

**Application for Certification  
For an RF amplifier**

**Janizary Holdings Inc.  
5330 Derry Ave, Suite F  
Agoura Hills, CA 91301**

**RF amplifier**

**FCC ID: RFK-CHACDMA819  
IC ID: IC5252A-CHACDMA819**

**REPORT # RV78017A-004**

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 Parts 22, 24, 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 Sep 2006 (Original)  
14 Dec 2006 (Revised)


**TEST LAB PERSONNEL**

<b>Test Performed by:</b>	<b>Date</b>	<b>Signature</b>
Les Payne Sr. Engineering Manager	6 Sep 2006	

**APPROVALS**

<b>Management Approval</b>	<b>Date</b>	<b>Signature</b>
Stan McNiel Operations Manager	6 Sep 2006	

**APPROVALS**

<b>Revision Reviewed</b>	<b>Date</b>	<b>Signature</b>
CL Payne III Sr. Engineering Manager	14 Dec 2006	

Original report RV78017A-001  
 Revised report RV78017A-002  
 Revised report RV78017A-003  
 Revised report RV78017A-004

Dated 6 Sep 2006  
 Dated 13 Oct 2006  
 Dated 14 Dec 2006  
 Dated 14 Dec 2006

## TABLE OF CONTENTS

### Section Sheet #

### Title

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	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 c14.3)	Measurement of RF Power Output	13-25
2.1049 (RSS-131 c14.4)	Measurement of Occupied Bandwidth	26-86
2.1051 (RSS-131 c14.5)	Spurious Emissions at Antenna Terminals	87-100
2.1053	Measurement of Field Strength of Spurious Radiation	101-103
	Radiated Emissions	104-105
2.1055 (RSS-131 c14.5)	Measurement of Frequency Stability	106
2.1057	Frequency Spectrum to be Investigated	107
	RF Exposure	108-110
	Appendix A Photographs	115-115

**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 27**  
**Figure 7 : Antenna Conducted Spurious Plots 88**  
**Figure 8 : Radiated Spurious Tabular Data 102**  
**Figure 9 : Unintentional Radiated Emissions 105**

**Appendix A : Photos 111**

## 1.0 ADMINISTRATIVE DATA

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### 1.1 Certifications and Qualifications

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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

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The test data presented in this report has been acquired using the guidelines set forth in FCC Part 2.1031 through 2.1057, and Parts 22, 24, and 90. 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

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The tests were performed in accordance with FCC Part 2 Subpart J, 2.1031 through 2.1057, 15, and 22, 24, Industry Canada RSS-131 on a sample of the production model.

### 1.4 Test Equipment

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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	02/02/06	RF Power Out put, Emissions Lim, Cond Spur, Rad Spur, CE
Spectrum 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
Quasi-Peak Adapter	H/P	85650A	2043A00184	01/10/06	RE
Bicon Antenna	AH Systems	SAS-200/540	524	12/26/05	RE
Logarithmic Antenna	EMCO	3146	1284	1/2/06	RE
DRG Antenna	EMCO	3115	2281	10/5/04 (2 yr cal)	RE
Spectrum Analyzer	Agilent	E4407B	MY45103462	9/9/05	RF Power Out put, Emissions Lim, Cond Spur, Rad Spur, CE
Vector Signal Generator	Rhode & Schwarz	SMU200A	100094	9/9/05	RF Power Out put, Emissions Lim, Cond Spur, Rad Spur, CE

### 1.5 DEVIATIONS

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#### Deviations/Modifications to the EUT

None.

#### Deviations/Modifications from test standard.

None

## 1.6 TEST DESCRIPTION

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### 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

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Name of Applicant:	Janizary Holdings Inc. 5330 Derry Ave, Suite F Agoura Hills, CA 91301		
FRN:	0009486226		
Applicant is:	X	Manufacturer Vendor Licensee Prospective Licensee Other	
Name of Manufacturer	Janizary Holdings Inc.		
Description:	RF amplifier		
Part Number:	CHACDMA819		
Anticipated Production Quantity:	Multiple Units		
Applicable FCC Parts:	22 and 24		
Applicable IC Standard:	RSS-131		
FCC ID No:	RFK-CHACDMA819		
IC ID No:	IC5252A-CHACDMA819		
FCC Emissions Designator:	22.901(b)	F9W	
	24E	F9W	
Frequency Range:	Uplink	826.000-847.000	MHz
	Uplink	1851.840-1909.160	MHz
	Downlink	869.700-893.300	MHz
	Downlink	1930.700-1989.300	MHz
Rated Output Power:	1.510W	(31.79 dBm)	



**2.1033 (C) (2) FCC Identifier**

FCC ID: RFK-CHACDMA819

**2.1033 (C) (4) Type of Emission**

826.000 – 893.300 MHz	22.901(b)	F9W	1M25F9W
1851.840 – 1989.300 MHz	24E	F9W	1M25F9W

**2.1033 (C) (5) Frequency Range**

Uplink	826.000 – 847.000 MHz	Downlink	869.700 – 893.300 MHz
Uplink	1851.840 – 1909.160 MHz	Downlink	1930.700 – 1989.300 MHz

**2.1033 (C) (6) Operating Power**

Uplink	826.000 – 847.000 MHz	1.429W	(+31.55dBm)
Downlink	869.700 – 893.300 MHz	0.0028W	(+ 4.48dBm)
Uplink	1851.840 – 1909.160 MHz	1.510W	(+31.79dBm)
Downlink	1930.700 – 1989.300 MHz	0.0015W	(+ 1.77dBm)

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

<u>RULES PART</u>	<u>MAXIMUM POWER (WATTS)</u>
Part 22	7
Part 24	2

**2.1033 (C) (8) Input Power Characteristics** 10 - 60 mW Maximum

**2.1033 (C) (9) Tune Up Procedure** Customer will provide.

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


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Customer will provide.

**2.1033 (C) (11) Equipment Identification Plate**


---

Customer will provide.

**2.1033 (C) (12) Equipment Photographs - Internal**


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Customer will provide.

**2.1033 (C) (12) Equipment Photographs - External**


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Customer will provide.

**2.1033 (C) (13) Digital Modulation Techniques**


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CDMA

**2.1033 (c) (14) Test Data**


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See 2.1046-2.1053 and Radiated Emissions

FIGURE 2: TEST RESULT SUMMARY

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

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

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2.1033 (c) (14)

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

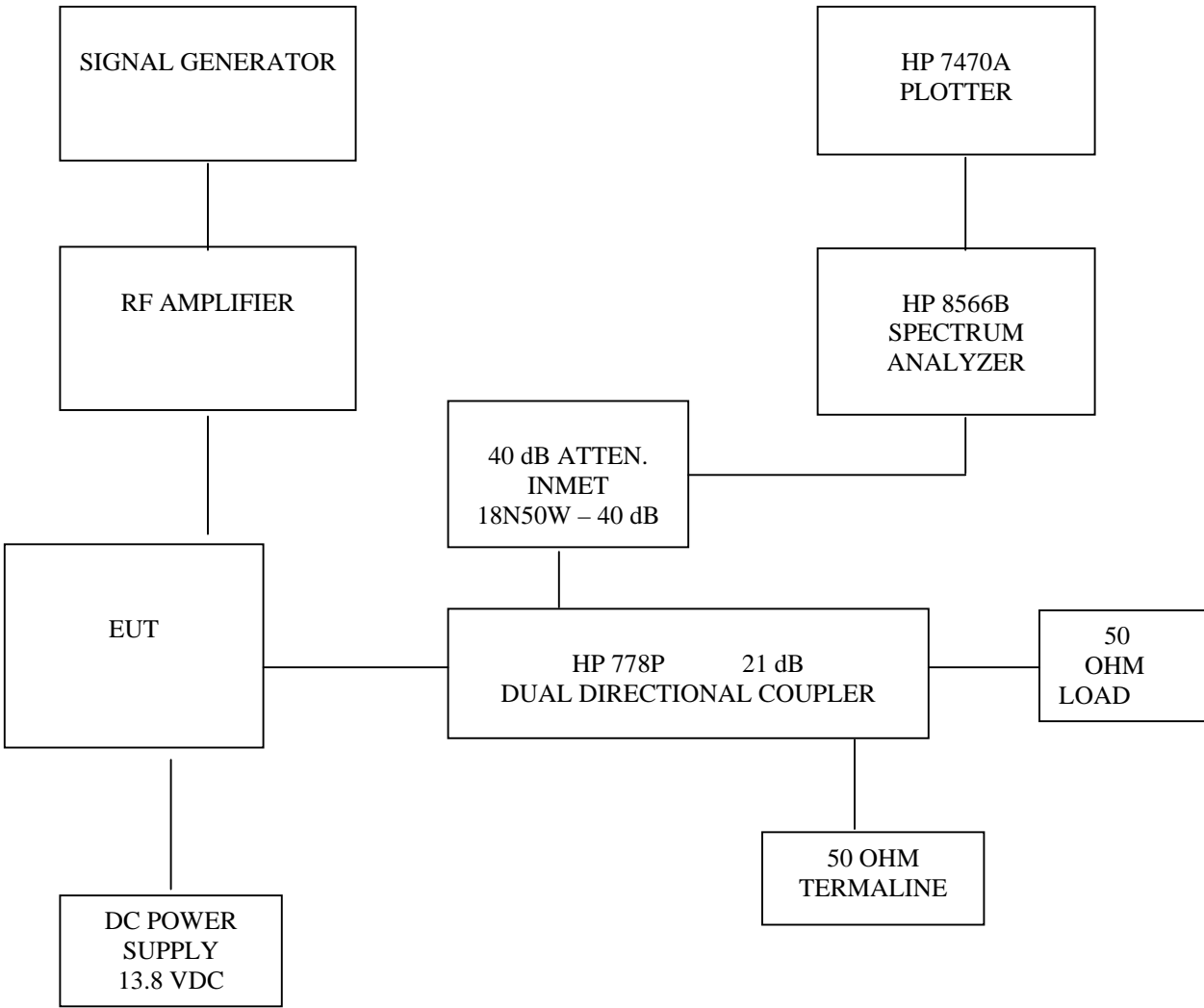
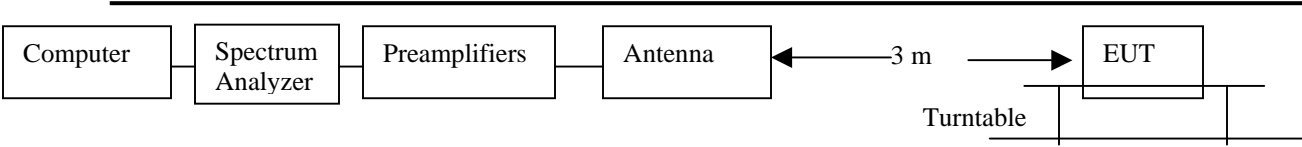


FIGURE 4: TEST SET UP BLOCK DIAGRAM FOR RADIATED EMISSIONS



## 2.1046

## Measurement of RF Power Output (IC RSS-131 CI 4.3)

Definition: For RF amplifier

Test Method: See FIGURE 1.

Output Power is measured across a precision 50 ohm load with a Spectrum Analyzer. For the power measurement, typical signal is used. ( CDMA )

Test Results: Frequency Range 824 – 894

### Uplink

<u>Signal Type</u>	<u>Freq (MHz)</u>	<u>Power (dBm)</u>	<u>Power (W)</u>
CDMA	826.000	31.55	1.429
CDMA	836.500	31.17	1.309
CDMA	847.000	31.09	1.285

### Downlink

<u>Signal Type</u>	<u>Freq (MHz)</u>	<u>Power (dBm)</u>	<u>Power (W)</u>
CDMA	869.700	3.21	.002094
CDMA	881.500	4.13	.002588
CDMA	893.300	4.48	.002805

Test Results: Frequency Range 1850 - 1990:

### Uplink

<u>Signal Type</u>	<u>Freq (MHz)</u>	<u>Power (dBm)</u>	<u>Power (W)</u>
CDMA	1851.840	31.79	1.510
CDMA	1880.000	31.78	1.507
CDMA	1909.160	27.89	0.615

### Downlink

<u>Signal Type</u>	<u>Freq (MHz)</u>	<u>Power (dBm)</u>	<u>Power (W)</u>
CDMA	1930.700	-0.67	.000857
CDMA	1960.000	+1.77	.001503
CDMA	1989.300	+1.62	.001452










FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<h3>Output Power</h3>	
	DNB Job Number:	78017	Date:	5 Sep 2006
	Customer:	Janizary Holdings Inc		
	Model Number:	CHACDMA819		
	Description:	RF amplifier		
	Uplink CDMA 1851.840 MHz			<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24

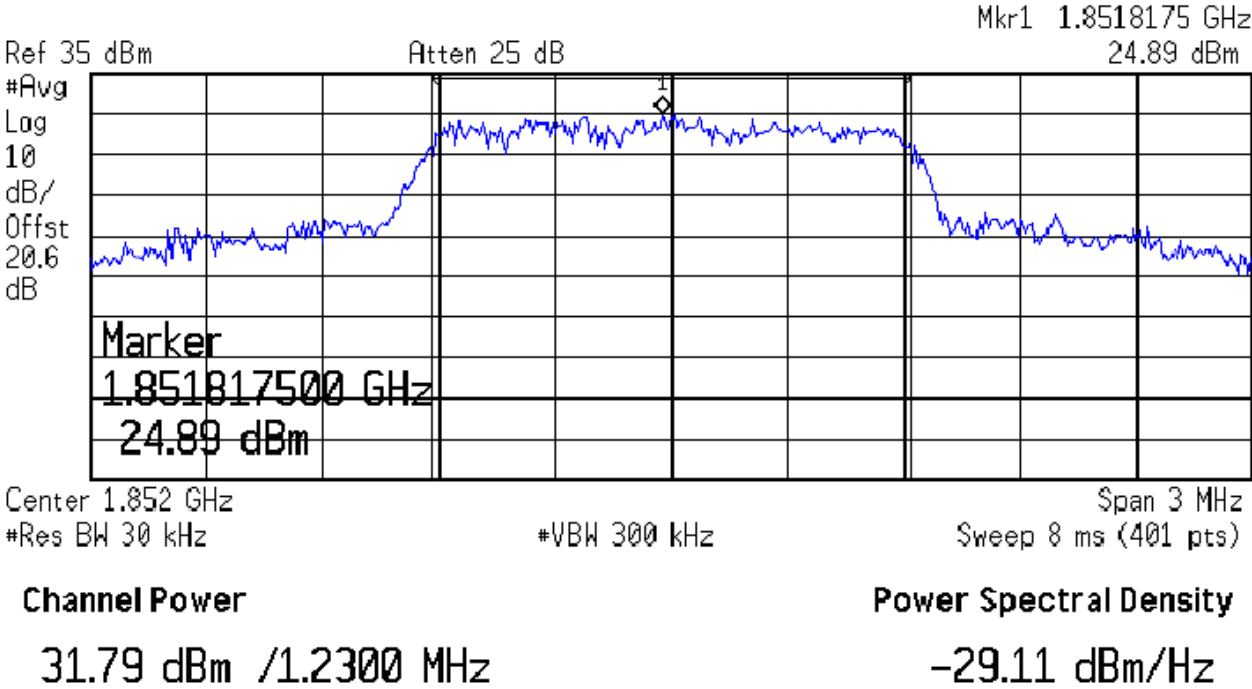



FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Output Power</b>	
	DNB Job Number: 78017	Date: 5 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier Uplink CDMA 1880 MHz				

