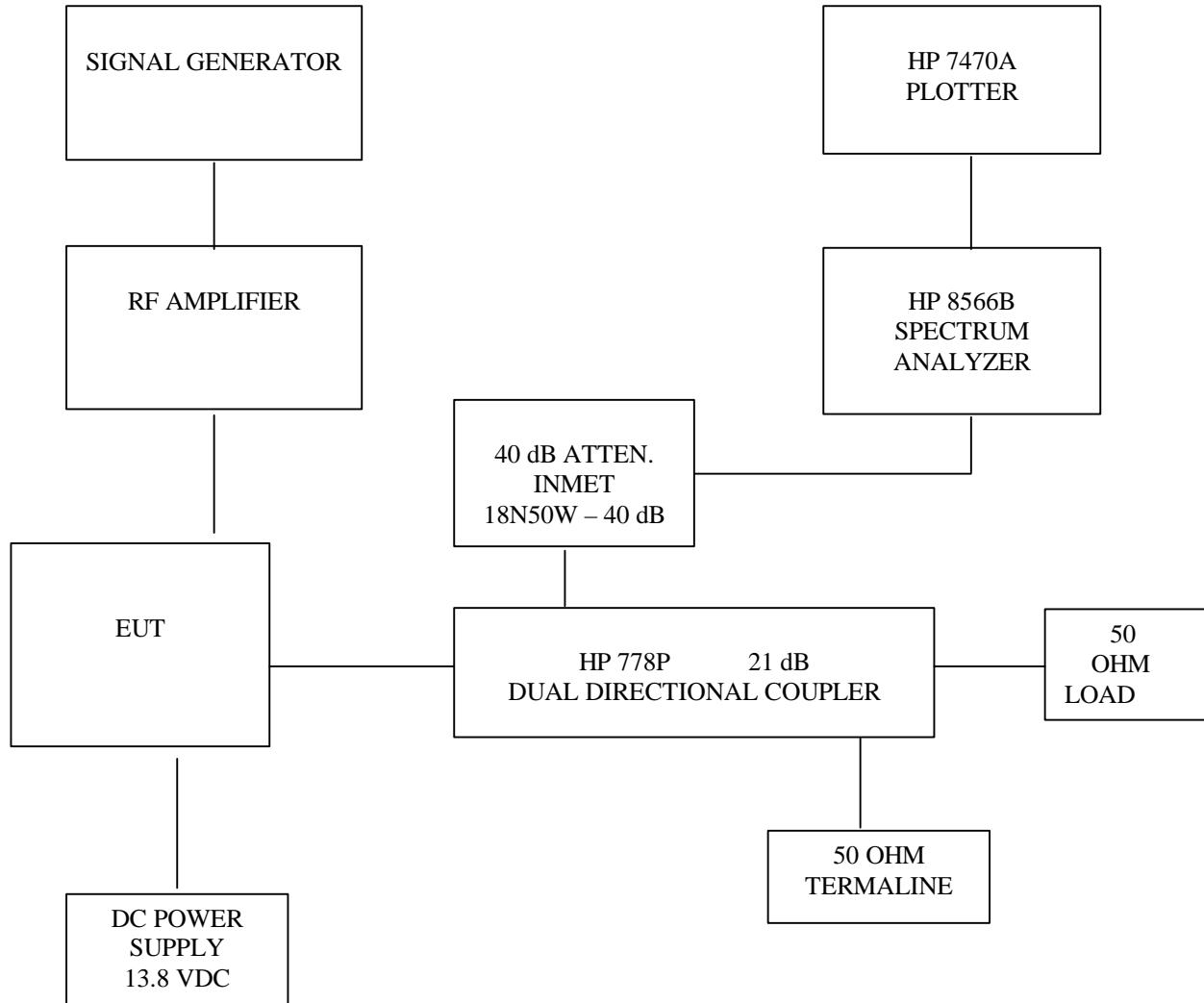
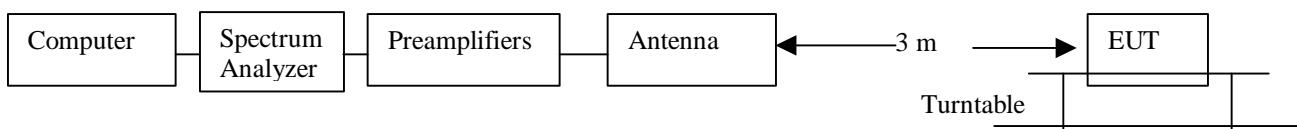


FIGURE 4: TEST SET UP BLOCK DIAGRAM FOR RADIATED EMISSIONS



2.1046

Measurement of RF Power Output (IC RSS-131 CI 4.3)Definition: For RF amplifierTest Method: See FIGURE 1.

Output Power is measured across a precision 50 ohm load with a Spectrum Analyzer. For the power measurement, CW (no modulation) is used. CW signal provided maximum emissions signature for all modulation types.

Test Results:

ERP is calculated using the following:

Antenna Gain = 15dBi

Cable Loss = 1.13

GF = Gain Factor = 13.87dBi (Antenna Gain – Minimum Cable Loss =Gain Factor)

P = Power in dBm

ERP in mW = _{Antilog} ((P+GF)/10)**Uplink**

Freq (MHz)	Power (dBm)	Power (W)	Gain (dB)	GF (dBi)	ERP (W)
824.2	21.00	.126	51.73	13.87	3.069
836.5	22.69	.186	53.08	13.87	4.529
848.8	20.98	.125	52.05	13.87	3.055

Downlink

Freq (MHz)	Power (dBm)	Power (W)	Gain (dB)	GF (dBi)	ERP (W)
869.2	16.43	.044W	47.45	13.87	1.072
881.5	23.06	.202W	53.99	13.87	4.932
893.8	23.04	.201W	54.13	13.87	4.909

FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Output Power	
DNB Job Number:	58129	Date:	4 Jan 2006
Customer:	Janizary Holdings Inc	Conformance Standards	
Model Number:	CB-HP-800	Serial Number:	[X] IC RSS-131
Description:	RF amplifier		[X] FCC Part 22
	Uplink 824.2 MHz		