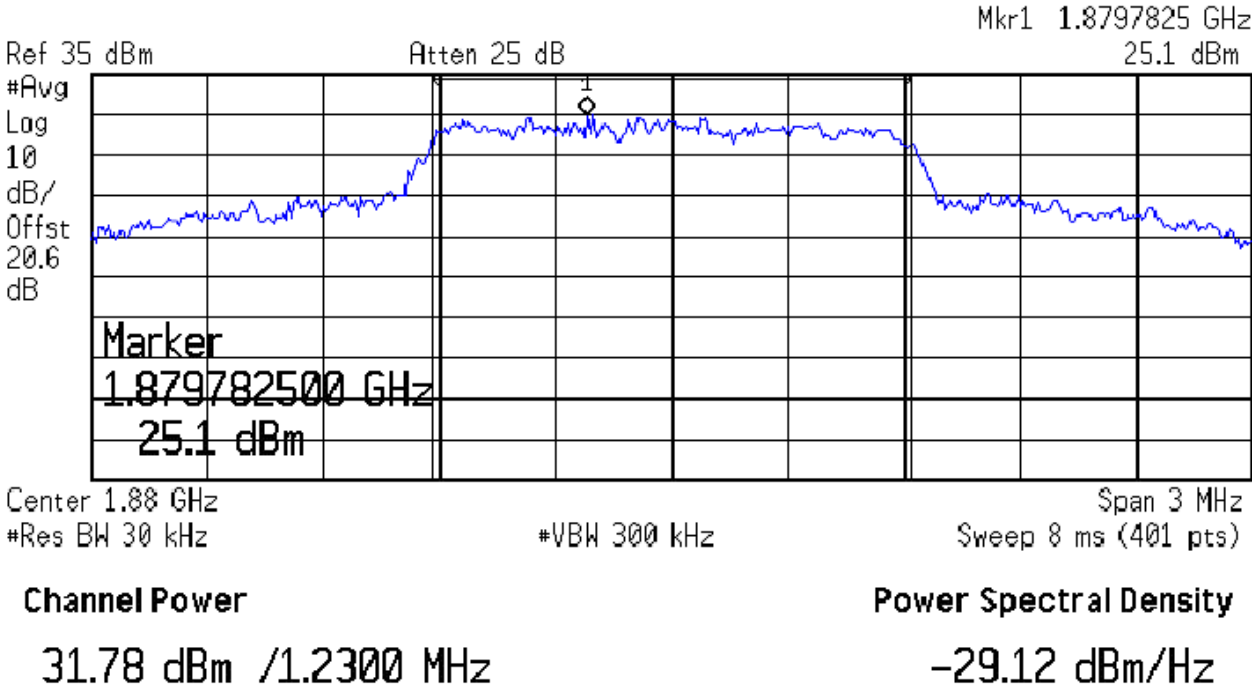





FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Output Power</b>	
	DNB Job Number:	78017	Date:	1 Sep 2006
Customer:	Janizary Holdings Inc			<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Model Number:	CHACDMA819			
Description:	RF amplifier			
	Downlink CDMA 869.7 MHz			

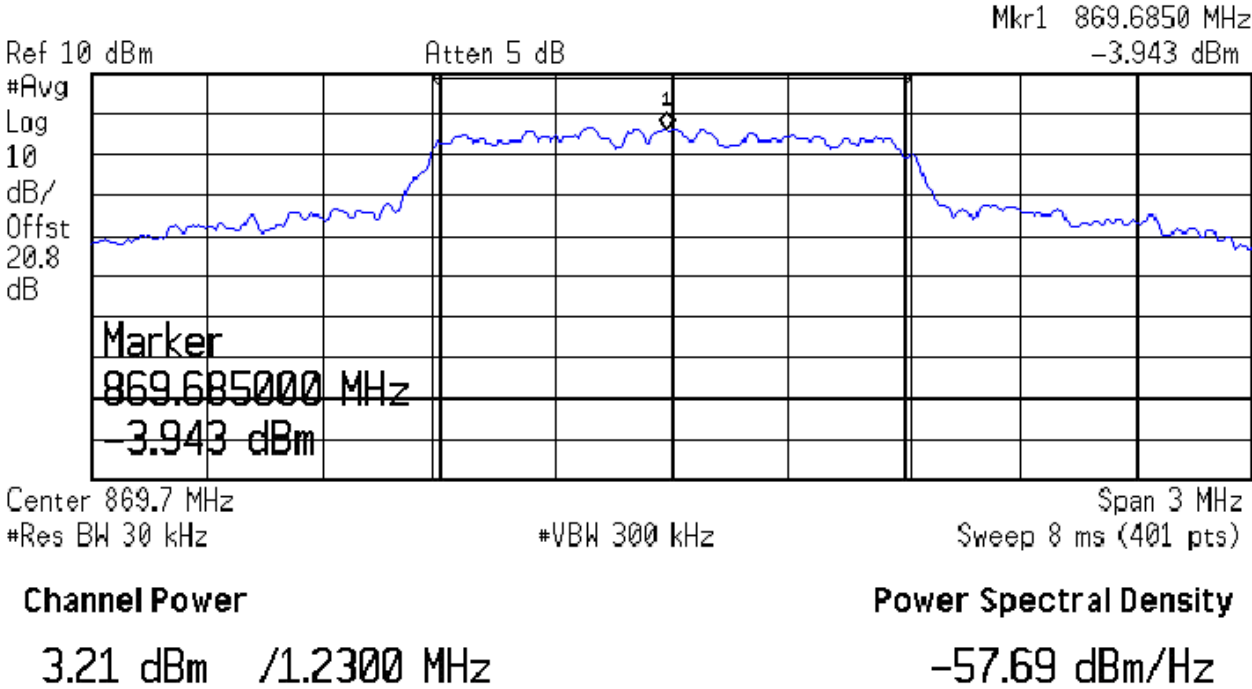



FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Output Power</b>	
	DNB Job Number: 78017	Date: 1 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Downlink CDMA 881.5 MHz				

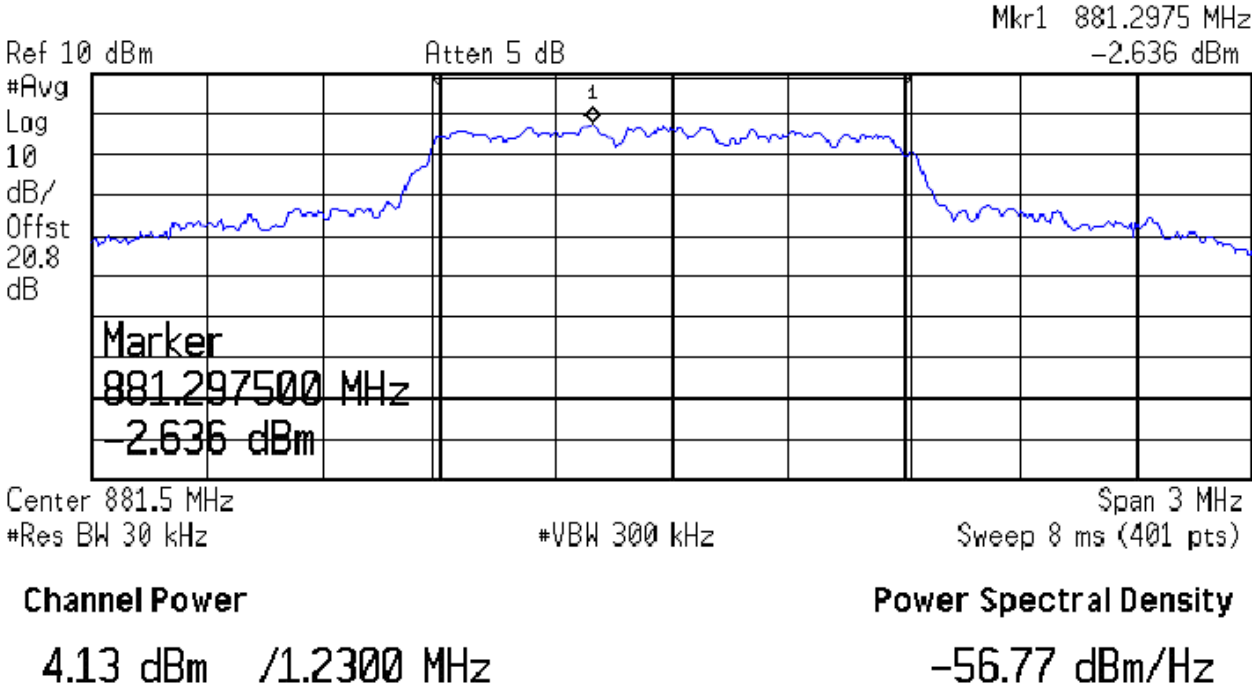

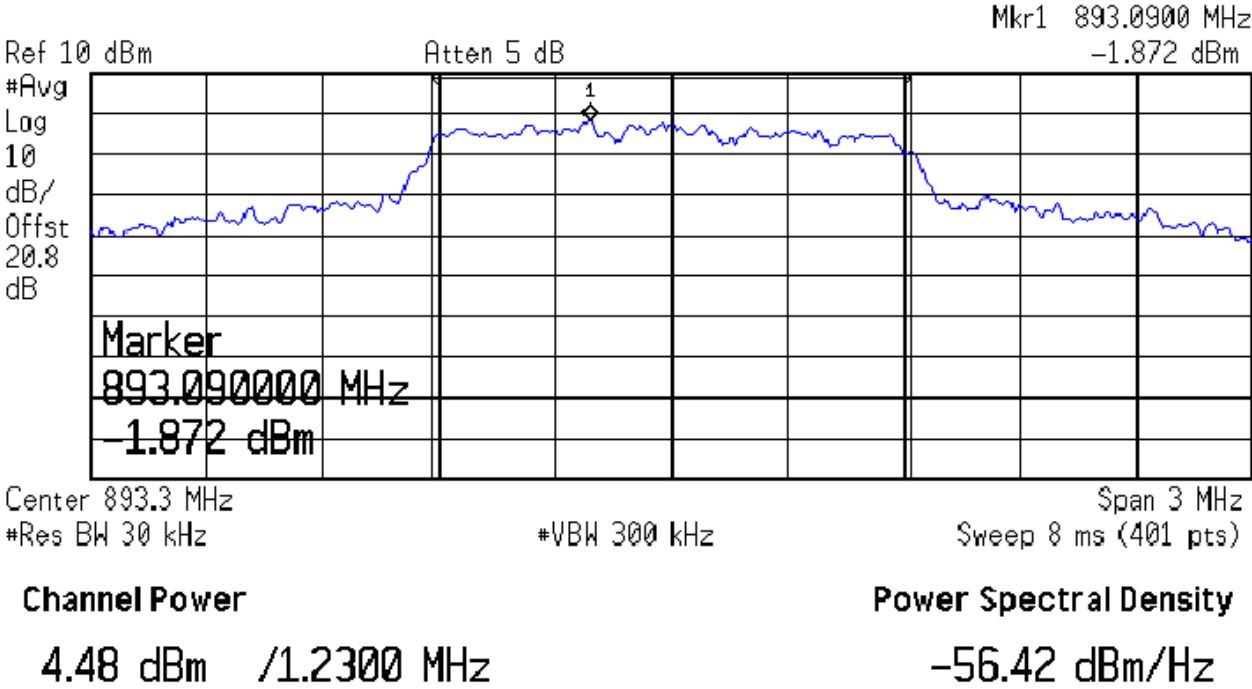


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Output Power</b>	
	DNB Job Number: 78017	Date: 1 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier Downlink CDMA 893.3 MHz				











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

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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:

CDMA Signal


Test Results: See Plots

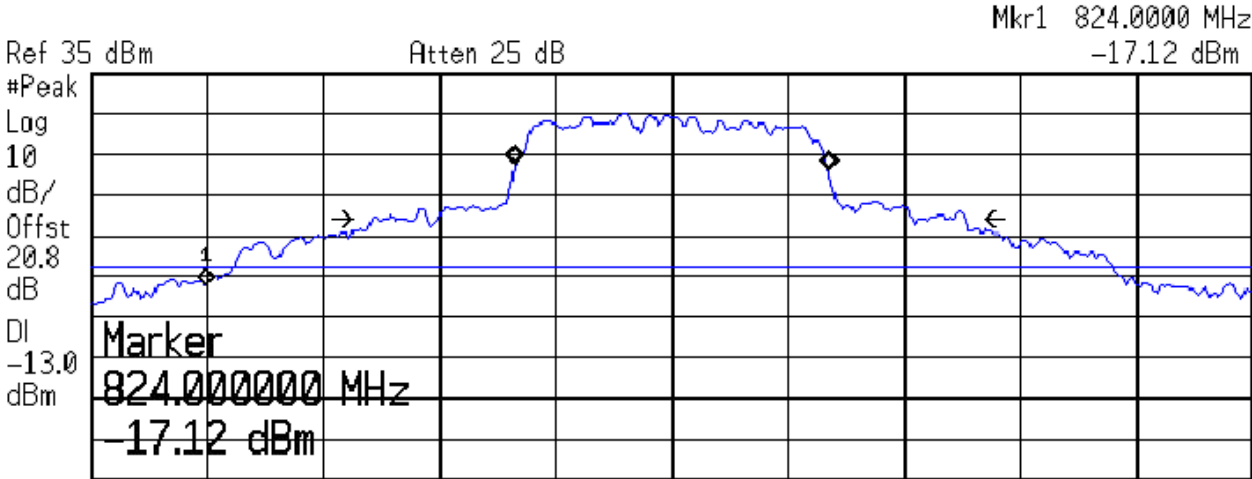
The center frequency of the signal did not shift with modulation. The Spectrum Bandwidth was well within the limits specified in the FCC Regulations.

Inter-modulation tests are not required as this device is a single use channel device, therefore only one channel uplink or downlink can be active at any given time.

Modulation characteristic plots are shown in this section.

FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Occupied Bandwidth</b>	
	DNB Job Number: 78017	Date: 1 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier Uplink CDMA 826.0 MHz				



Center 826 MHz Span 5 MHz  
 #Res BW 30 kHz #VBW 300 kHz Sweep 5.574 ms (401 pts)


**Occupied Bandwidth**  
 1.3434 MHz

**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB

**Transmit Freq Error** -1.116 kHz  
**x dB Bandwidth** 2.551 MHz



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Modulation Characteristics</b>	
	DNB Job Number: 78017	Date: 1 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier				
	Uplink CDMA 826.0 MHz - Output			

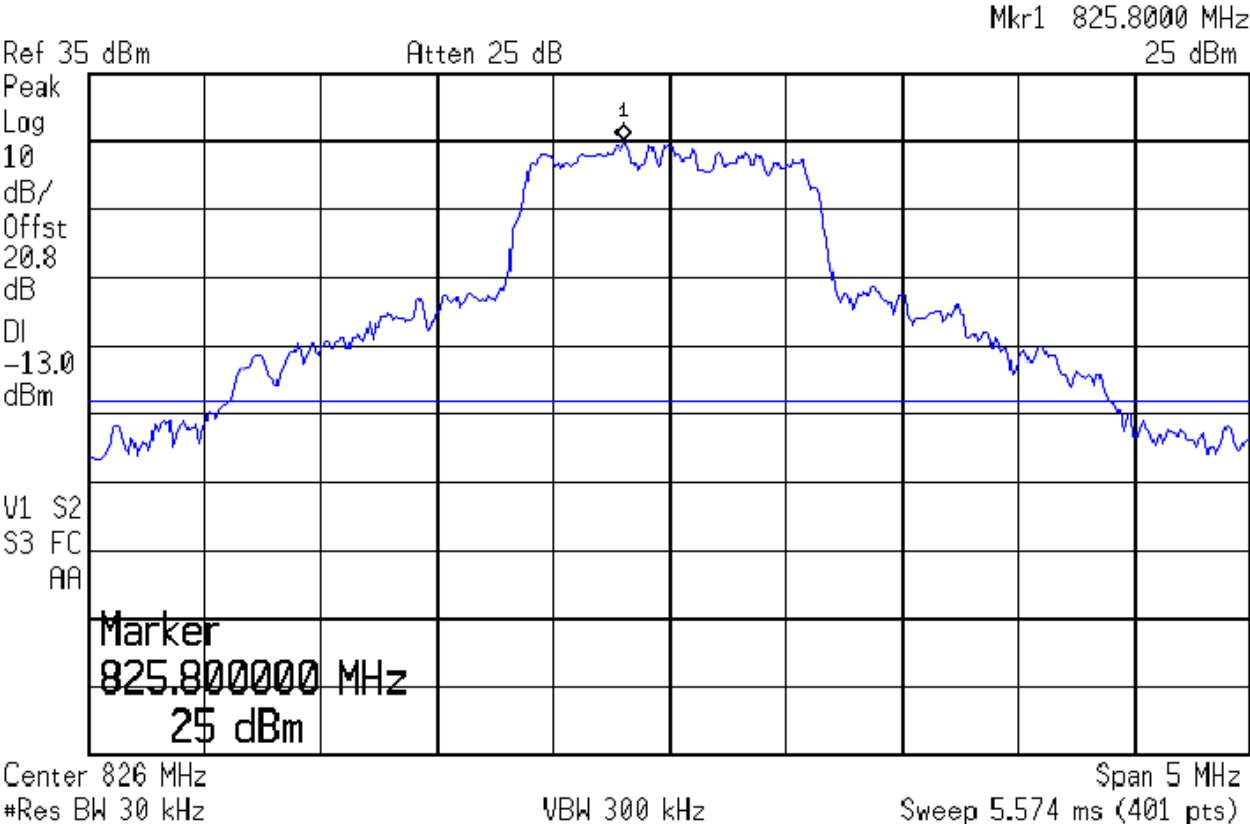





FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Modulation Characteristics</b>	
	DNB Job Number: 78017	Date: 1 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Uplink CDMA 836.5 MHz - Input				

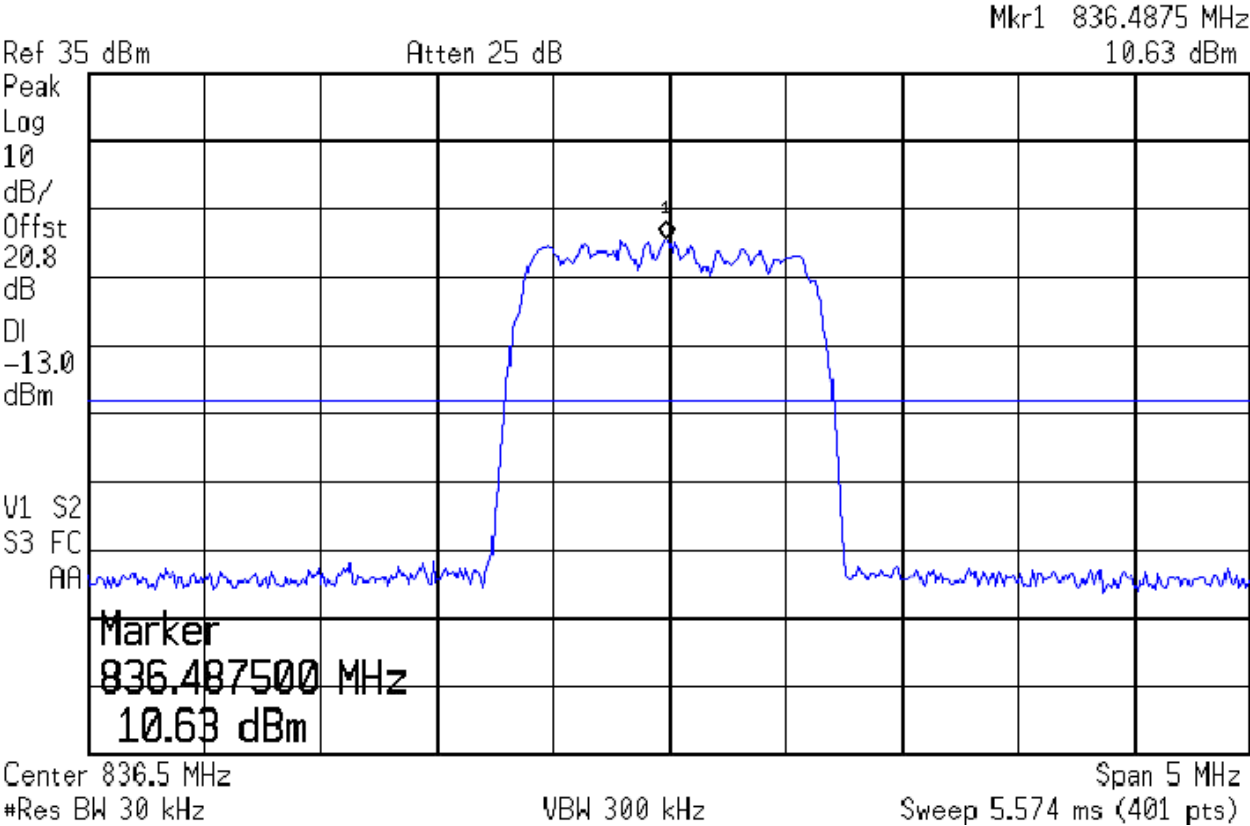















FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Modulation Characteristics</b>	
	DNB Job Number: 78017	Date: 30 Aug 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CHACDMA819	Description: RF amplifier			
Uplink CDMA 1851.840 MHz - Input				

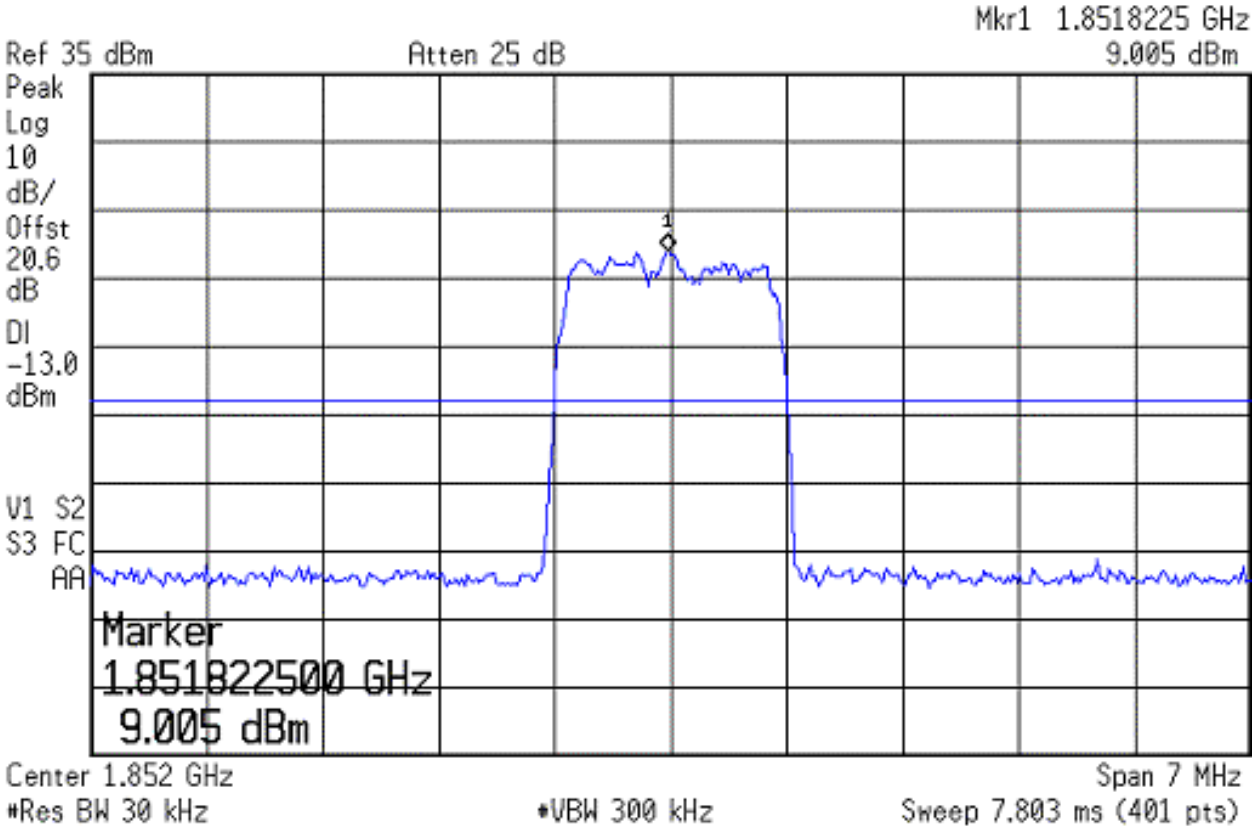























FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Modulation Characteristics</b>	
	DNB Job Number: 78017	Date: 1 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Downlink GSM 869.7 MHz - Output				

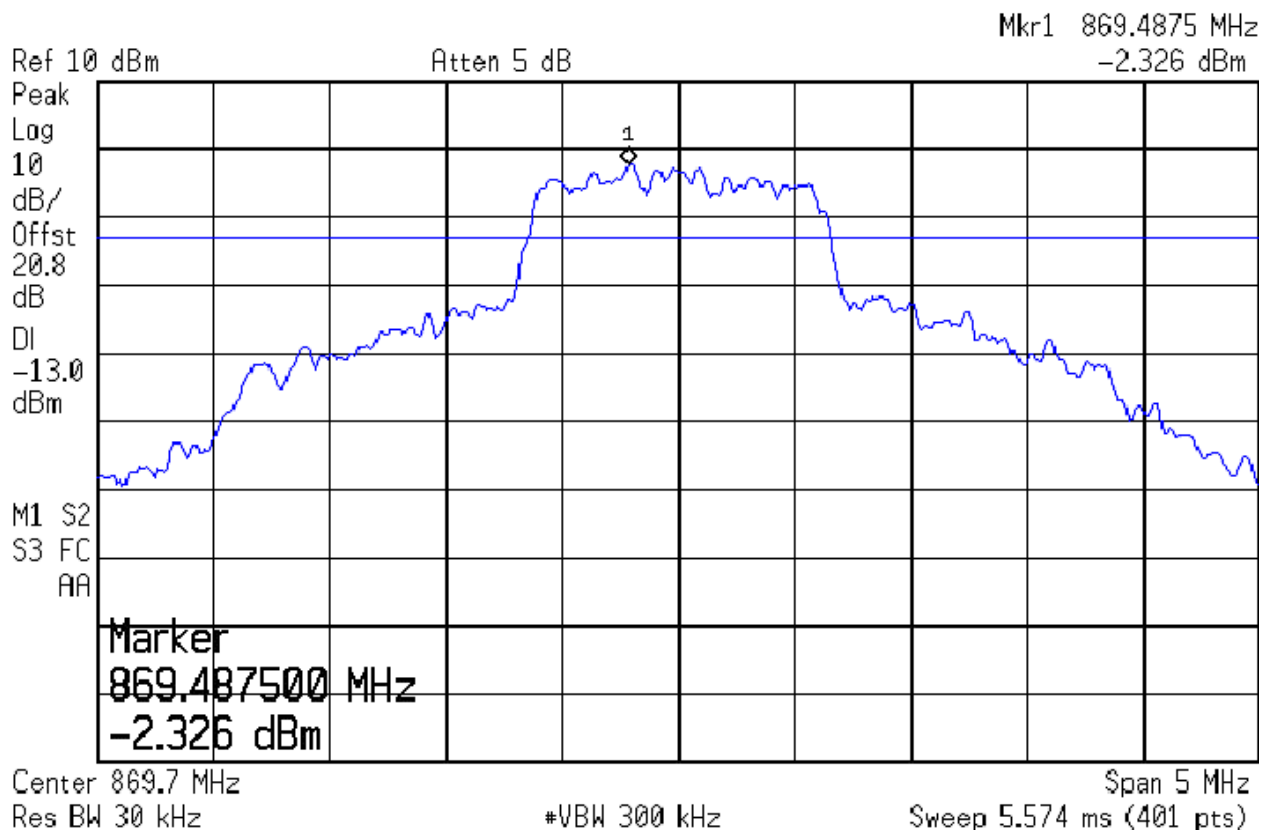



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Occupied Bandwidth</b>	
	DNB Job Number: 78017	Date: 1 Sep 2006		<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Downlink CDMA 881.5 MHz				