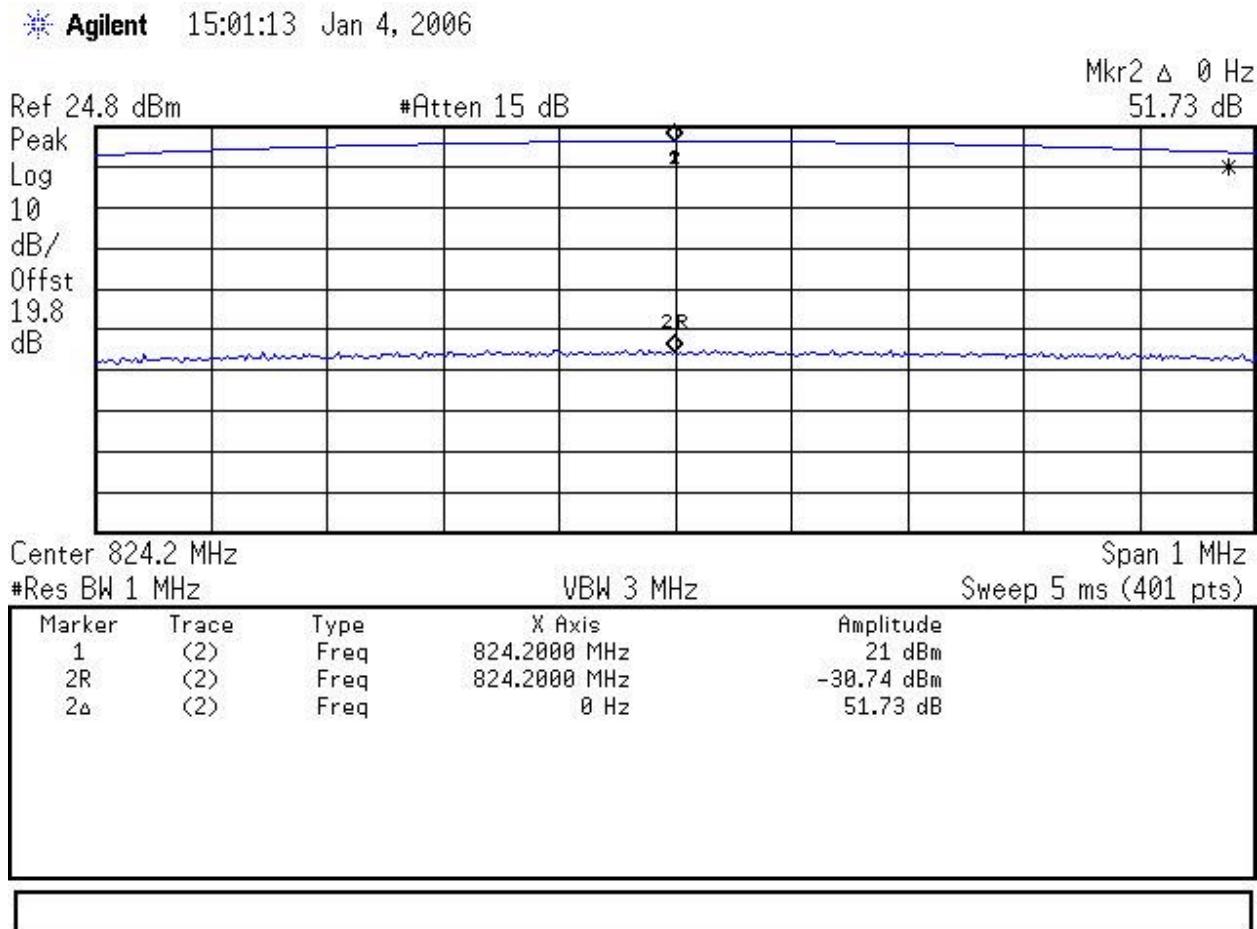


FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Output Power	
DNB Job Number:	58129	Date:	4 Jan 2006
Customer:	Janizary Holdings Inc		
Model Number:	CB-HP-800	Serial Number:	
Description:	RF amplifier		
	Uplink 836.5 MHz		

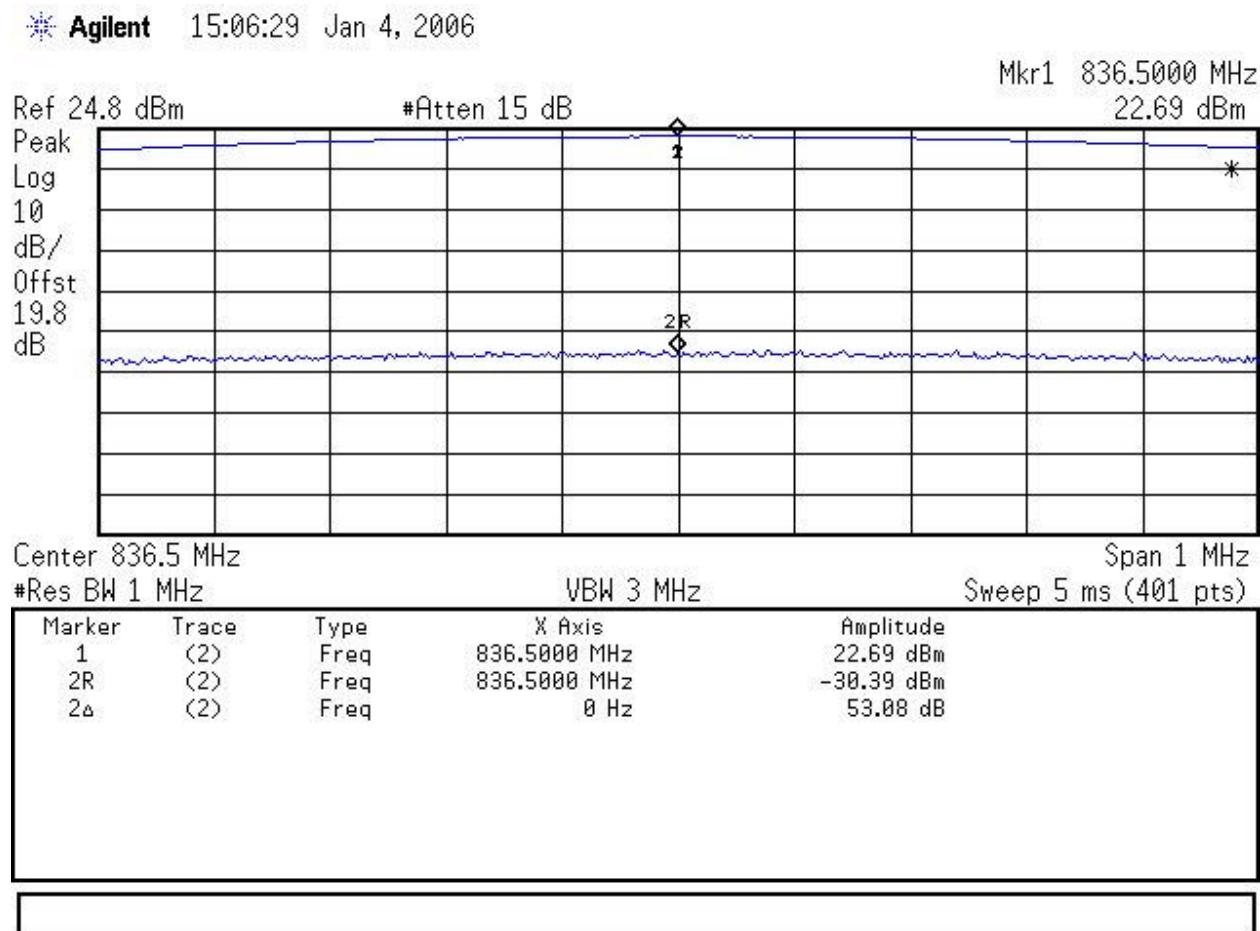


FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Output Power	
DNB Job Number:	58129	Date:	4 Jan 2006
Customer:	Janizary Holdings Inc	Conformance Standards	
Model Number:	CB-HP-800	Serial Number:	[X] IC RSS-131
Description:	RF amplifier		[X] FCC Part 22
	Uplink 848.8 MHz		