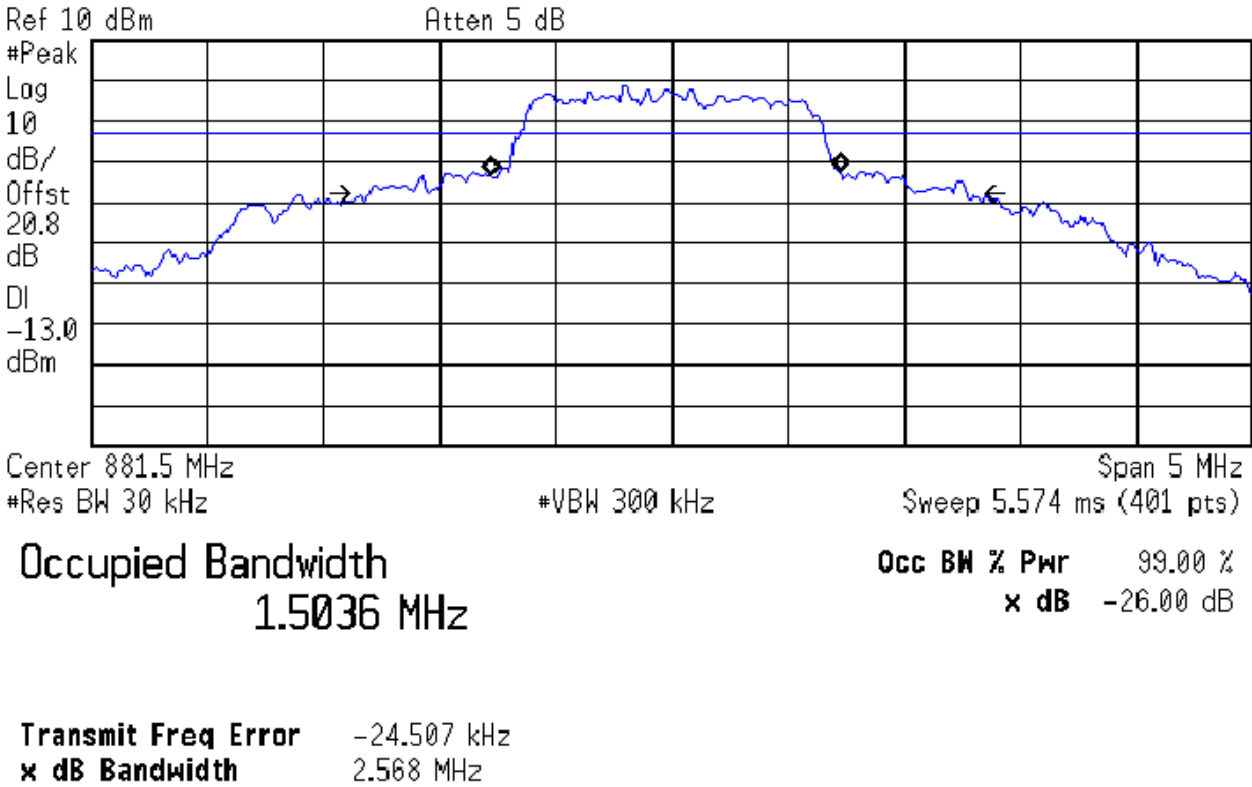









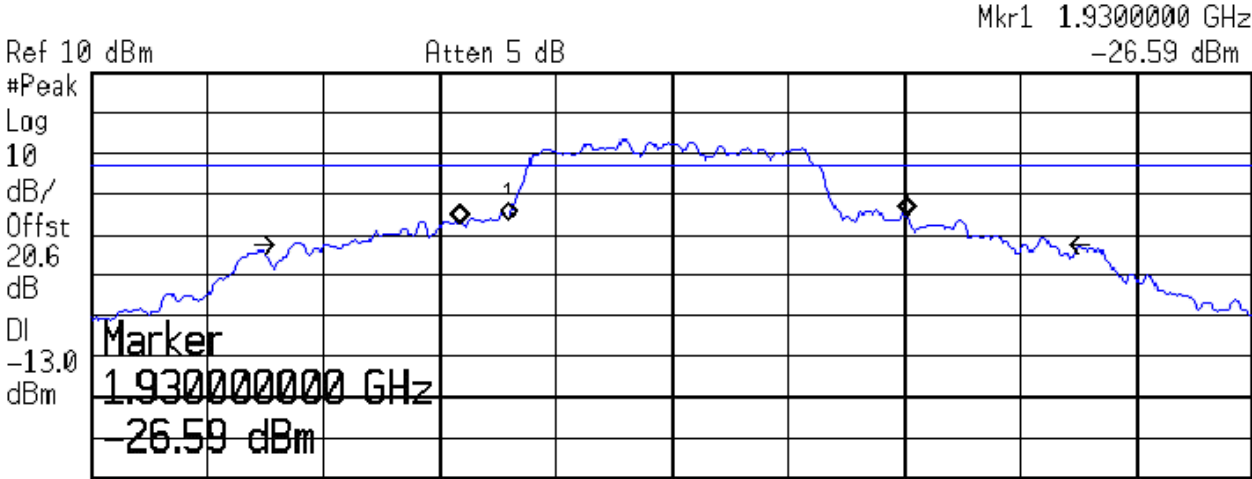






FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Occupied Bandwidth</b>	
	DNB Job Number: 78017	Date: 30 Aug 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Downlink CDMA 1930.700 MHz				



Center 1.931 GHz      Span 5 MHz  
 #Res BW 30 kHz      VBW 300 kHz      Sweep 5.574 ms (401 pts)

**Occupied Bandwidth**  
 1.9283 MHz

**Occ BW % Pwr**      99.00 %  
**x dB**      -26.00 dB

**Transmit Freq Error**      50.256 kHz  
**x dB Bandwidth**      3.244 MHz








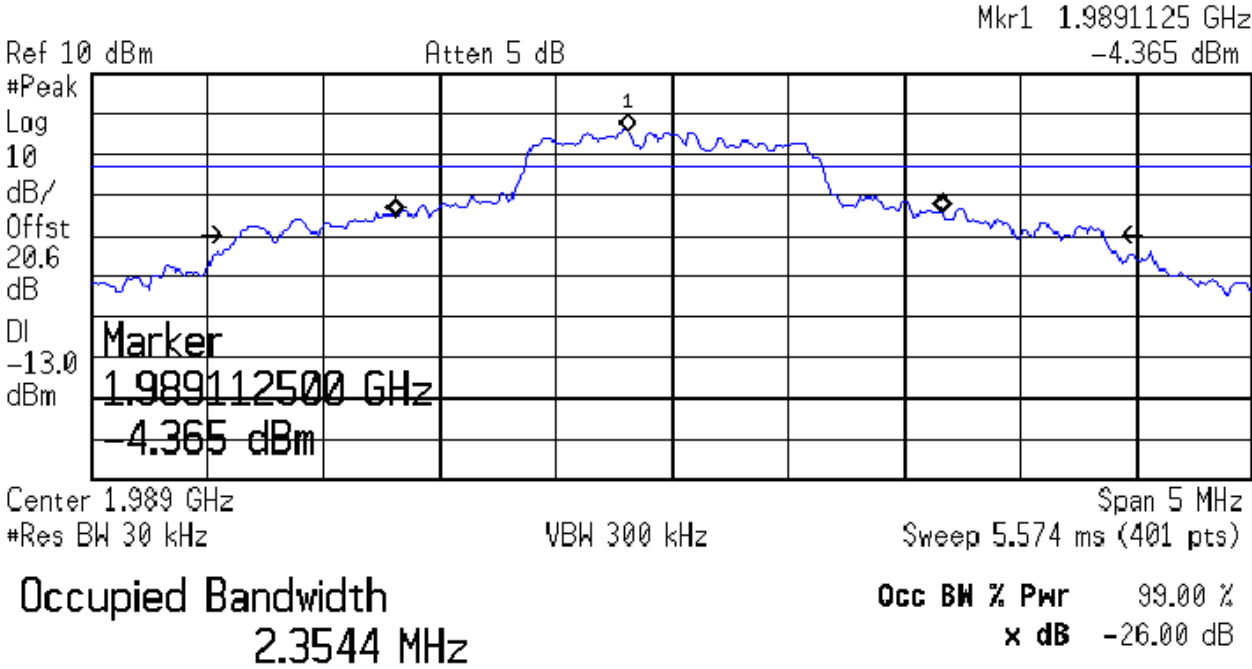






FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Occupied Bandwidth</b>	
	DNB Job Number: 78017	Date: 30 Aug 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier				
	Downlink CDMA 1989.300 MHz			







**2.1051 Spurious Emissions at Antenna Terminals (IC RSS-131 Clause 4.4)**

---

Definition:

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.

Conducted Spurious Emissions shall be attenuated below the maximum level of the carrier frequency in accordance with the following formula:

$$-13\text{dB} = \text{Measured Power} - (43 + 10 \log_{10}(\text{Rated Power}))$$

Test Method: Per EIA RS 152-B, Paragraph 4 as modified below.

Connect the equipment as shown in FIGURE 1.


Adjust the drive source to produce FM modulation. Adjust the Spectrum Analyzer to display the Modulated Carrier.

Scan the frequency spectrum from the lowest radio frequency generated in the equipment through the 10<sup>th</sup> harmonic of the carrier frequency.

Test Results: See Plots

All spurious emissions at the antenna terminals are below the IC/FCC specifications

Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Antenna Conducted Spurious</b>	
	DNB Job Number: 78017	Date: 1 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier				
	Uplink GSM 826.0 MHz			

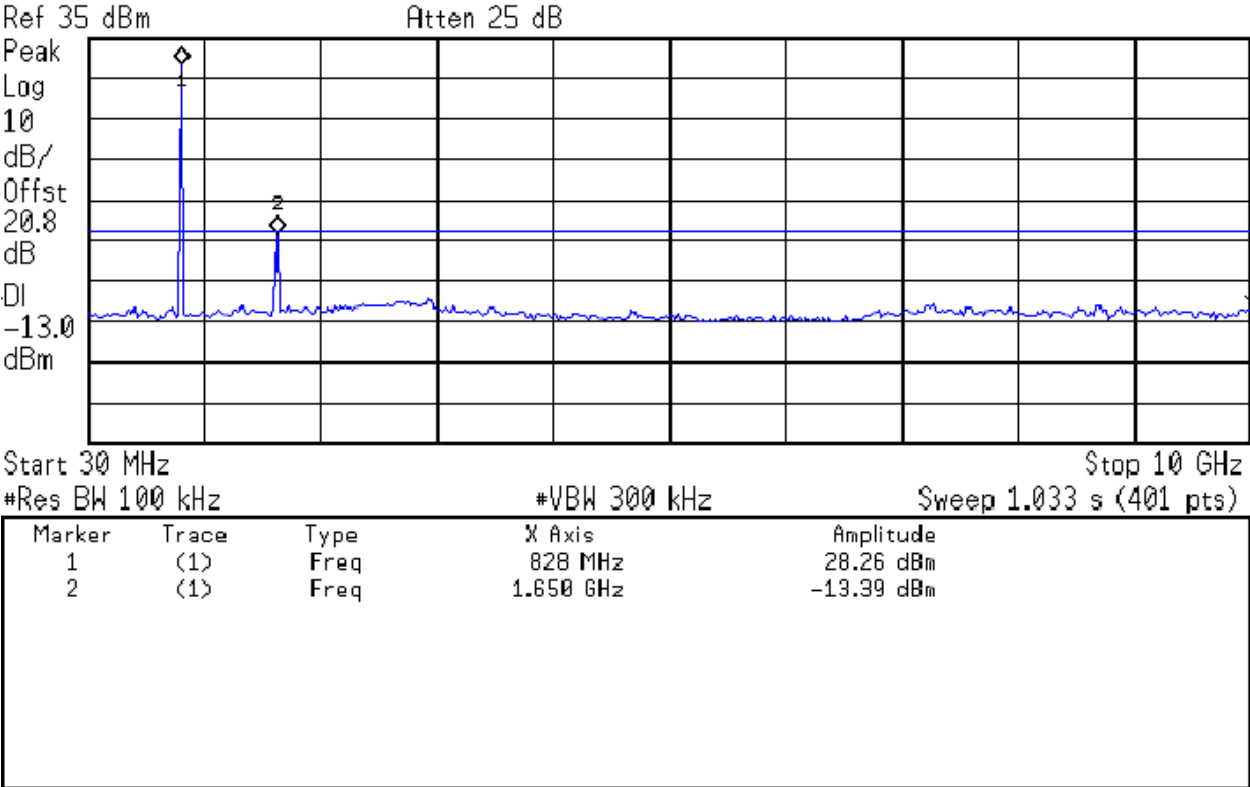





Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Antenna Conducted Spurious</b>	
	DNB Job Number: 78017	Date: 1 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Uplink CDMA 836.5 MHz				

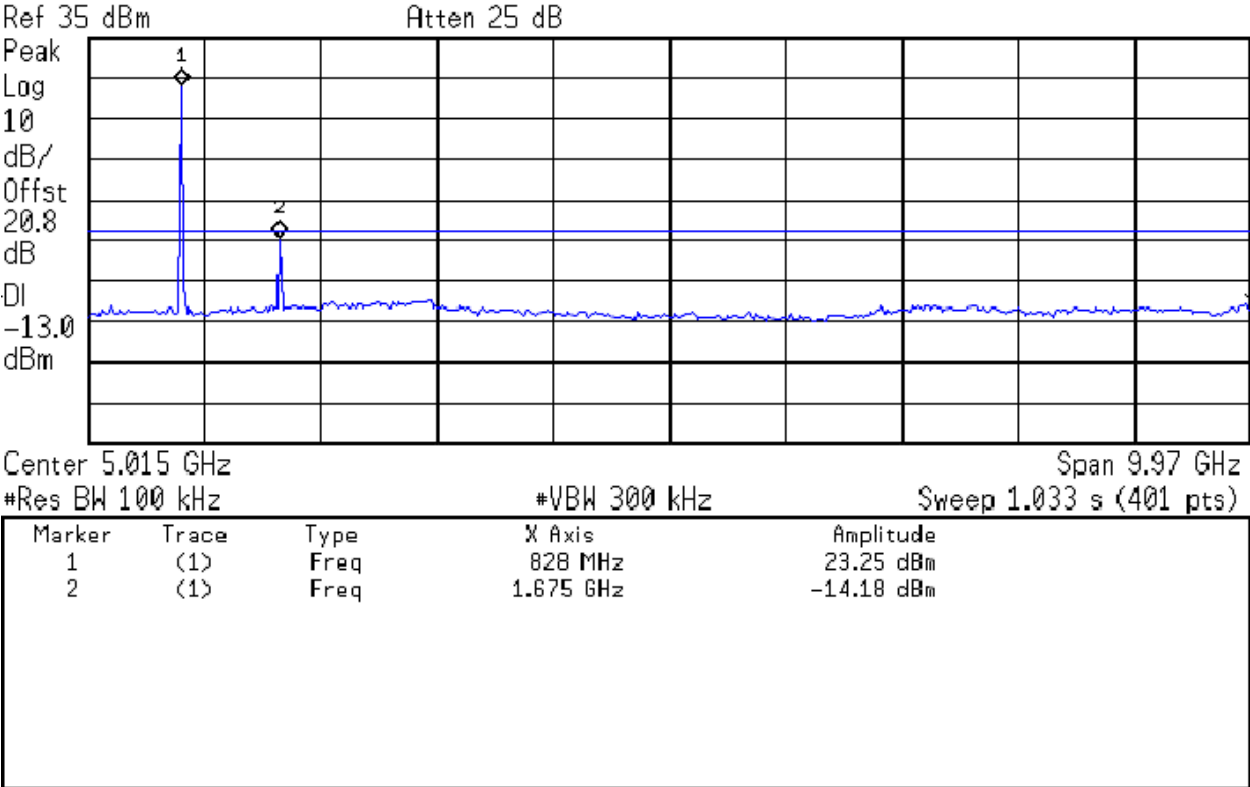



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Antenna Conducted Spurious</b>	
	DNB Job Number: 78017	Date: 1 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Uplink CDMA 847.0 MHz				

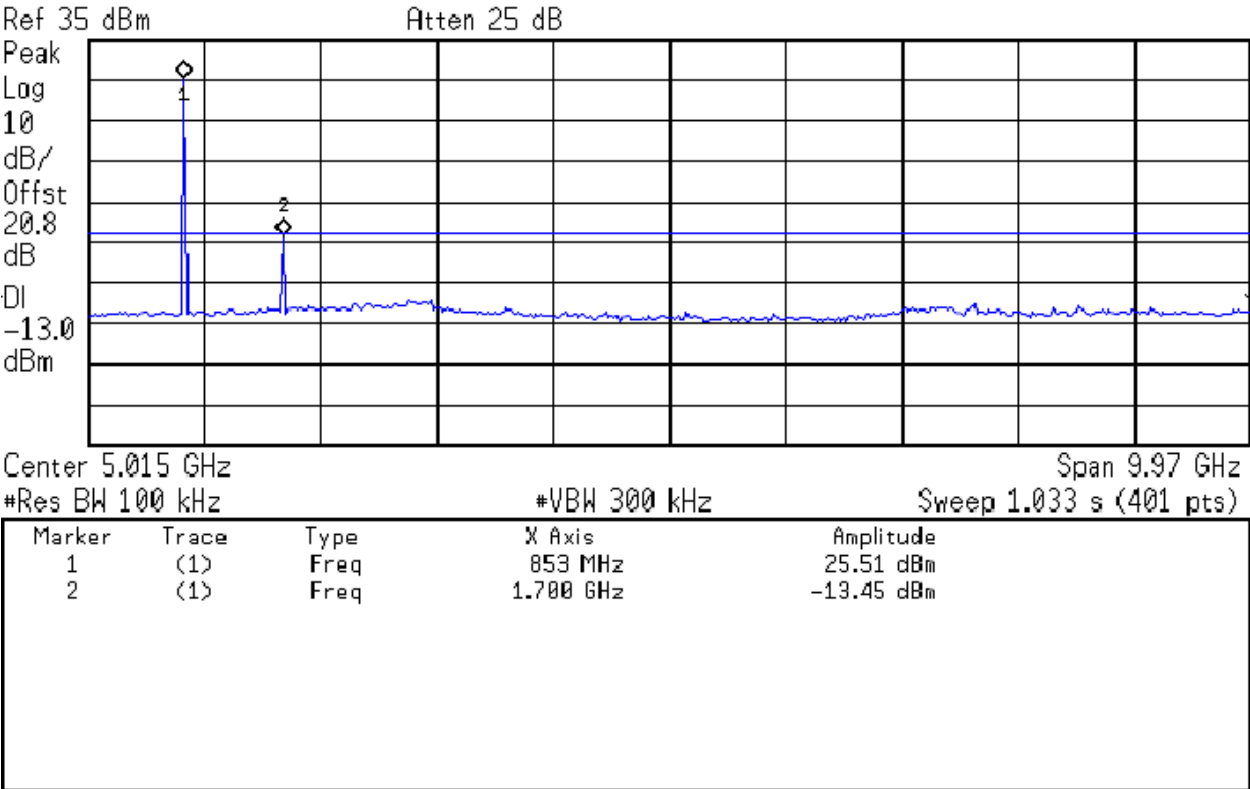



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Antenna Conducted Spurious</b>	
	DNB Job Number: 78017	Date: 30 Aug 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Uplink CDMA 1851.840 MHz				

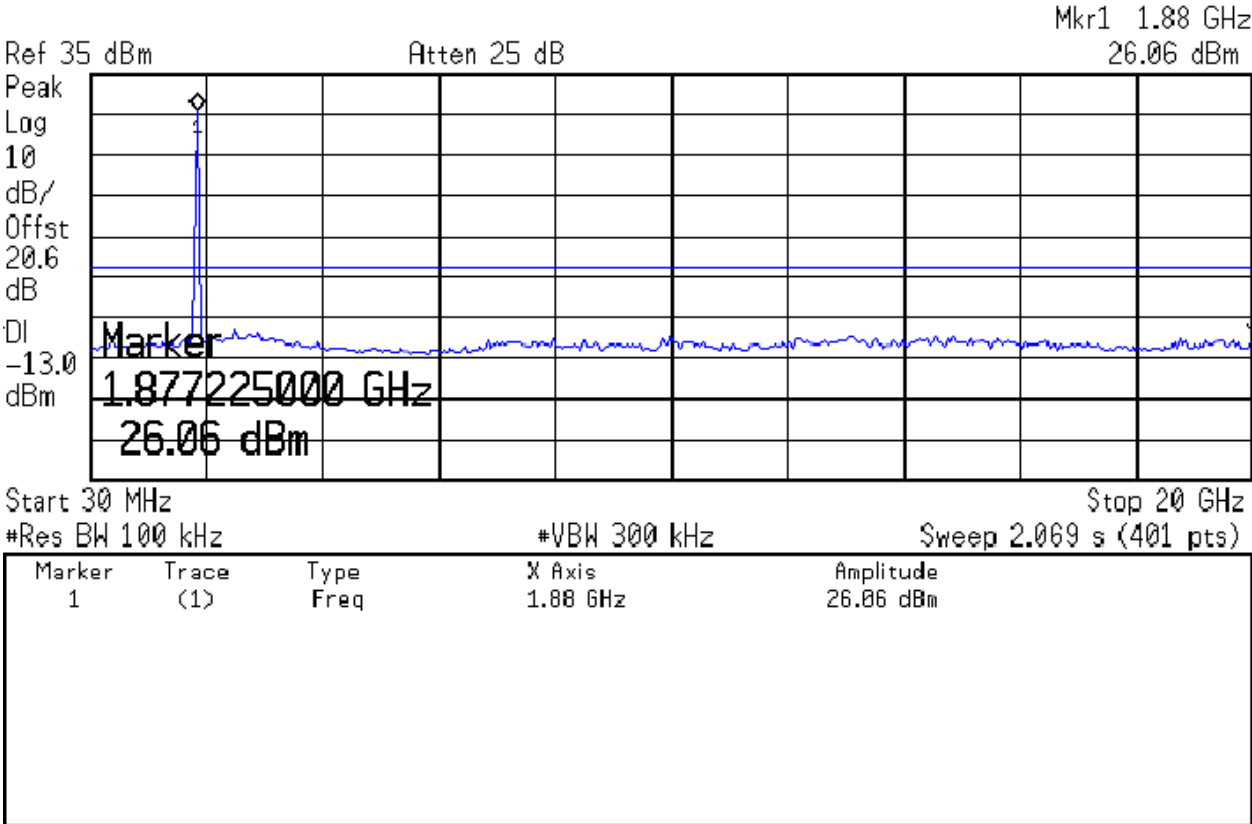







Figure 7: Conducted Spurious Emissions at Antenna Terminals, Downlink.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Antenna Conducted Spurious</b>	
	DNB Job Number: 78017	Date: 1 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Downlink CDMA 869.7 MHz				

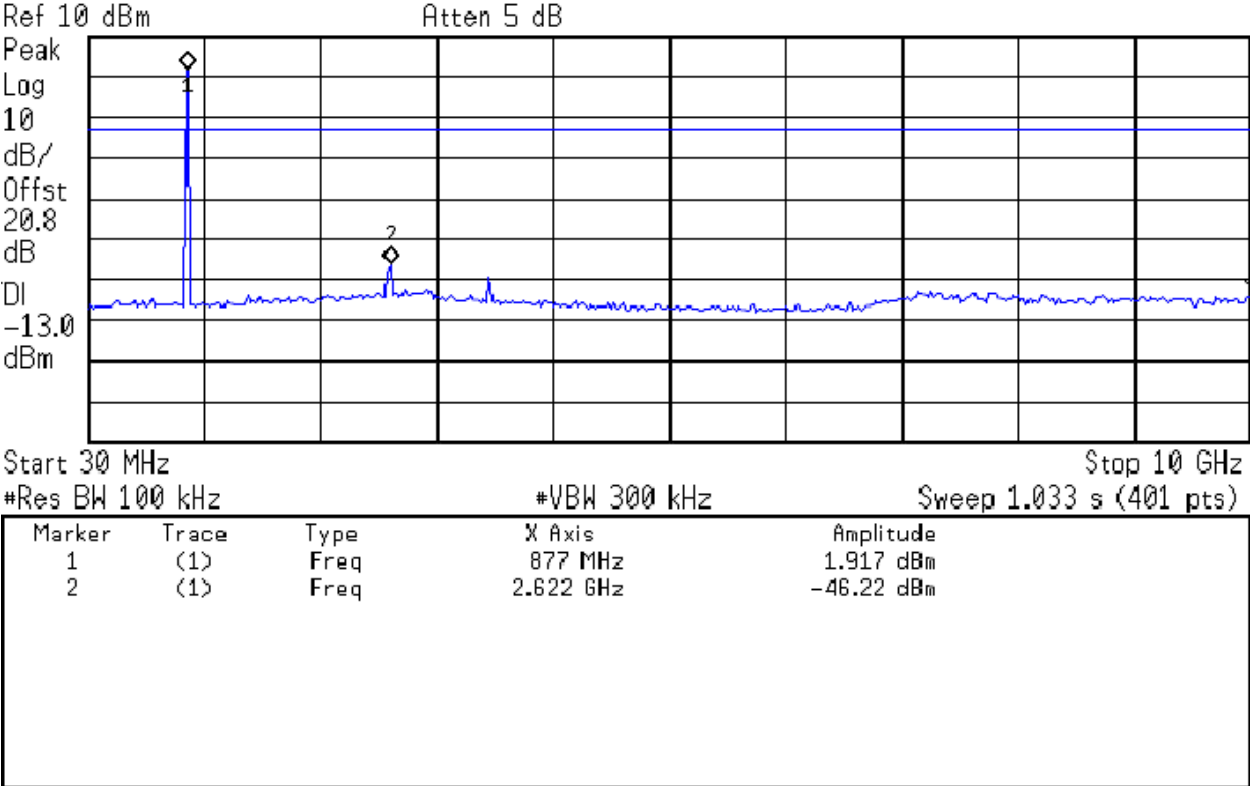



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Downlink.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Antenna Conducted Spurious</b>	
	DNR Job Number: 78017	Date: 1 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Downlink CDMA 881.5 MHz				

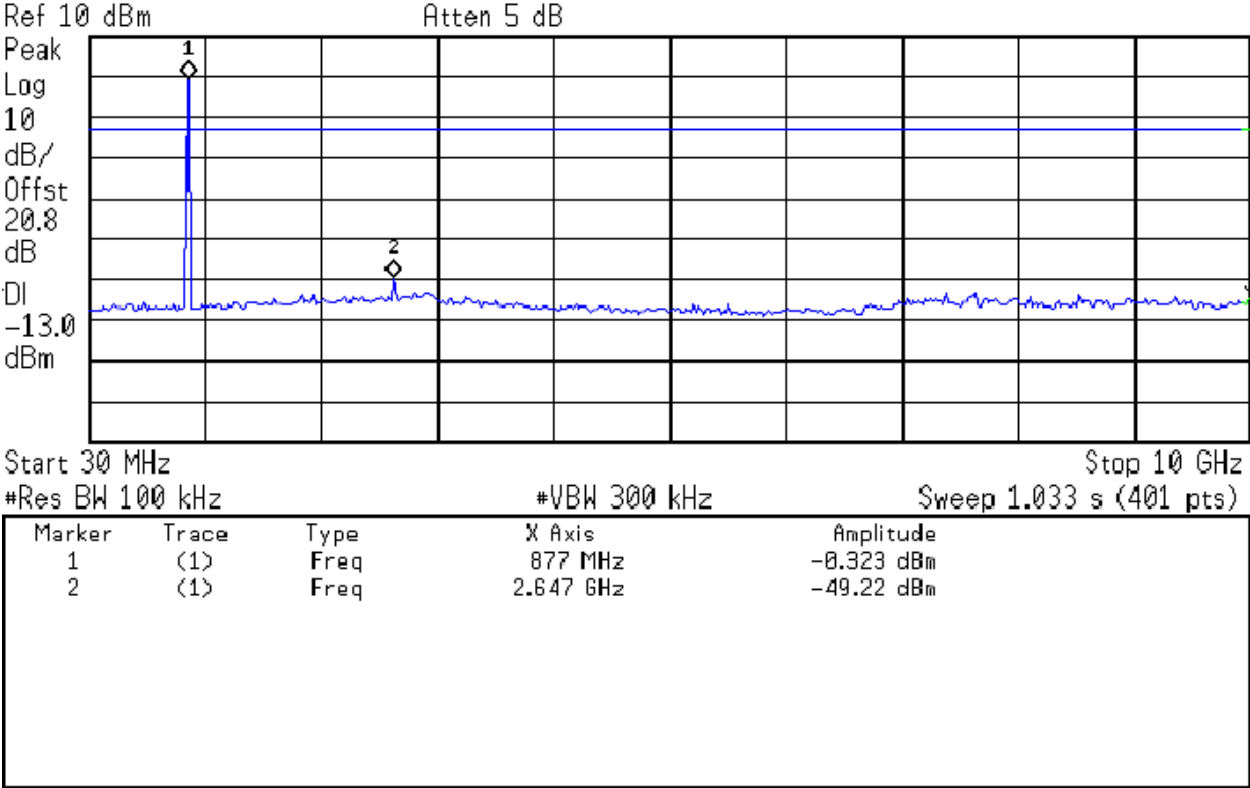







Figure 7: Conducted Spurious Emissions at Antenna Terminals, Downlink.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Antenna Conducted Spurious</b>	
	DNB Job Number: 78017	Date: 30 Aug 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc	Model Number: CHACDMA819			
Description: RF amplifier	Downlink CDMA 1930.700 MHz			