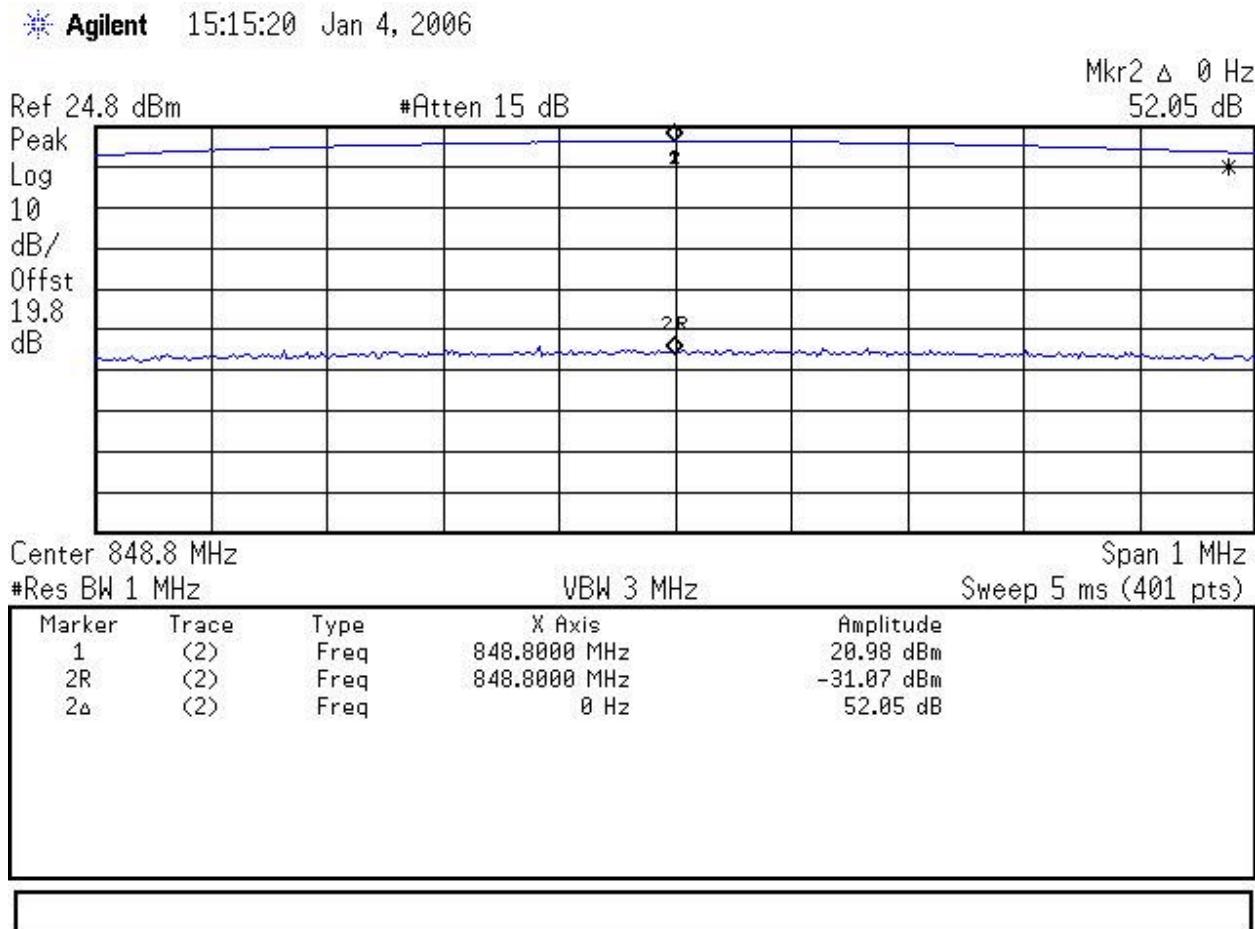


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Output Power	
DNB Job Number:	58129	Date:	4 Jan 2006
Customer:	Janizary Holdings Inc	Conformance Standards	
Model Number:	CB-HP-800	Serial Number:	[X] IC RSS-131
Description:	RF amplifier		[X] FCC Part 22
	Downlink 869.2 MHz		

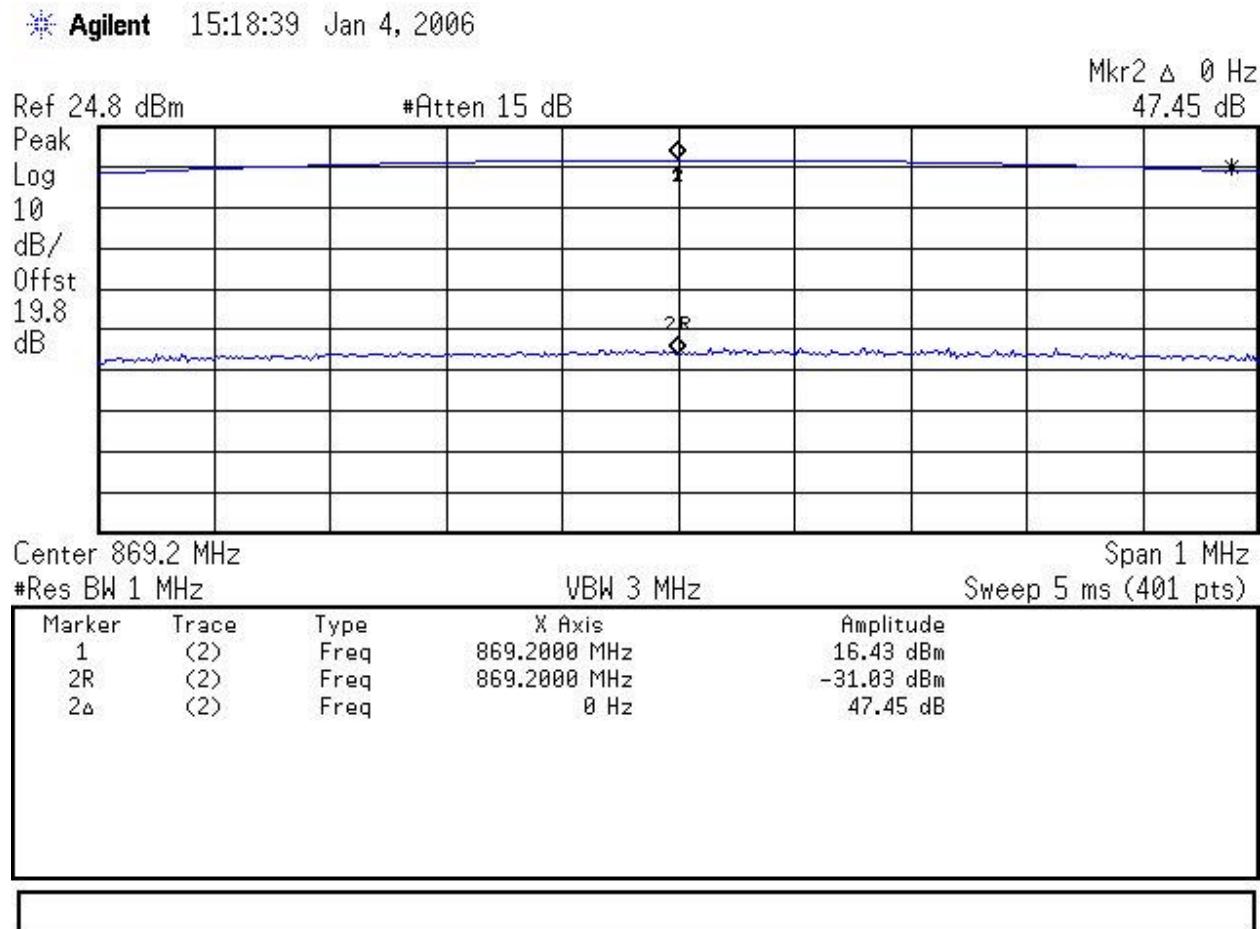


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Output Power	
DNB Job Number:	58129	Date:	4 Jan 2006
Customer:	Janizary Holdings Inc	Conformance Standards	
Model Number:	CB-HP-800	Serial Number:	[X] IC RSS-131
Description:	RF amplifier		[X] FCC Part 22
	Downlink 881.5 MHz		