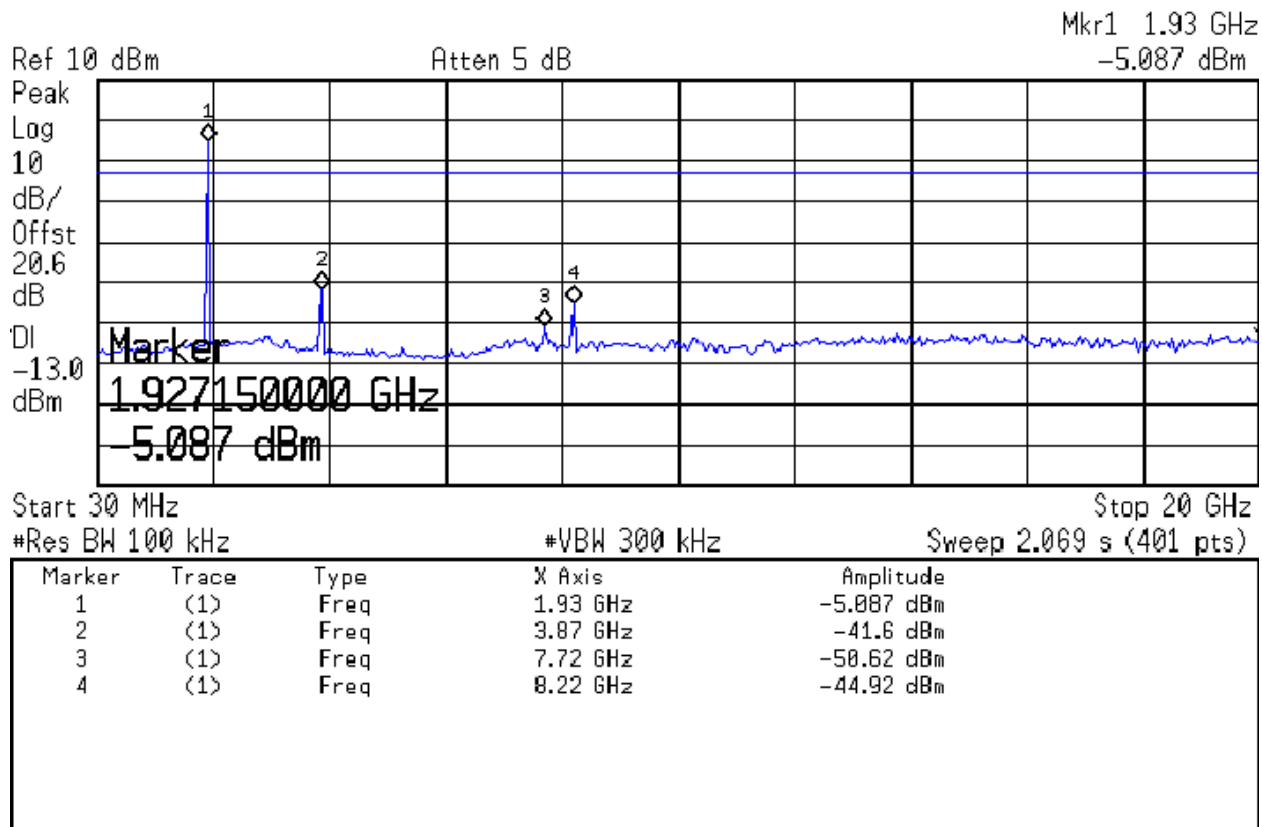

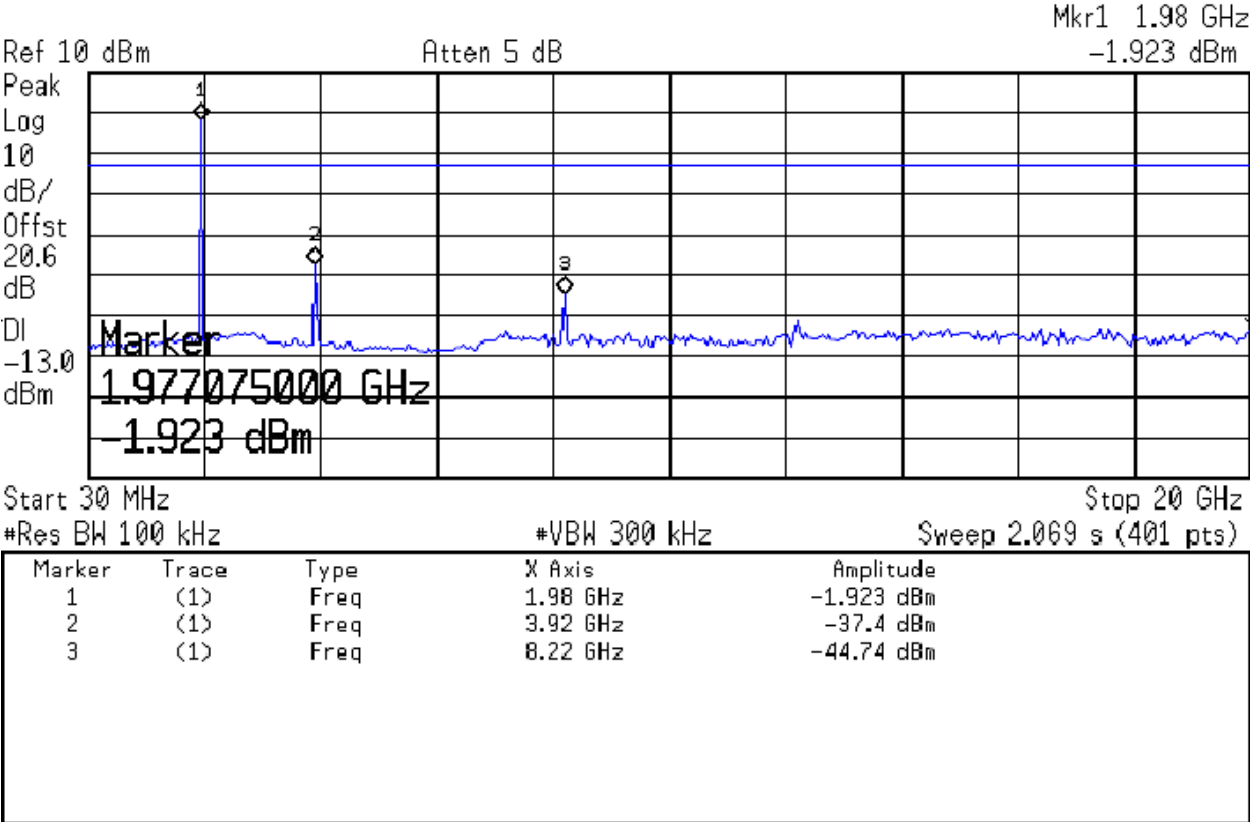


Figure 7: Conducted Spurious Emissions at Antenna Terminals, Downlink.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Antenna Conducted Spurious</b>	
	DNB Job Number: 78017	Date: 30 Aug 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier Downlink CDMA 1960.000 MHz				





## 2.1053 Field Strength of Spurious Radiation (IC RSS-131 Clause 4.4)

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### Definition:

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.

Test Method: Per TIA /EIA 603.

Connect the equipment and follow the procedure described in paragraph 2.2.1.12. Measure the amplitude of each spurious radiated signal through the 10<sup>th</sup> harmonic. The spurious signals are then measured on the 3 meter range. First the EUT is measured using a tuned reference dipole below 1GHz and a double ridge guide Horn antenna above 1GHz. If the DRG antenna is used the appropriate gain factor for the antenna is added into the reading for the final measurement. Then a dipole to dipole (or drg to drg) measurement is conducted to determine the actual power at each harmonic being generated by the EUT. If no noticeable emission can be observed the ground floor is recorded in the data sheets.

Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:

$$P_d(\text{dBm}) = P_g(\text{dBm}) - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

where:

$P_d$  is the dipole equivalent power (ERP) and

$P_g$  is the generator output power into the substitution antenna.

Or for EIRP use the following;


Calculate the equivalent isotropic radiated power (EIRP), in dBm, by correcting the measured levels by the loss of elements feeding the antenna and the isotropic gain of the antenna as follows:

$$EIRP (\text{dBm}) = \text{Level (dBm)} - \text{Loss (dB)} + \text{Antenna Gain (dBi)}$$

Test Results: All readings were below the required limits or at the ground floor.


All radiated spurious emissions are below the IC/FCC Specifications.

FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, UPLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	<b>Radiated Spurious</b>	
DNB Job Number:	78017	Date:	4 Sep 2006
Customer:	Janizary Holdings Inc		
Model Number:	CHACDMA819		
Description:	RF amplifier		
	Uplink 826MHz		
<b>Conformance Standards</b>			
[X] IC RSS-131			
[X] FCC Part 22			
[X] FCC Part 24			


Harm	Freq in MHz	Polarity	Sig Gen (dBm)	Cable Loss (dB)	Ant Gain(dBi)	Corrected to ERP (dBm)	Limit (dBm)	Delta (dBm)
2	1652.00	H	-74.02	1.57	7.90	-67.69	-13.00	-54.69
3	2478.00	H	-68.44	2.30	8.65	-62.09	-13.00	-49.09
4	3304.00	H	-71.33	2.81	8.86	-65.28	-13.00	-52.28
5	4130.00	H	-66.58	3.22	9.33	-60.47	-13.00	-47.47
6	4956.00	H	-70.48	3.54	10.15	-63.87	-13.00	-50.87
7	5782.00	H	-75.06	3.82	10.44	-68.44	-13.00	-55.44
8	6608.00	H	-72.16	4.06	10.32	-65.90	-13.00	-52.90
9	7434.00	H	-69.24	4.27	10.24	-63.27	-13.00	-50.27
10	8260.00	H	-70.61	4.46	10.55	-64.52	-13.00	-51.52
2	1652.00	V	-68.64	1.57	7.90	-62.31	-13.00	-49.31
3	2478.00	V	-57.79	2.30	8.65	-51.44	-13.00	-38.44
4	3304.00	V	-66.00	2.81	8.86	-59.95	-13.00	-46.95
5	4130.00	V	-54.20	3.22	9.33	-48.09	-13.00	-35.09
6	4956.00	V	-73.55	3.54	10.15	-66.94	-13.00	-53.94
7	5782.00	V	-71.39	3.82	10.44	-64.77	-13.00	-51.77
8	6608.00	V	-73.26	4.06	10.32	-67.00	-13.00	-54.00
9	7434.00	V	-69.49	4.27	10.24	-63.52	-13.00	-50.52
10	8260.00	V	-68.90	4.46	10.55	-62.81	-13.00	-49.81

FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, UPLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	<b>Radiated Spurious</b>	
DNB Job Number:	78017	Date:	4 Sep 2006
Customer:	Janizary Holdings Inc		
Model Number:	CHACDMA819		
Description:	RF amplifier		
	Uplink 836.5MHz		
<b>Conformance Standards</b>			
[X] IC RSS-131			
[X] FCC Part 22			
[X] FCC Part 24			


Harm	Freq in MHz	Pol	Sig Gen	Cable Loss	Ant Gain	Corrected to ERP (dBm)	Limit	Delta
2	1673.00	H	-74.10	1.60	7.89	-67.81	-13.00	-54.81
3	2509.50	H	-71.10	2.32	8.70	-64.72	-13.00	-51.72
4	3346.00	H	-71.19	2.84	8.89	-65.14	-13.00	-52.14
5	4182.50	H	-62.64	3.24	9.40	-56.48	-13.00	-43.48
6	5019.00	H	-74.04	3.57	10.21	-67.40	-13.00	-54.40
7	5855.50	H	-73.45	3.85	10.46	-66.84	-13.00	-53.84
8	6692.00	H	-73.65	4.09	10.29	-67.45	-13.00	-54.45
9	7528.50	H	-68.91	4.30	10.25	-62.96	-13.00	-49.96
10	8365.00	H	-68.99	4.49	10.68	-62.80	-13.00	-49.80
2	1673.00	V	-69.30	1.60	7.89	-63.01	-13.00	-50.01
3	2509.50	V	-62.39	2.32	8.70	-56.01	-13.00	-43.01
4	3346.00	V	-71.89	2.84	8.89	-65.84	-13.00	-52.84
5	4182.50	V	-58.03	3.24	9.40	-51.87	-13.00	-38.87
6	5019.00	V	-72.75	3.57	10.21	-66.11	-13.00	-53.11
7	5855.50	V	-72.80	3.85	10.46	-66.19	-13.00	-53.19
8	6692.00	V	-72.80	4.09	10.29	-66.60	-13.00	-53.60
9	7528.50	V	-69.43	4.30	10.25	-63.48	-13.00	-50.48
10	8365.00	V	-68.61	4.49	10.68	-62.42	-13.00	-49.42

FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, UPLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	<b>Radiated Spurious</b>	
DNB Job Number:	78017	Date:	4 Sep 2006
Customer:	Janizary Holdings Inc		
Model Number:	CHACDMA819		
Description:	RF amplifier		
	Uplink 847 MHz		
<b>Conformance Standards</b>			
[X] IC RSS-131			
[X] FCC Part 22			
[X] FCC Part 24			