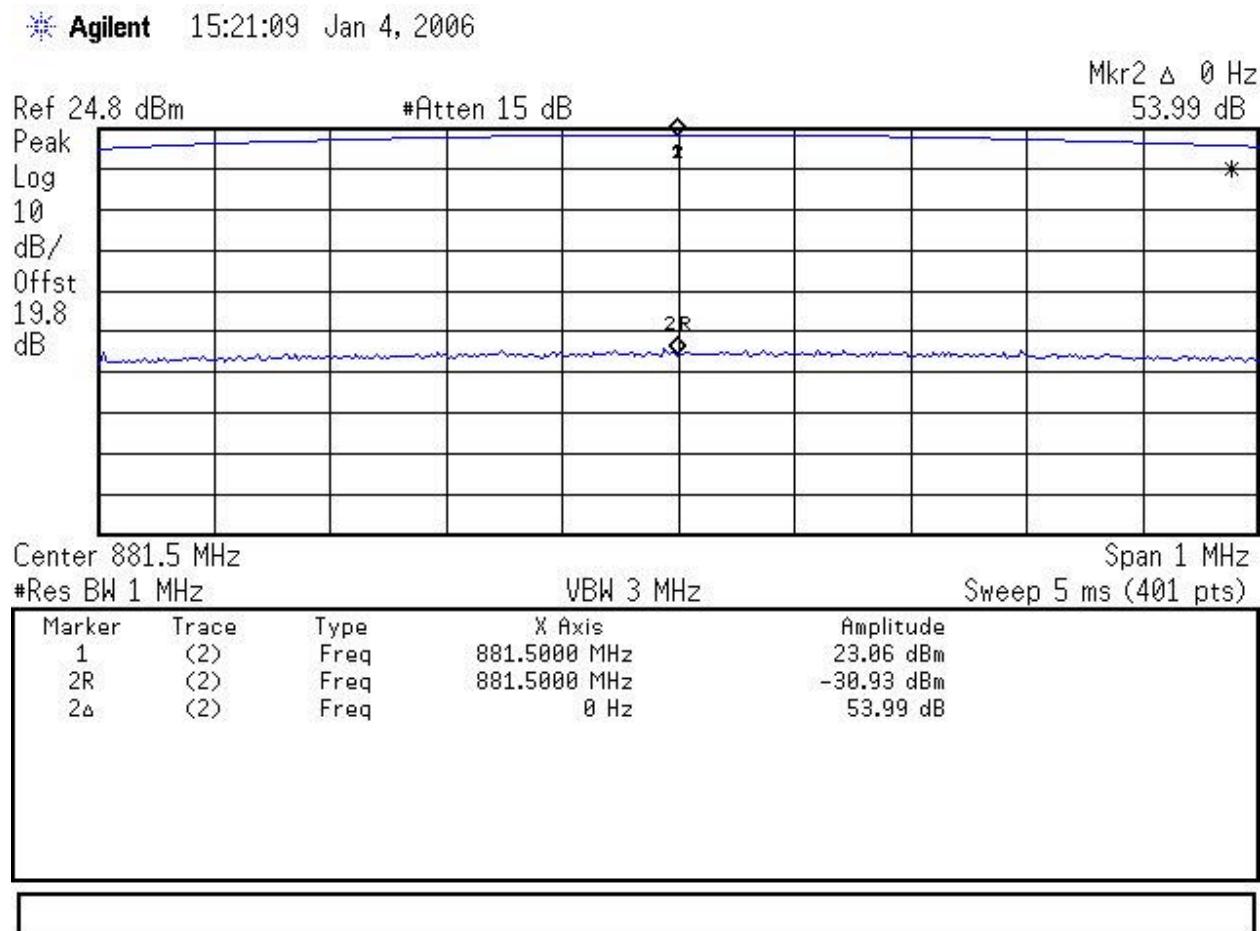
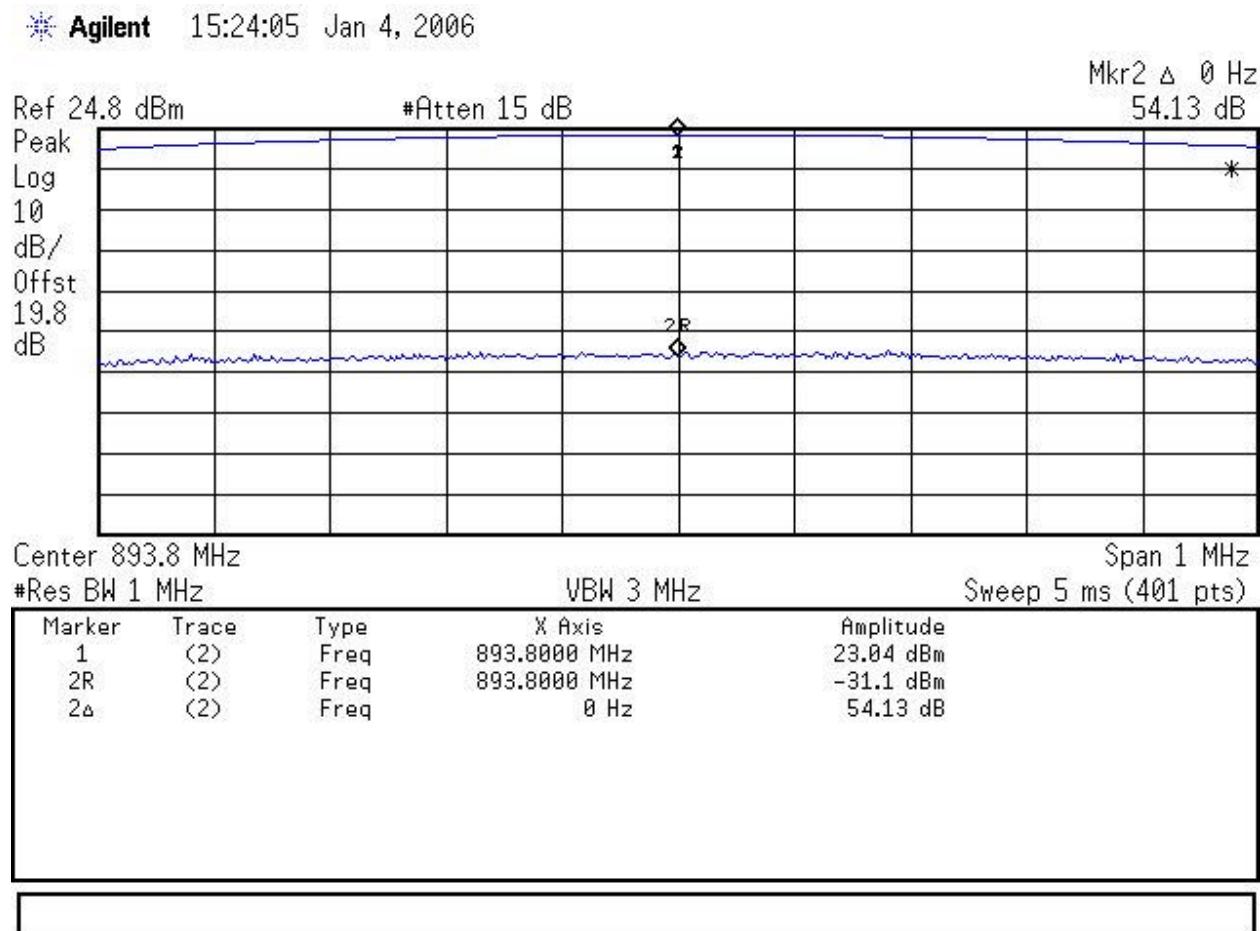


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Output Power	
DNB Job Number:	58129	Date:	4 Jan 2006
Customer:	Janizary Holdings Inc		
Model Number:	CB-HP-800	Serial Number:	
Description:	RF amplifier		
	Downlink 893.8 MHz		



2.1049 Measurement of Occupied Bandwidth (IC RSS-131 Clause 4.2)

Definition:

Occupied Bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are equal to 0.5 percent of the total mean power radiated by a given emission.

Test Method: Connect the Equipment per FIGURE 1.

Measurements were made while the driving source generated the following:

GSM Signal
TDMA Signal
CDMA Signal

Test Results: See Plots

The center frequency of the signal did not shift with modulation. The Spectrum Bandwidth was well within the limits specified in the FCC Regulations.

Inter-modulation test are required for both uplink and downlink.

Modulation characteristic plots are shown in this section.

FIGURE 6: OCCUPIED BANDWIDTH

	<p>5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704</p>	<h2>Modulation Characteristics</h2>
DNB Job Number:	58129	Date: 4 Jan 2006
Customer:	Janizary Holdings Inc	
Model Number:	CB-HP-800	Serial Number:
Description:	RF amplifier	
	GSM	
	Top trace = Output / Bottom trace = Input	
		Conformance Standards
<input checked="" type="checkbox"/> IC RSS-131		
	<input checked="" type="checkbox"/> FCC Part 22	

 Agilent 14:17:40 Jan 4, 2006

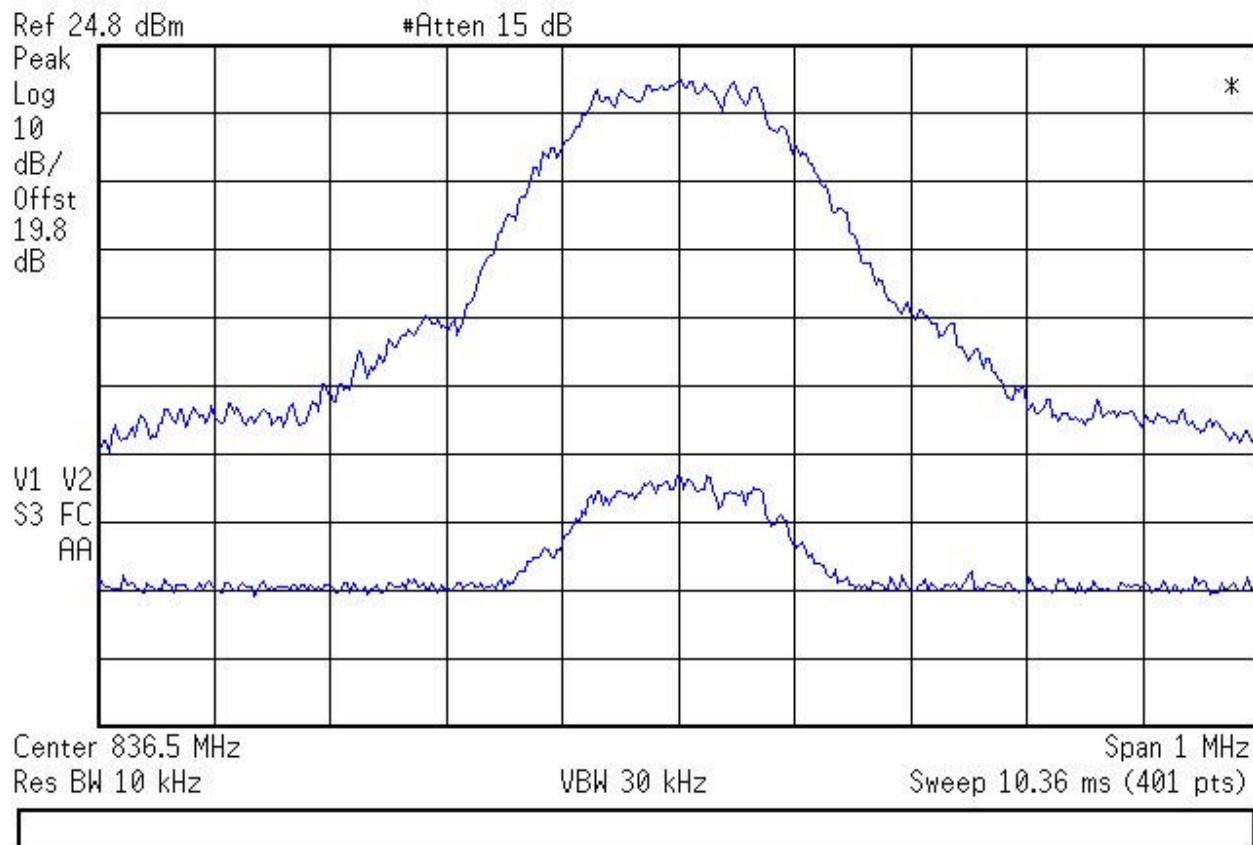


FIGURE 6: OCCUPIED BANDWIDTH

	<p>5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704</p>	<h2>Modulation Characteristics</h2>
DNB Job Number:	58129	Date: 4 Jan 2006
Customer:	Janizary Holdings Inc	
Model Number:	CB-HP-800	Serial Number:
Description:	RF amplifier	
	TDMA	
	Top trace = Output / Bottom trace = Input	
		Conformance Standards
		<input checked="" type="checkbox"/> IC RSS-131 <input checked="" type="checkbox"/> FCC Part 22

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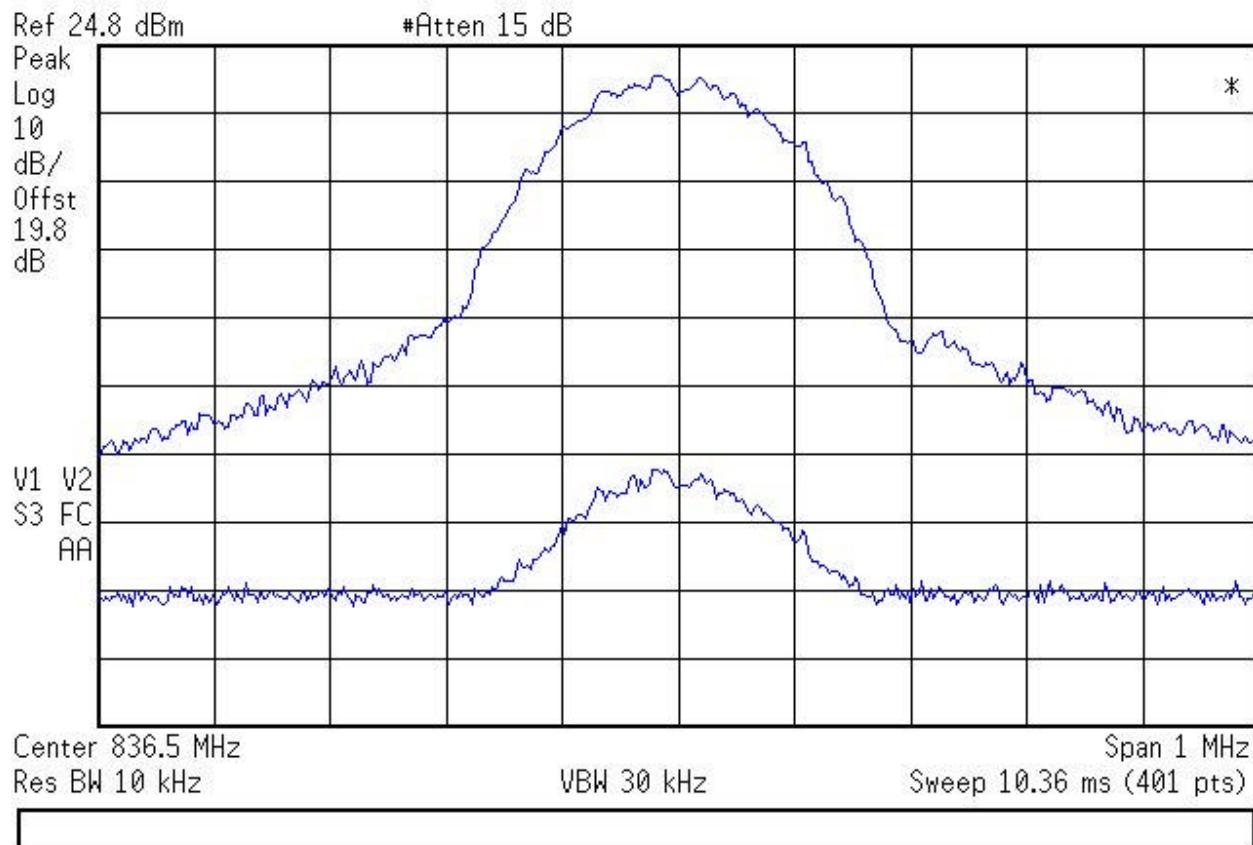


FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Modulation Characteristics
DNB Job Number:	58129	Date: 4 Jan 2006
Customer:	Janizary Holdings Inc	
Model Number:	CB-HP-800	Serial Number:
Description:	RF amplifier	
	CDMA	
	Top trace = Output / Bottom trace = Input	

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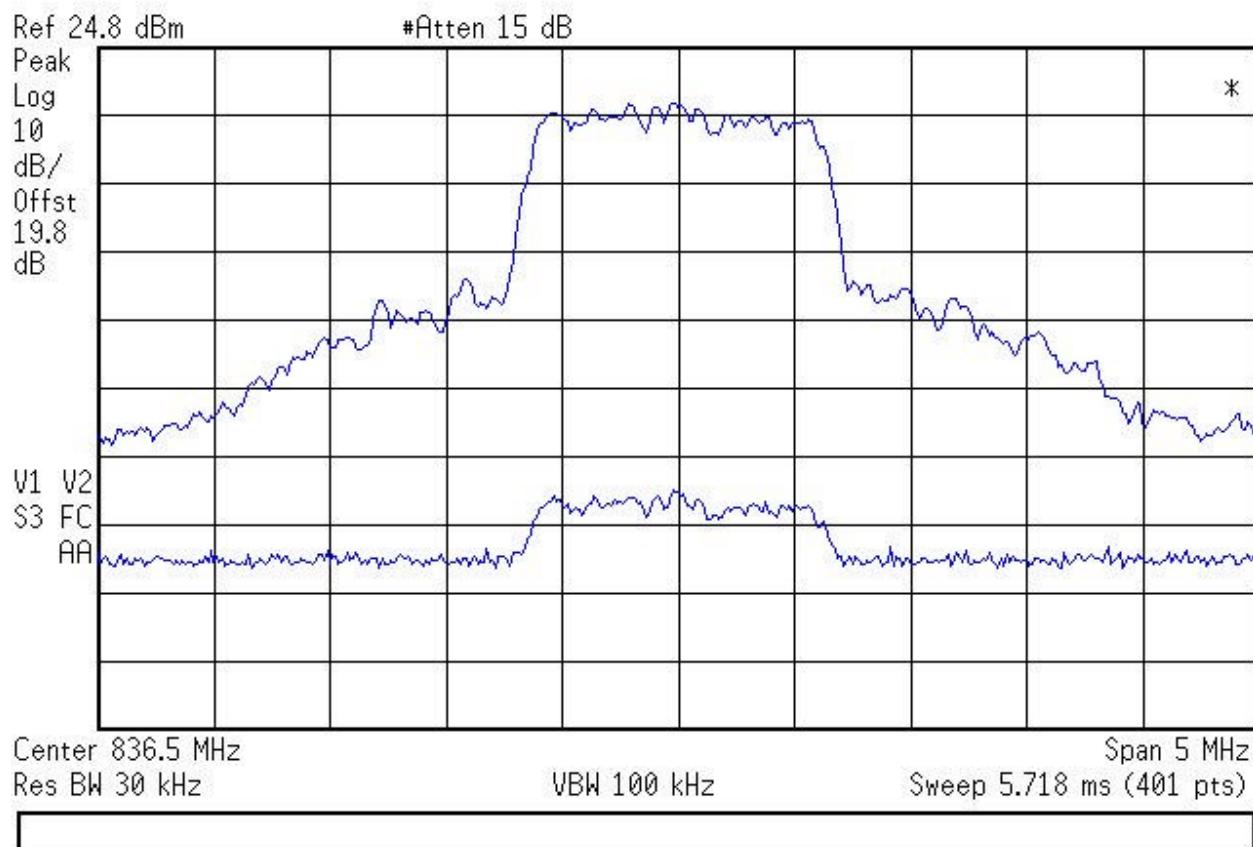


FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Occupied Bandwidth	
DNB Job Number:	58129	Date:	3 Jan 2006
Customer:	Janizary Holdings Inc		
Model Number:	CB-HP-800	Serial Number:	Conformance Standards <input checked="" type="checkbox"/> IC RSS-131 <input checked="" type="checkbox"/> FCC Part 22
Description:	RF amplifier		
	Uplink – GSM – Lo Channel – 824.2 MHz		
	Plots – Top = Input / Bottom = Output		

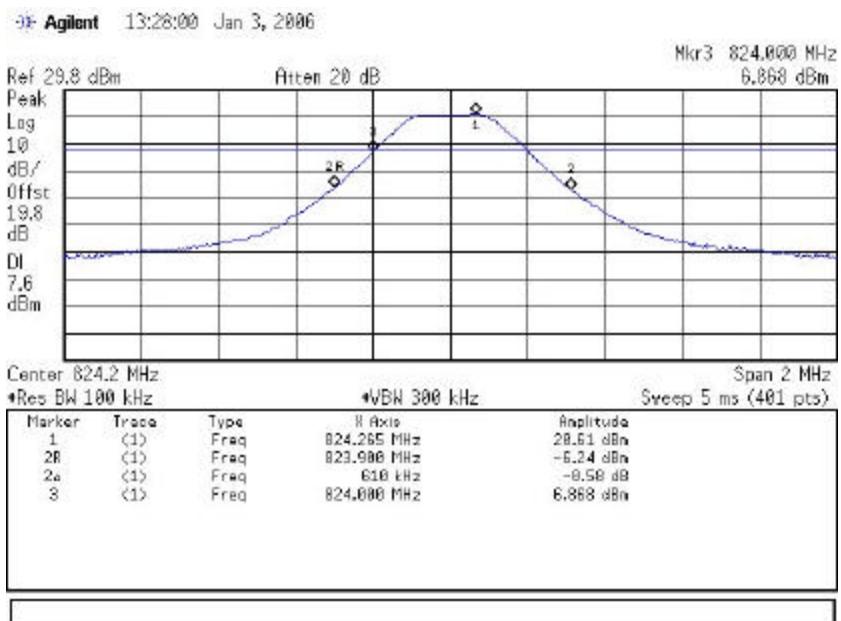
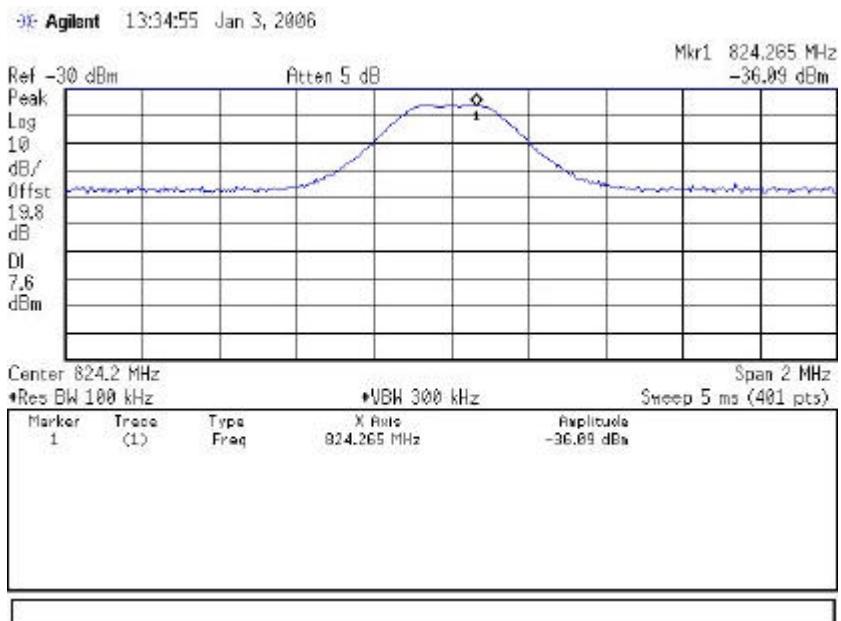


FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Occupied Bandwidth	
DNB Job Number:	58129	Date:	3 Jan 2006
Customer:	Janizary Holdings Inc		
Model Number:	CB-HP-800	Serial Number:	Conformance Standards <input checked="" type="checkbox"/> IC RSS-131 <input checked="" type="checkbox"/> FCC Part 22
Description:	RF amplifier		
	Uplink – GSM – Mid Channel – 836.5 MHz		
	Plots – Top = Input / Bottom = Output		

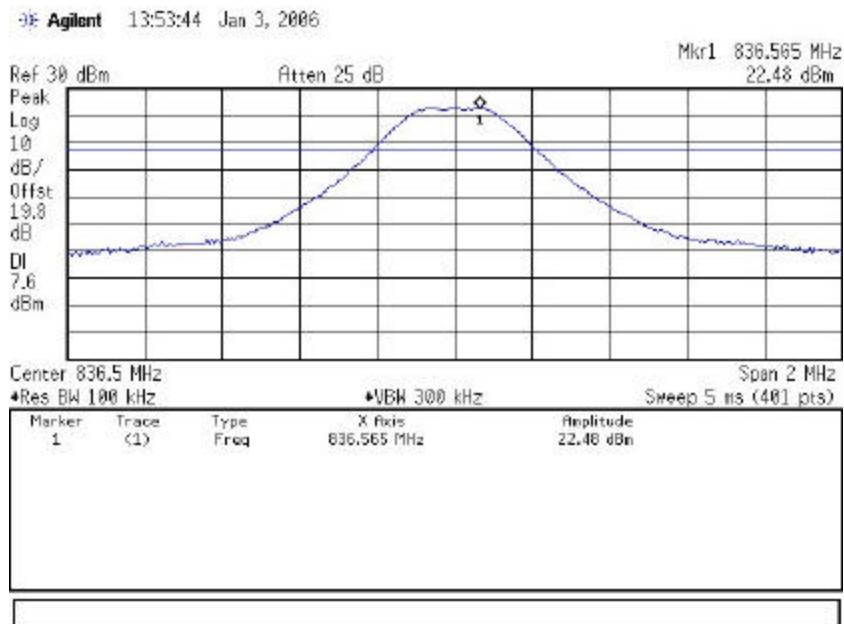
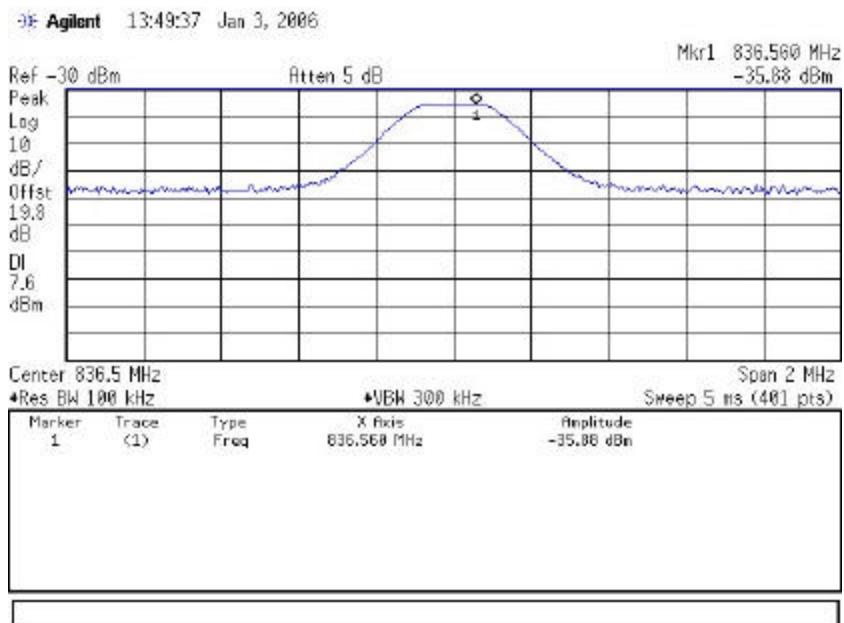


FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Occupied Bandwidth	
DNB Job Number:	58129	Date:	3 Jan 2006
Customer:	Janizary Holdings Inc		
Model Number:	CB-HP-800	Serial Number:	Conformance Standards <input checked="" type="checkbox"/> IC RSS-131 <input checked="" type="checkbox"/> FCC Part 22
Description:	RF amplifier		
	Uplink – GSM – Hi Channel – 848.8 MHz		
	Plots – Top = Input / Bottom = Output		

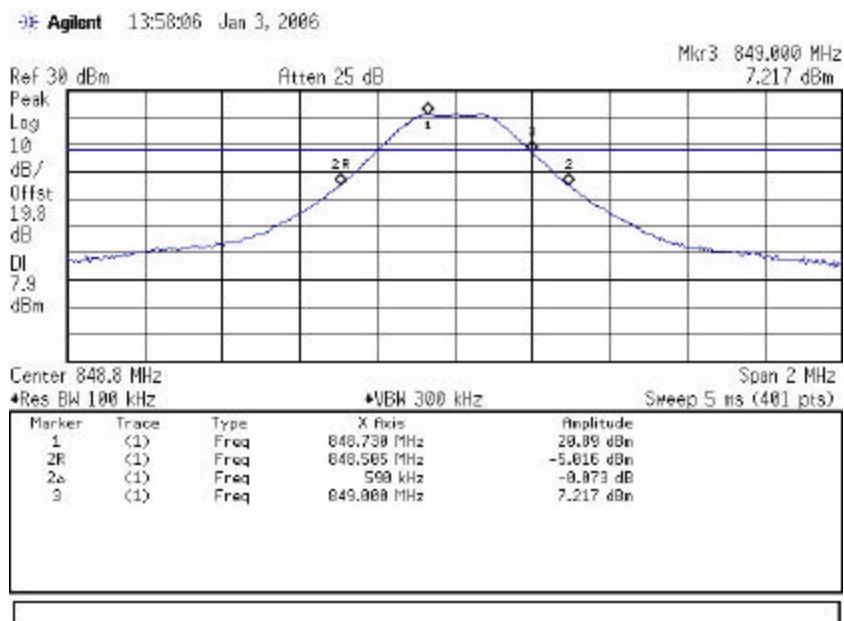
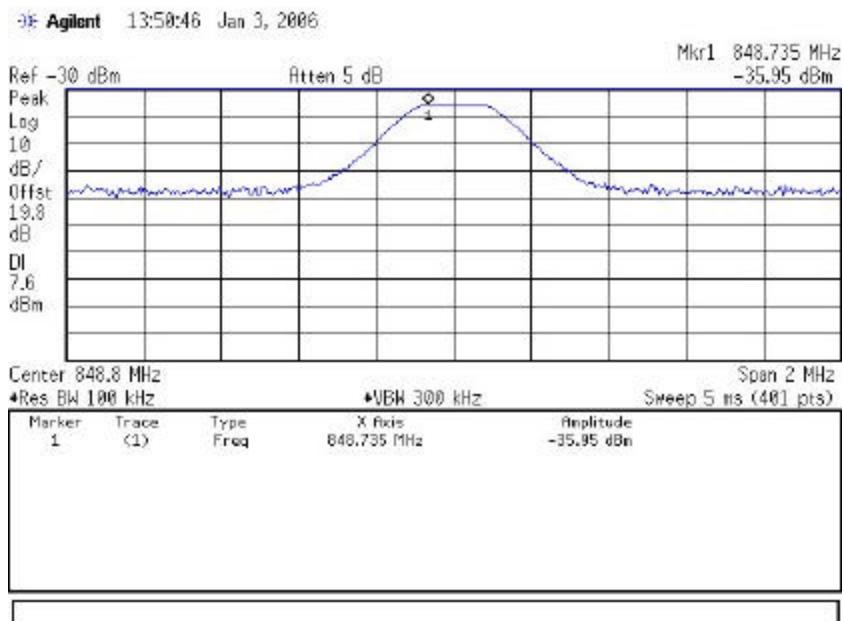


FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Occupied Bandwidth	
DNB Job Number:	58129	Date:	3 Jan 2006
Customer:	Janizary Holdings Inc		
Model Number:	CB-HP-800	Serial Number:	Conformance Standards <input checked="" type="checkbox"/> IC RSS-131 <input checked="" type="checkbox"/> FCC Part 22
Description:	RF amplifier		
	Uplink – TDMA – Lo Channel – 824.2 MHz		
	Plots – Top = Input / Bottom = Output		

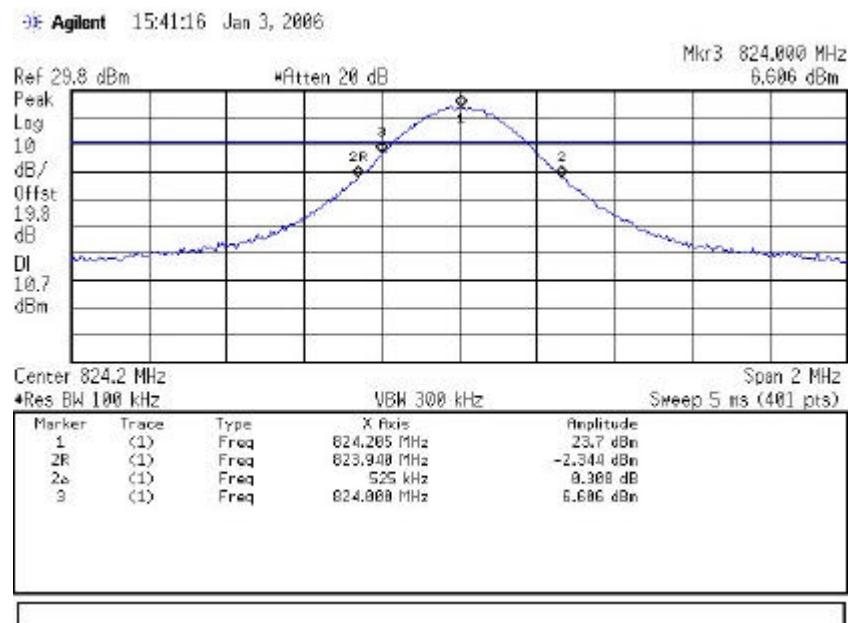
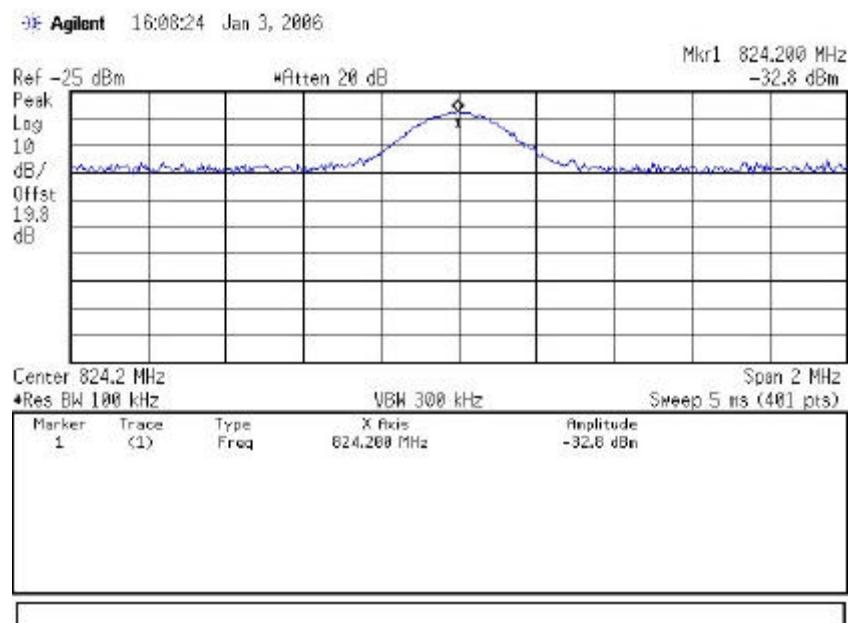


FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Occupied Bandwidth	
DNB Job Number:	58129	Date:	3 Jan 2006
Customer:	Janizary Holdings Inc		
Model Number:	CB-HP-800	Serial Number:	Conformance Standards <input checked="" type="checkbox"/> IC RSS-131 <input checked="" type="checkbox"/> FCC Part 22
Description:	RF amplifier		
	Uplink – TDMA – Mid Channel – 836.5 MHz		
	Plots – Top = Input / Bottom = Output		

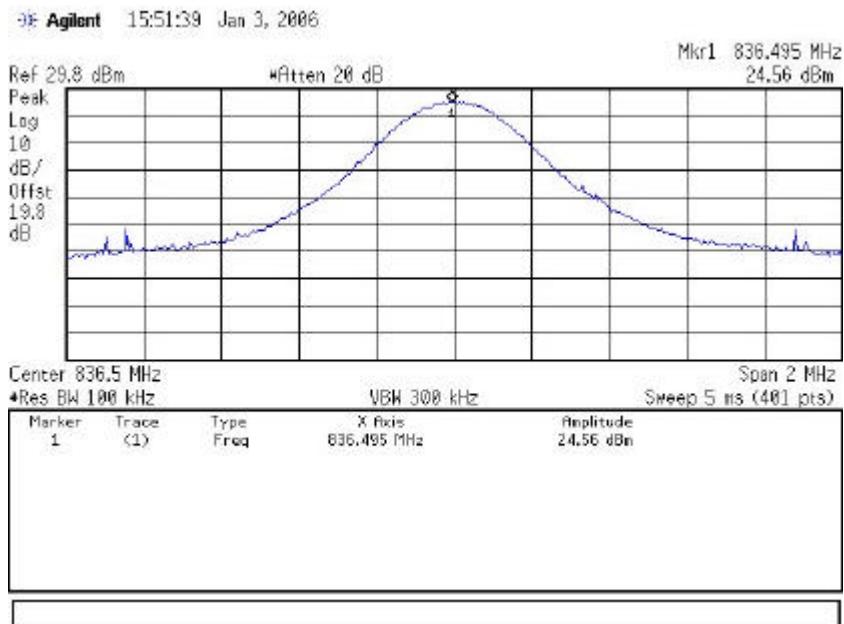
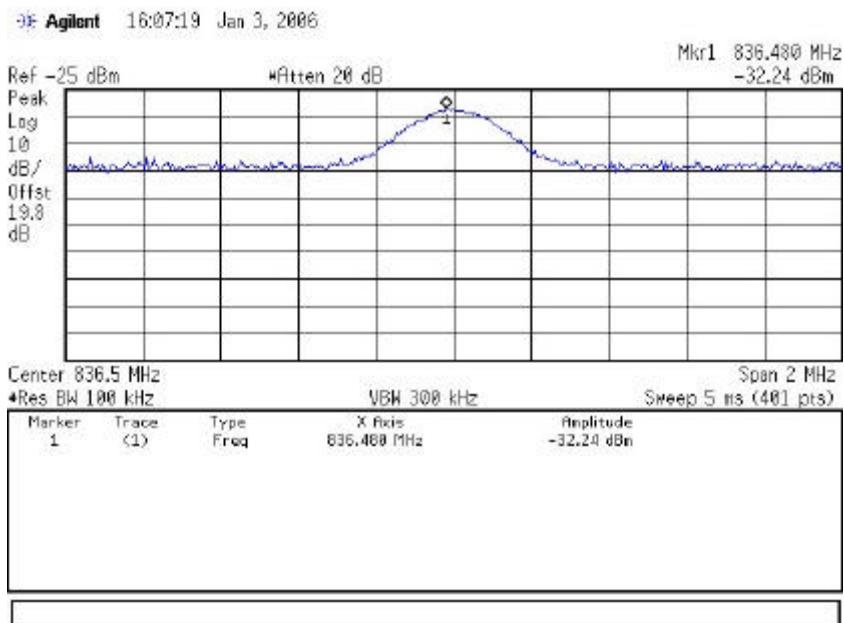


FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Occupied Bandwidth	
DNB Job Number:	58129	Date:	3 Jan 2006
Customer:	Janizary Holdings Inc		
Model Number:	CB-HP-800	Serial Number:	Conformance Standards <input checked="" type="checkbox"/> IC RSS-131 <input checked="" type="checkbox"/> FCC Part 22
Description:	RF amplifier		
	Uplink – TDMA – Hi Channel – 848.8 MHz		
	Plots – Top = Input / Bottom = Output		

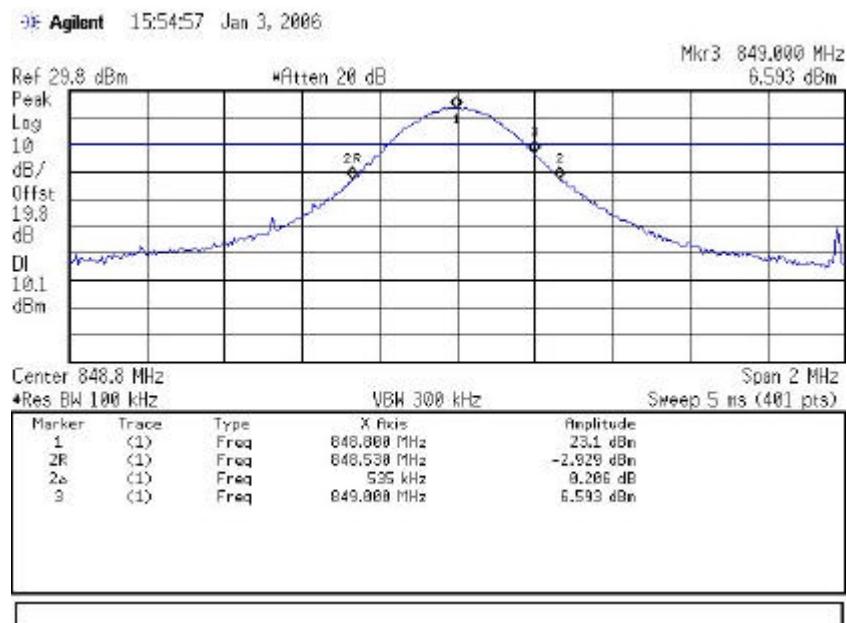
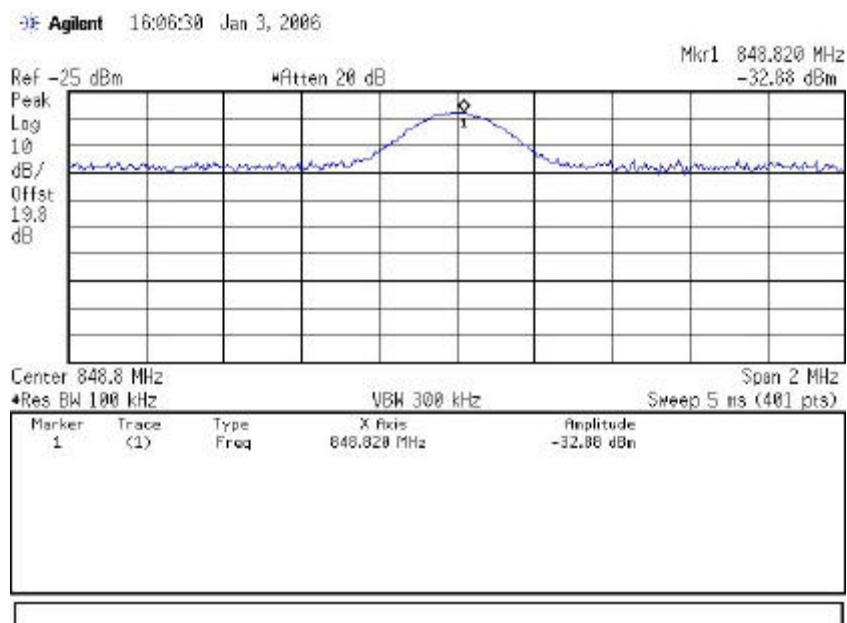


FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	Occupied Bandwidth	
DNB Job Number:	58129	Date:	4 Jan 2006
Customer:	Janizary Holdings Inc		
Model Number:	CB-HP-800	Serial Number:	Conformance Standards <input checked="" type="checkbox"/> IC RSS-131 <input checked="" type="checkbox"/> FCC Part 22
Description:	RF amplifier		
	Uplink – CDMA – Lo Channel – 824.7 MHz		
	Plots – Top = Input / Bottom = Output		