Harm	Freq in MHz	Pol	Sig Gen	Cable Loss	Ant Gain	Corrected to ERP (dBm)	Limit	Delta
2	1694.00	H	-73.99	1.62	7.87	-67.74	-13.00	-54.74
3	2541.00	H	-70.73	2.35	8.70	-64.38	-13.00	-51.38
4	3388.00	H	-71.82	2.87	8.92	-65.77	-13.00	-52.77
5	4235.00	H	-70.45	3.27	9.47	-64.25	-13.00	-51.25
6	5082.00	H	-75.22	3.60	10.23	-68.59	-13.00	-55.59
7	5929.00	H	-72.67	3.87	10.48	-66.06	-13.00	-53.06
8	6776.00	H	-73.40	4.11	10.26	-67.25	-13.00	-54.25
9	7623.00	H	-69.49	4.33	10.27	-63.55	-13.00	-50.55
10	8470.00	H	-69.58	4.52	10.80	-63.30	-13.00	-50.30
2	1694.00	V	-72.10	1.62	7.87	-65.85	-13.00	-52.85
3	2541.00	V	-64.23	2.35	8.70	-57.88	-13.00	-44.88
4	3388.00	V	-72.90	2.87	8.92	-66.85	-13.00	-53.85
5	4235.00	V	-64.72	3.27	9.47	-58.52	-13.00	-45.52
6	5082.00	V	-73.75	3.60	10.23	-67.12	-13.00	-54.12
7	5929.00	V	-73.62	3.87	10.48	-67.01	-13.00	-54.01
8	6776.00	V	-70.57	4.11	10.26	-64.42	-13.00	-51.42
9	7623.00	V	-68.49	4.33	10.27	-62.55	-13.00	-49.55
10	8470.00	V	-69.01	4.52	10.80	-62.73	-13.00	-49.73


FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, DOWNLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	<b>Radiated Spurious</b>	
DNB Job Number:	78017	Date:	4 Sep 2006
Customer:	Janizary Holdings Inc		
Model Number:	CHACDMA819		
Description:	RF amplifier		
	Downlink 869.7MHz		
<b>Conformance Standards</b>			
[X] IC RSS-131			
[X] FCC Part 22			
[X] FCC Part 24			

Harm	Freq in MHz	Pol	Sig Gen	Cable Loss	Ant Gain	Corrected to ERP (dBm)	Limit	Delta
2	1739.40	H	-72.36	1.66	7.85	-66.17	-13.00	-53.17
3	2609.10	H	-73.06	2.39	8.70	-66.75	-13.00	-53.75
4	3478.80	H	-72.87	2.91	8.96	-66.82	-13.00	-53.82
5	4348.50	H	-74.15	3.31	9.57	-67.89	-13.00	-54.89
6	5218.20	H	-73.80	3.64	10.27	-67.17	-13.00	-54.17
7	6087.90	H	-73.48	3.92	10.47	-66.93	-13.00	-53.93
8	6957.60	H	-70.40	4.16	10.21	-64.35	-13.00	-51.35
9	7827.30	H	-69.99	4.37	10.28	-64.08	-13.00	-51.08
10	8697.00	H	-69.92	4.56	11.00	-63.48	-13.00	-50.48
2	1739.40	V	-69.10	1.66	7.85	-62.91	-13.00	-49.91
3	2609.10	V	-72.99	2.39	8.70	-66.68	-13.00	-53.68
4	3478.80	V	-71.58	2.91	8.96	-65.53	-13.00	-52.53
5	4348.50	V	-73.05	3.31	9.57	-66.79	-13.00	-53.79
6	5218.20	V	-72.94	3.64	10.27	-66.31	-13.00	-53.31
7	6087.90	V	-73.04	3.92	10.47	-66.49	-13.00	-53.49
8	6957.60	V	-69.45	4.16	10.21	-63.40	-13.00	-50.40
9	7827.30	V	-68.84	4.37	10.28	-62.93	-13.00	-49.93
10	8697.00	V	-71.88	4.56	11.00	-65.44	-13.00	-52.44




FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, DOWNLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	<b>Radiated Spurious</b>	
DNB Job Number:	78017	Date:	4 Sep 2006
Customer:	Janizary Holdings Inc		
Model Number:	CHACDMA819		
Description:	RF amplifier		
	Downlink 881.5MHz		
<b>Conformance Standards</b>			
[X] IC RSS-131			
[X] FCC Part 22			
[X] FCC Part 24			


Harm	Freq in MHz	Pol	Sig Gen	Cable Loss	Ant Gain	Corrected to ERP (dBm)	Limit	Delta
2	1763.00	H	-74.00	1.69	7.83	-67.86	-13.00	-54.86
3	2644.50	H	-72.94	2.42	8.70	-66.66	-13.00	-53.66
4	3526.00	H	-72.67	2.94	8.98	-66.63	-13.00	-53.63
5	4407.50	H	-72.80	3.34	9.63	-66.51	-13.00	-53.51
6	5289.00	H	-73.10	3.66	10.29	-66.47	-13.00	-53.47
7	6170.50	H	-73.53	3.94	10.45	-67.02	-13.00	-54.02
8	7052.00	H	-67.43	4.18	10.21	-61.40	-13.00	-48.40
9	7933.50	H	-66.97	4.39	10.29	-61.07	-13.00	-48.07
10	8815.00	H	-69.06	4.58	11.12	-62.52	-13.00	-49.52
2	1763.00	V	-71.58	1.69	7.83	-65.44	-13.00	-52.44
3	2644.50	V	-72.86	2.42	8.70	-66.58	-13.00	-53.58
4	3526.00	V	-74.41	2.94	8.98	-68.37	-13.00	-55.37
5	4407.50	V	-72.12	3.34	9.63	-65.83	-13.00	-52.83
6	5289.00	V	-72.37	3.66	10.29	-65.74	-13.00	-52.74
7	6170.50	V	-67.49	3.94	10.45	-60.98	-13.00	-47.98
8	7052.00	V	-68.83	4.18	10.21	-62.80	-13.00	-49.80
9	7933.50	V	-68.07	4.39	10.29	-62.17	-13.00	-49.17
10	8815.00	V	-69.76	4.58	11.12	-63.22	-13.00	-50.22

FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, DOWNLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Radiated Spurious</b>	
	DNB Job Number: 78017	Date: 4 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Downlink 893.3MHz				


Harm	Freq in MHz	Pol	Sig Gen	Cable Loss	Ant Gain	Corrected to ERP (dBm)	Limit	Delta
2	1786.60	H	-74.16	1.71	7.82	-68.05	-13.00	-55.05
3	2679.90	H	-72.57	2.44	8.70	-66.31	-13.00	-53.31
4	3573.20	H	-72.80	2.96	9.01	-66.75	-13.00	-53.75
5	4466.50	H	-71.72	3.36	9.70	-65.38	-13.00	-52.38
6	5359.80	H	-73.23	3.69	10.32	-66.60	-13.00	-53.60
7	6253.10	H	-72.66	3.97	10.42	-66.21	-13.00	-53.21
8	7146.40	H	-68.46	4.21	10.22	-62.45	-13.00	-49.45
9	8039.70	H	-70.09	4.42	10.35	-64.16	-13.00	-51.16
10	8933.00	H	-71.04	4.61	11.24	-64.41	-13.00	-51.41
2	1786.60	V	-72.30	1.71	7.82	-66.19	-13.00	-53.19
3	2679.90	V	-70.96	2.44	8.70	-64.70	-13.00	-51.70
4	3573.20	V	-72.34	2.96	9.01	-66.29	-13.00	-53.29
5	4466.50	V	-70.66	3.36	9.70	-64.32	-13.00	-51.32
6	5359.80	V	-68.07	3.69	10.32	-61.44	-13.00	-48.44
7	6253.10	V	-73.47	3.97	10.42	-67.02	-13.00	-54.02
8	7146.40	V	-68.16	4.21	10.22	-62.15	-13.00	-49.15
9	8039.70	V	-70.68	4.42	10.35	-64.75	-13.00	-51.75
10	8933.00	V	-68.76	4.61	11.24	-62.13	-13.00	-49.13

FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, UPLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	<b>Radiated Spurious</b>	
DNB Job Number:	78017	Date:	5 Sep 2006
Customer:	Janizary Holdings Inc		
Model Number:	CHACDMA819		
Description:	RF amplifier		
	Uplink 1851.84MHz		
<b>Conformance Standards</b>			
[X] IC RSS-131			
[X] FCC Part 22			
[X] FCC Part 24			


Harm	Freq in MHz	Pol	Sig Gen	Cable Loss	Ant Gain	Corrected to EIRP (dBm)	Limit	Delta
2	3703.68	H	-71.75	3.02	9.06	-65.71	-13.00	-52.71
3	5555.52	H	-66.47	3.75	10.37	-59.85	-13.00	-46.85
4	7407.36	H	-70.19	4.27	10.24	-64.22	-13.00	-51.22
5	9259.20	H	-70.18	4.67	11.40	-63.45	-13.00	-50.45
6	11111.04	H	-70.81	5.00	11.69	-64.12	-13.00	-51.12
7	12962.88	H	-70.36	5.27	12.71	-62.92	-13.00	-49.92
8	14814.72	H	-67.22	5.51	13.25	-59.48	-13.00	-46.48
9	16666.56	H	-67.78	5.73	13.96	-59.55	-13.00	-46.55
10	18518.40	H	-68.93	5.92	9.01	-65.84	-13.00	-52.84
2	3703.68	V	-68.27	3.02	9.06	-62.23	-13.00	-49.23
3	5555.52	V	-65.06	3.75	10.37	-58.44	-13.00	-45.44
4	7407.36	V	-67.04	4.27	10.24	-61.07	-13.00	-48.07
5	9259.20	V	-69.38	4.67	11.40	-62.65	-13.00	-49.65
6	11111.04	V	-70.88	5.00	11.69	-64.19	-13.00	-51.19
7	12962.88	V	-70.48	5.27	12.71	-63.04	-13.00	-50.04
8	14814.72	V	-66.19	5.51	13.25	-58.45	-13.00	-45.45
9	16666.56	V	-68.37	5.73	13.96	-60.14	-13.00	-47.14
10	18518.40	V	-69.08	5.92	9.01	-65.99	-13.00	-52.99

FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, UPLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	<b>Radiated Spurious</b>	
DNB Job Number:	78017	Date:	5 Sep 2006
Customer:	Janizary Holdings Inc		
Model Number:	CHACDMA819		
Description:	RF amplifier		
	Uplink 1880MHz		
<b>Conformance Standards</b>			
[X] IC RSS-131			
[X] FCC Part 22			
[X] FCC Part 24			


Harm	Freq in MHz	Pol	Sig Gen	Cable Loss	Ant Gain	Corrected to EIRP (dBm)	Limit	Delta
2	3760.00	H	-69.05	3.05	9.09	-63.01	-13.00	-50.01
3	5640.00	H	-67.17	3.78	10.40	-60.55	-13.00	-47.55
4	7520.00	H	-68.81	4.30	10.25	-62.86	-13.00	-49.86
5	9400.00	H	-69.13	4.70	11.47	-62.36	-13.00	-49.36
6	11280.00	H	-69.33	5.03	11.86	-62.50	-13.00	-49.50
7	13160.00	H	-69.11	5.30	12.37	-62.04	-13.00	-49.04
8	15040.00	H	-66.76	5.54	13.59	-58.71	-13.00	-45.71
9	16920.00	H	-69.10	5.76	13.22	-61.64	-13.00	-48.64
10	18800.00	H	-65.62	5.95	8.25	-63.32	-13.00	-50.32
2	3760.00	V	-60.37	3.05	9.09	-54.33	-13.00	-41.33
3	5640.00	V	-67.59	3.78	10.40	-60.97	-13.00	-47.97
4	7520.00	V	-62.53	4.30	10.25	-56.58	-13.00	-43.58
5	9400.00	V	-62.94	4.70	11.47	-56.17	-13.00	-43.17
6	11280.00	V	-70.20	5.03	11.86	-63.37	-13.00	-50.37
7	13160.00	V	-68.26	5.30	12.37	-61.19	-13.00	-48.19
8	15040.00	V	-67.11	5.54	13.59	-59.06	-13.00	-46.06
9	16920.00	V	-67.50	5.76	13.22	-60.04	-13.00	-47.04
10	18800.00	V	-67.20	5.95	8.25	-64.90	-13.00	-51.90

FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, UPLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	<b>Radiated Spurious</b>	
DNB Job Number:	78017	Date:	5 Sep 2006
Customer:	Janizary Holdings Inc		
Model Number:	CHACDMA819		
Description:	RF amplifier		
	Uplink 1909.160MHz		
<b>Conformance Standards</b>			
[X] IC RSS-131			
[X] FCC Part 22			
[X] FCC Part 24			


Harm	Freq in MHz	Pol	Sig Gen	Cable Loss	Ant Gain	Corrected to EIRP (dBm)	Limit	Delta
2	3818.32	H	-66.61	3.08	9.12	-60.57	-13.00	-47.57
3	5727.48	H	-73.18	3.81	10.42	-66.57	-13.00	-53.57
4	7636.64	H	-65.96	4.33	10.27	-60.02	-13.00	-47.02
5	9545.80	H	-69.27	4.73	11.53	-62.47	-13.00	-49.47
6	11454.96	H	-68.91	5.06	12.02	-61.95	-13.00	-48.95
7	13364.12	H	-67.28	5.33	12.32	-60.29	-13.00	-47.29
8	15273.28	H	-67.78	5.57	14.16	-59.19	-13.00	-46.19
9	17182.44	H	-68.58	5.78	12.47	-61.89	-13.00	-48.89
10	19091.60	H	-67.89	5.97	7.50	-66.36	-13.00	-53.36
2	3818.32	V	-56.95	3.08	9.12	-50.91	-13.00	-37.91
3	5727.48	V	-73.08	3.81	10.42	-66.47	-13.00	-53.47
4	7636.64	V	-64.98	4.33	10.27	-59.04	-13.00	-46.04
5	9545.80	V	-70.15	4.73	11.53	-63.35	-13.00	-50.35
6	11454.96	V	-68.74	5.06	12.02	-61.78	-13.00	-48.78
7	13364.12	V	-67.26	5.33	12.32	-60.27	-13.00	-47.27
8	15273.28	V	-65.66	5.57	14.16	-57.07	-13.00	-44.07
9	17182.44	V	-66.70	5.78	12.47	-60.01	-13.00	-47.01
10	19091.60	V	-67.80	5.97	7.50	-66.27	-13.00	-53.27

FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, DOWNLINK

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704		<b>Radiated Spurious</b>	
	DNB Job Number: 78017	Date: 5 Sep 2006	<b>Conformance Standards</b> [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24	
Customer: Janizary Holdings Inc				
Model Number: CHACDMA819				
Description: RF amplifier  Downlink 1930.7MHz				


Harm	Freq in MHz	Pol	Sig Gen	Cable Loss	Ant Gain	Corrected to EIRP (dBm)	Limit	Delta
2	3861.40	H	-70.22	3.10	9.14	-64.18	-13.00	-51.18
3	5792.10	H	-73.68	3.83	10.44	-67.07	-13.00	-54.07
4	7722.80	H	-68.72	4.34	10.27	-62.79	-13.00	-49.79
5	9653.50	H	-70.42	4.75	11.56	-63.61	-13.00	-50.61
6	11584.20	H	-67.93	5.07	12.13	-60.87	-13.00	-47.87
7	13514.90	H	-66.62	5.35	12.30	-59.67	-13.00	-46.67
8	15445.60	H	-64.84	5.59	14.53	-55.90	-13.00	-42.90
9	17376.30	H	-67.76	5.80	11.98	-61.58	-13.00	-48.58
10	19307.00	H	-67.72	5.99	7.01	-66.70	-13.00	-53.70
2	3861.40	V	-67.22	3.10	9.14	-61.18	-13.00	-48.18
3	5792.10	V	-72.17	3.83	10.44	-65.56	-13.00	-52.56
4	7722.80	V	-69.43	4.34	10.27	-63.50	-13.00	-50.50
5	9653.50	V	-69.61	4.75	11.56	-62.80	-13.00	-49.80
6	11584.20	V	-68.61	5.07	12.13	-61.55	-13.00	-48.55
7	13514.90	V	-67.09	5.35	12.30	-60.14	-13.00	-47.14
8	15445.60	V	-66.60	5.59	14.53	-57.66	-13.00	-44.66
9	17376.30	V	-67.35	5.80	11.98	-61.17	-13.00	-48.17
10	19307.00	V	-66.10	5.99	7.01	-65.08	-13.00	-52.08

FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, DOWNLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	<b>Radiated Spurious</b>	
DNB Job Number:	78017	Date:	5 Sep 2006
Customer:	Janizary Holdings Inc		
Model Number:	CHACDMA819		
Description:	RF amplifier		
	Downlink 1960MHz		
<b>Conformance Standards</b>			
[X] IC RSS-131			
[X] FCC Part 22			
[X] FCC Part 24			

Harm	Freq in MHz	Pol	Sig Gen	Cable Loss	Ant Gain	Corrected to EIRP (dBm)	Limit	Delta
2	3920.00	H	-64.86	3.13	9.16	-58.83	-13.00	-45.83
3	5880.00	H	-73.31	3.86	10.47	-66.70	-13.00	-53.70
4	7840.00	H	-69.30	4.37	10.28	-63.39	-13.00	-50.39
5	9800.00	H	-70.44	4.77	11.62	-63.59	-13.00	-50.59
6	11760.00	H	-69.53	5.10	12.29	-62.34	-13.00	-49.34
7	13720.00	H	-65.77	5.38	12.25	-58.90	-13.00	-45.90
8	15680.00	H	-67.14	5.62	15.08	-57.68	-13.00	-44.68
9	17640.00	H	-67.35	5.83	11.25	-61.93	-13.00	-48.93
10	19600.00	H	-68.50	6.02	6.28	-68.24	-13.00	-55.24
2	3920.00	V	-63.51	3.13	9.16	-57.48	-13.00	-44.48
3	5880.00	V	-69.60	3.86	10.47	-62.99	-13.00	-49.99
4	7840.00	V	-69.71	4.37	10.28	-63.80	-13.00	-50.80
5	9800.00	V	-70.60	4.77	11.62	-63.75	-13.00	-50.75
6	11760.00	V	-69.16	5.10	12.29	-61.97	-13.00	-48.97
7	13720.00	V	-67.09	5.38	12.25	-60.22	-13.00	-47.22
8	15680.00	V	-66.91	5.62	15.08	-57.45	-13.00	-44.45
9	17640.00	V	-66.04	5.83	11.25	-60.62	-13.00	-47.62
10	19600.00	V	-67.90	6.02	6.28	-67.64	-13.00	-54.64

FIGURE 8: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS, DOWNLINK.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	<b>Radiated Spurious</b>	
DNB Job Number:	78017	Date:	5 Sep 2006
Customer:	Janizary Holdings Inc		
Model Number:	CHACDMA819		
Description:	RF amplifier		
	Downlink 1989.3MHz		
<b>Conformance Standards</b>			
[X] IC RSS-131			
[X] FCC Part 22			
[X] FCC Part 24			

Harm	Freq in MHz	Pol	Sig Gen	Cable Loss	Ant Gain	Corrected to EIRP (dBm)	Limit	Delta
2	3978.60	H	-69.12	3.15	9.19	-63.08	-13.00	-50.08
3	5967.90	H	-67.70	3.88	10.49	-61.09	-13.00	-48.09
4	7957.20	H	-72.16	4.40	10.30	-66.26	-13.00	-53.26
5	9946.50	H	-67.92	4.80	11.68	-61.04	-13.00	-48.04
6	11935.80	H	-70.20	5.13	12.45	-62.88	-13.00	-49.88
7	13925.10	H	-70.77	5.41	12.21	-63.97	-13.00	-50.97
8	15914.40	H	-68.11	5.65	15.62	-58.14	-13.00	-45.14
9	17903.70	H	-67.54	5.86	10.54	-62.86	-13.00	-49.86
10	19893.00	H	-68.59	6.05	5.56	-69.08	-13.00	-56.08
2	3978.60	V	-61.92	3.15	9.19	-55.88	-13.00	-42.88
3	5967.90	V	-66.75	3.88	10.49	-60.14	-13.00	-47.14
4	7957.20	V	-68.19	4.40	10.30	-62.29	-13.00	-49.29
5	9946.50	V	-69.97	4.80	11.68	-63.09	-13.00	-50.09
6	11935.80	V	-68.05	5.13	12.45	-60.73	-13.00	-47.73
7	13925.10	V	-67.15	5.41	12.21	-60.35	-13.00	-47.35
8	15914.40	V	-67.16	5.65	15.62	-57.19	-13.00	-44.19
9	17903.70	V	-67.55	5.86	10.54	-62.87	-13.00	-49.87
10	19893.00	V	-66.71	6.05	5.56	-67.20	-13.00	-54.20



## RADIATED EMISSIONS

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Definition:

Emissions which emanate from the EUT.


Test Method: FCC Part 15 Class B (CISPR 22)

To measure radiated emissions, the EUT was set up on the 10 meter open air test site. The EUT is placed on a wooden Table, which rests upon a wooden turntable. The top of the table is one meter above the ground, and the turntable can be rotated 360 degrees. For each frequency measured, the antenna is raised and lowered for both horizontal and vertical polarities to obtain the maximum reading on the analyzer. The turntable is also rotated throughout the 360 degrees in azimuth to determine the position of the maximum emissions. The applicable frequency range is searched using the antennas listed below. The respective antenna and preamplifier were connected to an HP 8568B Spectrum Analyzer. Preamplifiers were used for all ranges to achieve the needed dynamic range.

Test Results:

All readings were below the expectable limit.

FIGURE 9: RADIATED EMISSIONS.

	5969 Robinson Avenue Riverside, CA 92503 (951) 637-2630 FAX (951) 637-2704	<b>Radiated Emissions</b>			
DNB Job Number:	78017	Date:	5 Sep 2006	<b>Conformance Standards</b>  [X] FCC Part 15 [X] IC Cispr 22	
Customer:	Janizary Holdings Inc				
Model Number:	CHACDMA819				
Description:	RF amplifier				

FREQ	METER	Correction Factors (dB)					in dBuV/m			in uV/m			Positions			
		Bcn	Log	Cbl	Amp	Dis	Corr	Lim	Delta	Corr	Lim	Delta	Typ	Tbl	Pl	Hgt
30.217	32.8	14.7	0.0	0.6	-24.4	0.0	23.7	30.0	-6.3	15	32	-17	PK	61	H	4.00
58.256	34.9	10.2	0.0	0.9	-24.3	0.0	21.7	30.0	-8.3	12	32	-20	PK	0	H	4.00
146.048	30.9	11.7	0.0	1.7	-24.3	0.0	20	30.0	-10.0	10	32	-22	PK	178	H	3.83
201.991	23.3	0.0	10.9	2.1	-24.3	0.0	12.0	30.0	-18.0	4	32	-28	PK	65	H	1.00
204.688	24.8	0.0	11.0	2.1	-24.3	0.0	13.6	30.0	-16.4	5	32	-27	PK	360	H	3.83
504.491	29.9	0.0	19.2	3.7	-24.8	0.0	28.0	37.0	-9.0	25	71	-46	PK	65	H	1.00
913.798	27.0	0.0	25.0	5.5	-25.1	0.0	32.4	37.0	-4.6	42	71	-29	PK	98	H	1.14
32.388	31.7	13.8	0.0	0.6	-24.3	0.0	21.8	30.0	-8.2	12	32	-20	PK	360	V	1.71
58.481	30.3	10.2	0.0	0.9	-24.3	0.0	17.1	30.0	-12.9	7	32	-25	PK	316	V	1.91
74.981	30.6	10.2	0.0	1.1	-24.3	0.0	17.6	30.0	-12.4	8	32	-24	PK	104	V	1.72
147.234	26.6	11.8	0.0	1.7	-24.3	0.0	15.8	30.0	-14.2	6	32	-26	PK	104	V	1.72
198.374	24.1	15.3	0.0	2.1	-24.3	0.0	17.2	30.0	-12.8	7	32	-25	PK	104	V	1.72
206.368	27.0	0.0	11.0	2.1	-24.3	0.0	15.8	30.0	-14.2	6	32	-26	PK	104	V	1.72
305.520	23.4	0.0	14.2	2.5	-24.5	0.0	15.6	37.0	-21.4	6	71	-65	PK	104	V	1.72
501.615	31.4	0.0	19.3	3.7	-24.8	0.0	29.6	37.0	-7.4	30	71	-41	PK	104	V	1.72
906.300	23.2	0.0	25.1	5.5	-25.1	0.0	28.7	37.0	-8.3	27	71	-44	PK	104	V	1.72

## 2.1055 Measurement of Frequency Stability (IC RSS-131)

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The EUT is a power amplifier and contains no circuitry for generating or stabilizing the RF signal. The driver will be responsible for this task.

**2.1057 Frequency Spectrum to be Investigated**

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The Frequency was searched from the lowest radio frequency generated in the equipment through the 10<sup>th</sup> harmonic of the carrier frequency.

## RF Exposure

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The CHACDMA819 (800 / 1900 MHz) dual band RF Compensator is operated as a mobile device as defined in 2.1091(b) based on its design and installation. The compensator is installed into a vehicle such that it is physically secured and is generally located more than 20 cm from the end-user. This information is included in the user manual. It is suggested that the antenna be installed such that there is at least 20 cm of separation between the occupants of the vehicle and the antenna.

The CHACDMA819 (800 / 1900 MHz) dual band RF Compensator has a transmitted conducted power of 0.5 W in both cellular and PCS bands. The mobile antenna supplied with the transceiver has a maximum gain of 3 dB, and minimum cable loss of -1.0 dB, together resulting in a maximum EIRP of 1 W. Since the transmit cellular band (824-849 MHz) is below 1.5 GHz and its EIRP with the supplied antenna is below 1.5 and transmit PCS band (1850-1910 MHz) is above 1.5 GHz and its EIRP with the supplied antenna is below 3W, the 800 / 1900 MHz RF Compensator is categorically excluded from routine environmental evaluation per 2.1091(c).

## RF Exposure – MPE Calculations

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### Input

Transmitter Power: Lo band - 1429 mW / Hi band – 1510mW

Antenna Gain: 3 dB

Cable loss: 1 dB @ 824 – 849 MHz  
2 dB @ 1850 – 1910 MHz

Frequency range: 826-847 MHz and 1851.84-1909.16 MHz

### Assumptions

1. A single  $\frac{1}{4}$  wavelength radiating antenna is assumed.
2. Closest exposure distance is assumed to be 20 cm

## RF Exposure – MPE Calculations

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### Calculations

The following results shall be assumed to be accurate for the far-field only. These predictions will over-estimate power density in the near-field. Based on the use of a ¼ wavelength radiator, a distance of 20 cm is considered to be in the far-field for all cases.

$$S = PG/4*PI*R^2$$

@ 826 – 847 MHz

P is 1429 mW

G is 2 dB (Antenna gain – loss) or  $10^{(2/10)}$  or 1.585

R is 20 cm

$$\underline{S = 0.451 \text{ mW/cm}^2}$$

For Occupational/Controlled Exposure

From 300 to 1500 MHz, power density limit is  $f/300 \text{ mW/cm}^2$

@ 824 MHz, power density limit is **2.75 mW/cm<sup>2</sup> for 6 minutes.**

For General Population/Uncontrolled Exposure

From 300 to 1500 MHz, power density limit is  $f/1500 \text{ mW/cm}^2$

@ 824 MHz, Power density limit is **0.55 mW/cm<sup>2</sup> for 30 minutes.**

**Conclusion: Meets MPE limits**

@ 1851.84 – 1909.16 MHz

P is 1510 mW

G is 1 dB (Antenna gain – loss) or  $10^{(1/10)}$  or 1.26

R is 20 cm

$$\underline{S = 0.378379 \text{ mW/cm}^2}$$

For Occupational/Controlled Exposure

From 1,500 to 100,000 MHz, power density limit is **5 mW/cm<sup>2</sup> for 6 minutes.**

For General Population/Uncontrolled Exposure

From 1,500 to 100,000 MHz, power density limit is **1 mW/cm<sup>2</sup> for 30 minutes.**

**Conclusion: Meets MPE limits**

**Appendix A**

**Photographs**

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**PHOTOS: RADIATED EMISSIONS: BICON**

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Notes:



# PHOTOS: RADIATED EMISSIONS: LOG

Notes:



**PHOTOS: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS**

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Notes:



**PHOTO: RF POWER OUTPUT, EMISSIONS LIMITATIONS CDMA, OCCUPIED BANDWIDTH CDMA, CONDUCTED SPURIOUS EMISSIONS AT ANTENNA TERMINALS**

Notes:

