


FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	10 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - TDMA - Input - 881.5MHz			

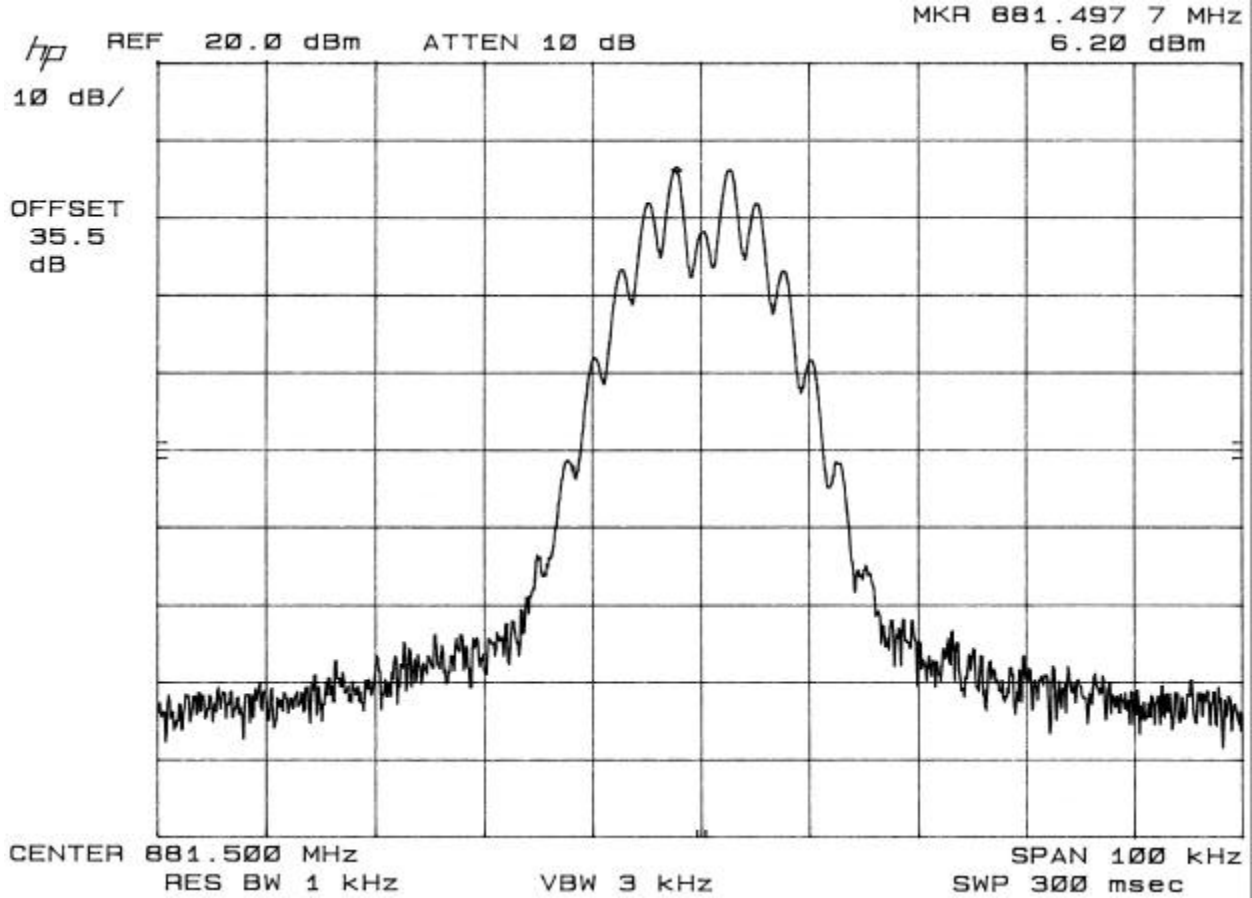



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 10 Feb 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Downlink Signal Source - TDMA – Output – 881.5MHz				

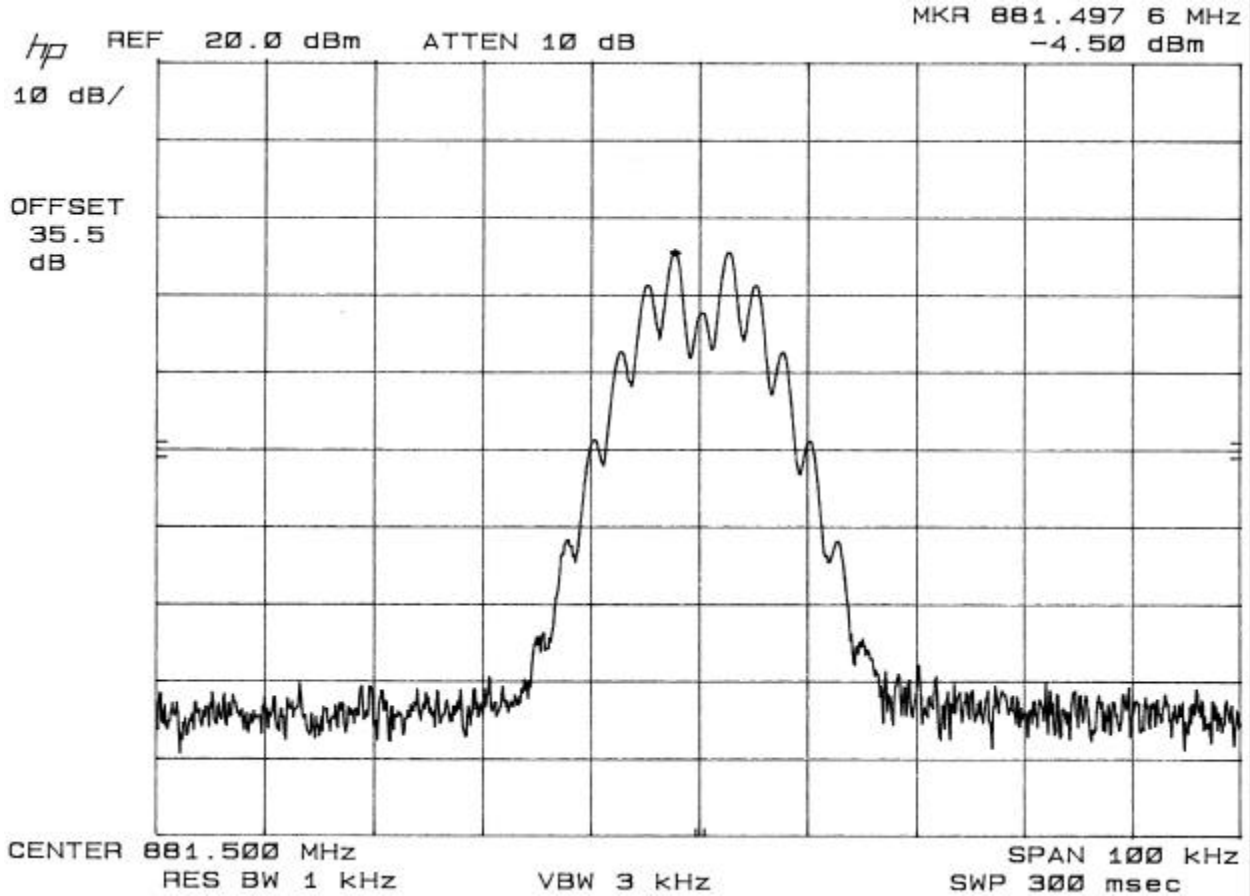



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 10 Feb 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Downlink	Signal Source - TDMA - Input - 894MHz			

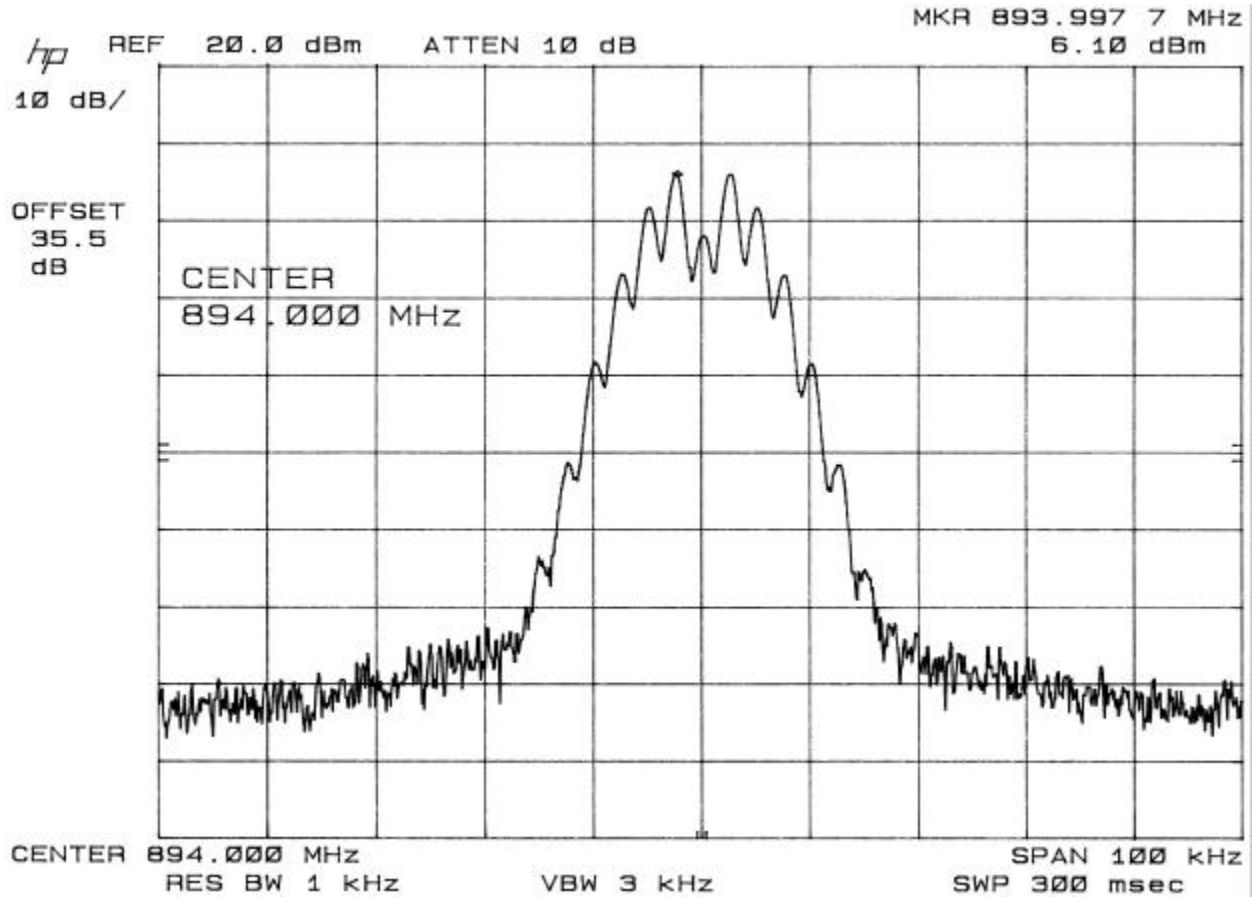



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 10 Feb 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Downlink Signal Source - TDMA - Output - 894MHz				

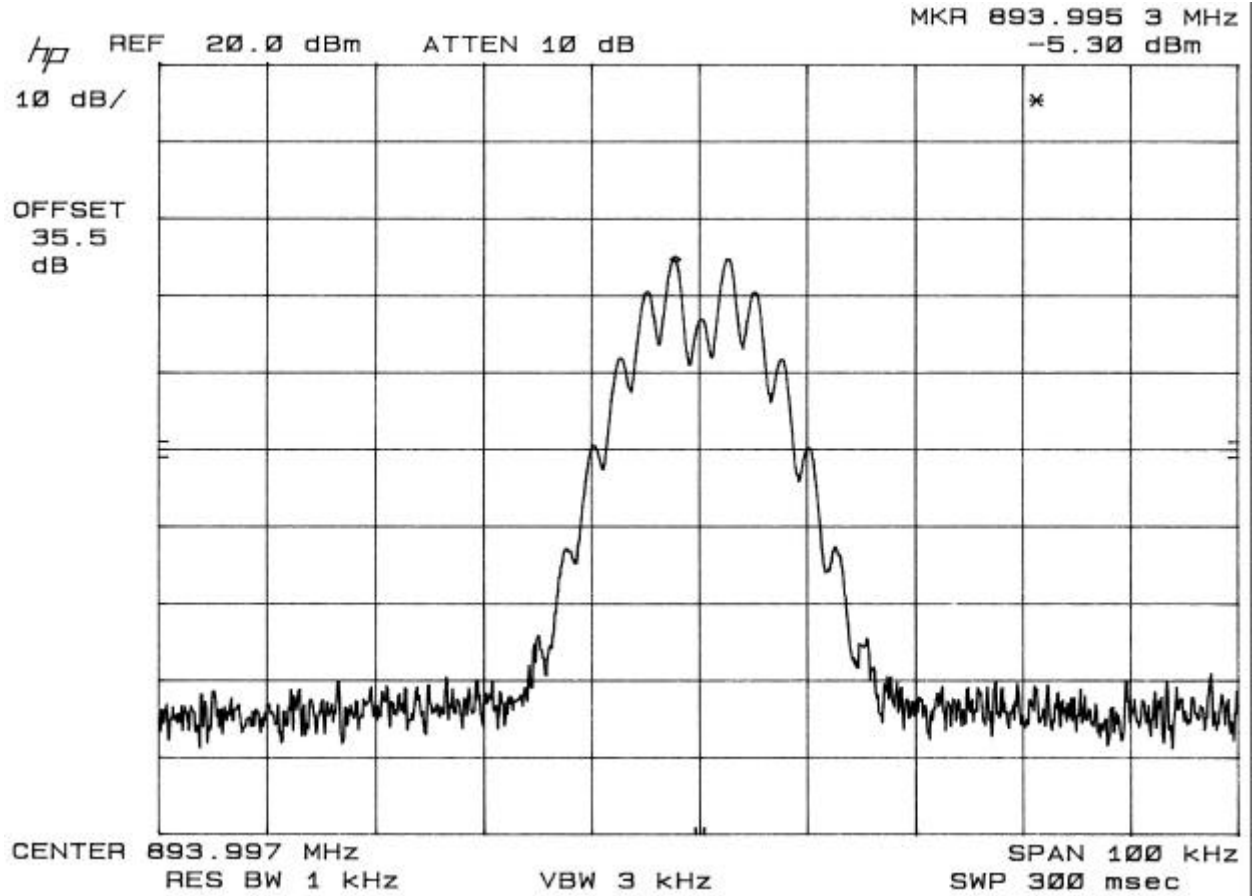



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	10 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - TDMA - Input - 1930MHz			

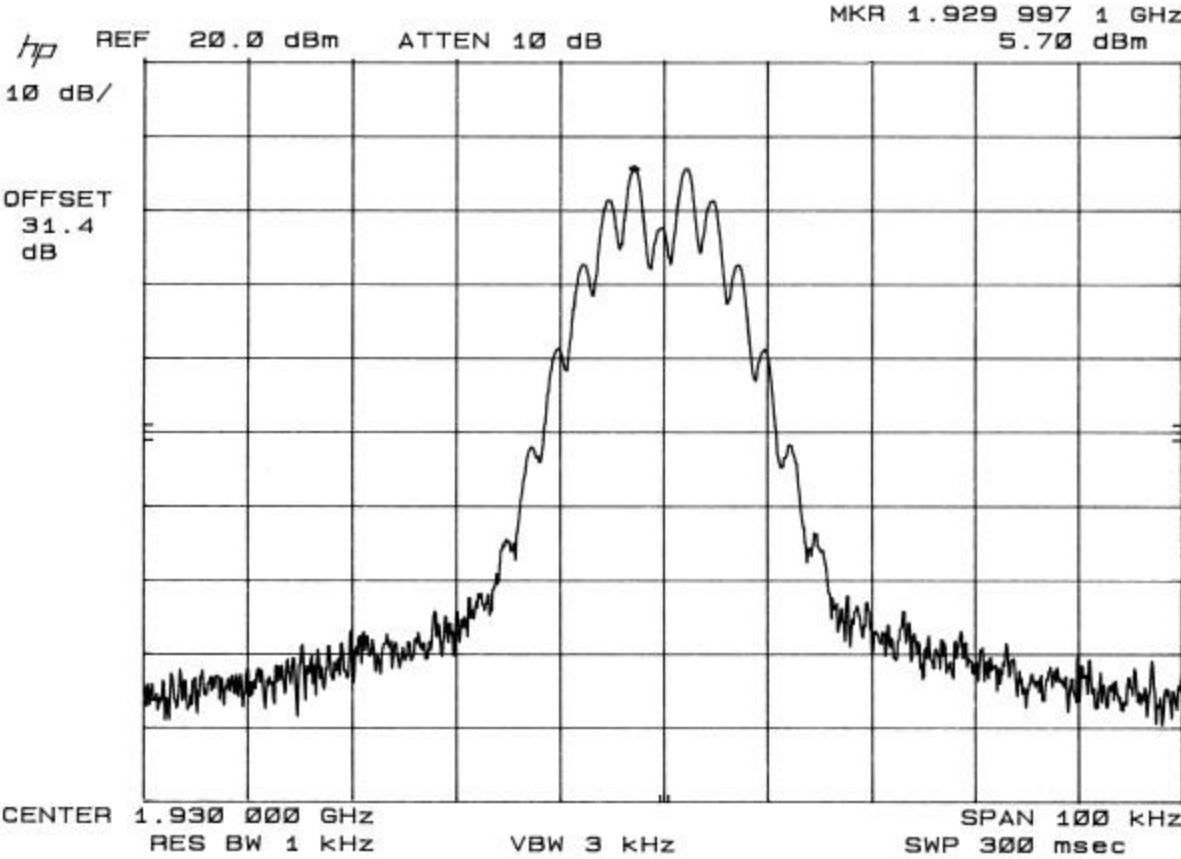



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 10 Feb 2004	Conformance Standards <input checked="" type="checkbox"/> FCC Part 15 <input checked="" type="checkbox"/> FCC Part 22 <input checked="" type="checkbox"/> FCC Part 24 <input checked="" type="checkbox"/> FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Downlink Signal Source - TDMA – Output – 1930MHz				

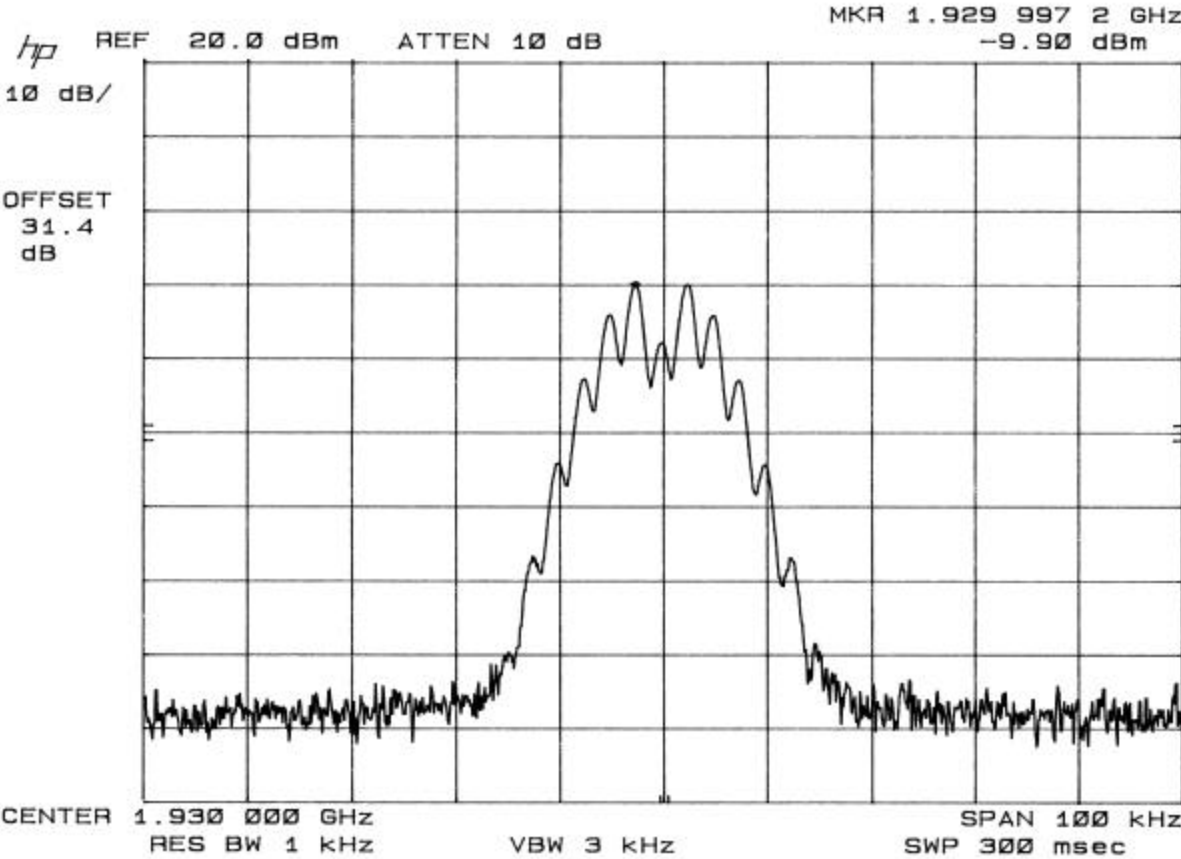



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	10 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - TDMA - Input - 1960MHz			

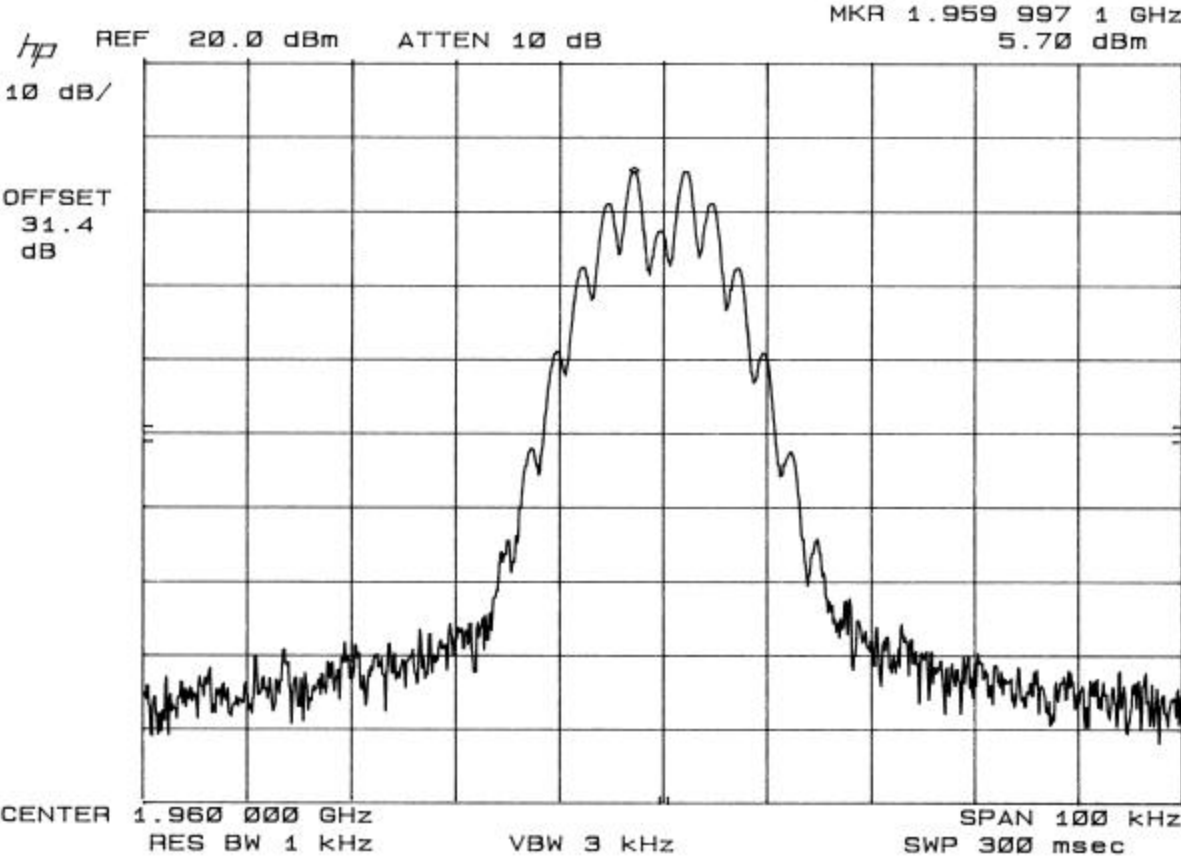



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	10 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - TDMA - Output - 1960MHz			

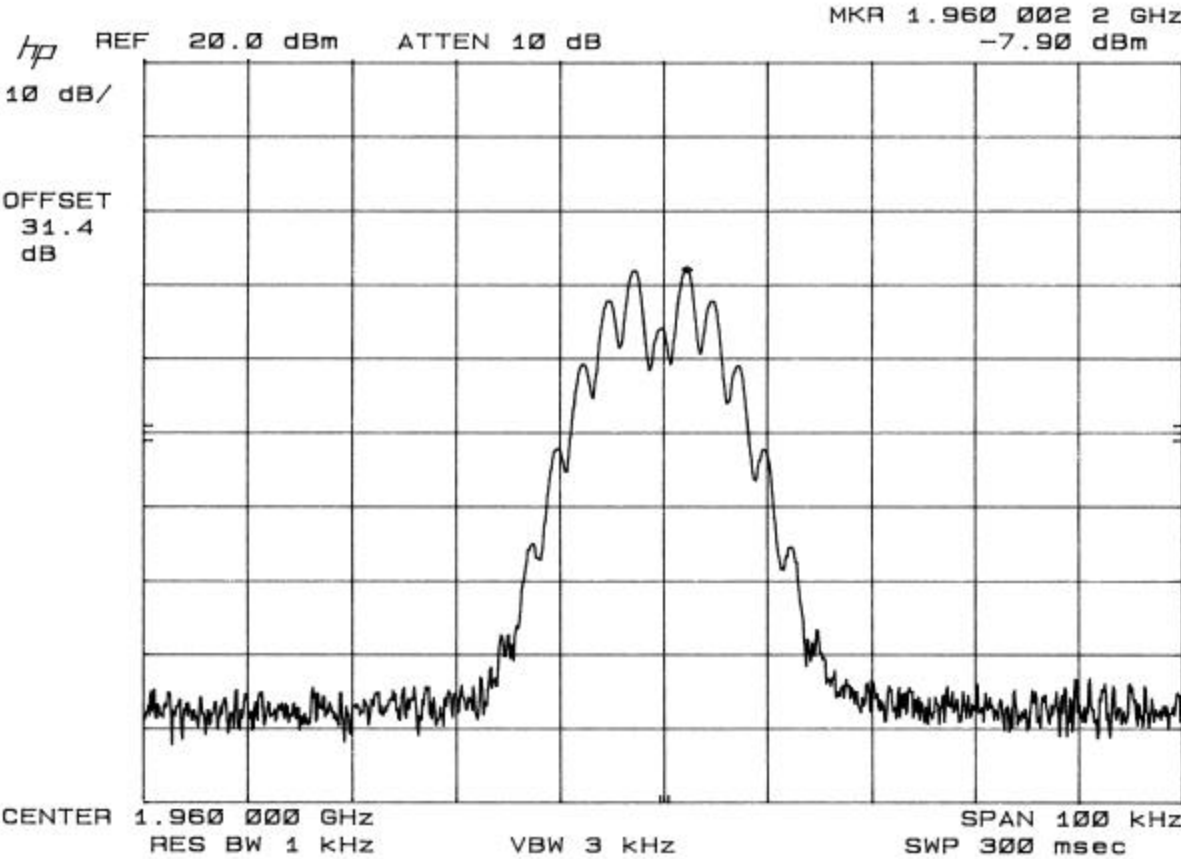



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	10 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - TDMA - Input - 1990MHz			

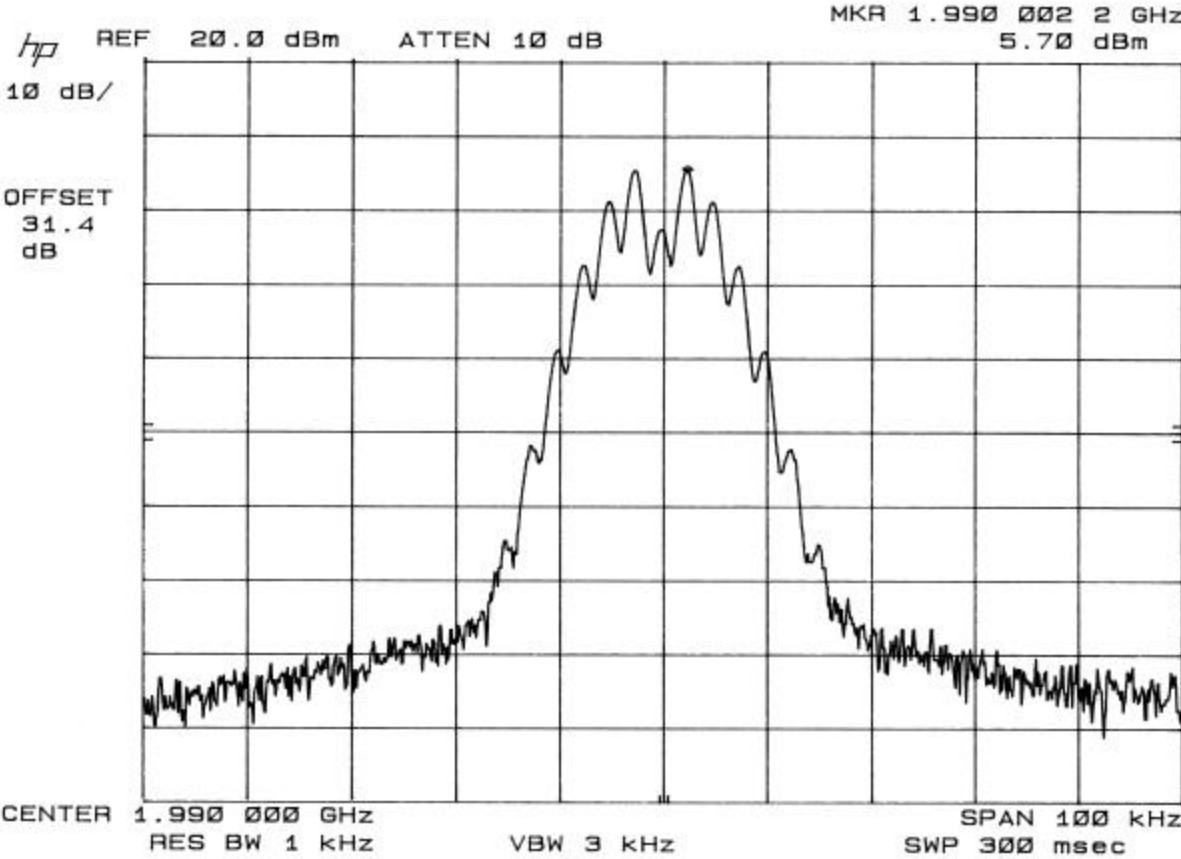



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	10 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - TDMA - Output - 1990MHz			

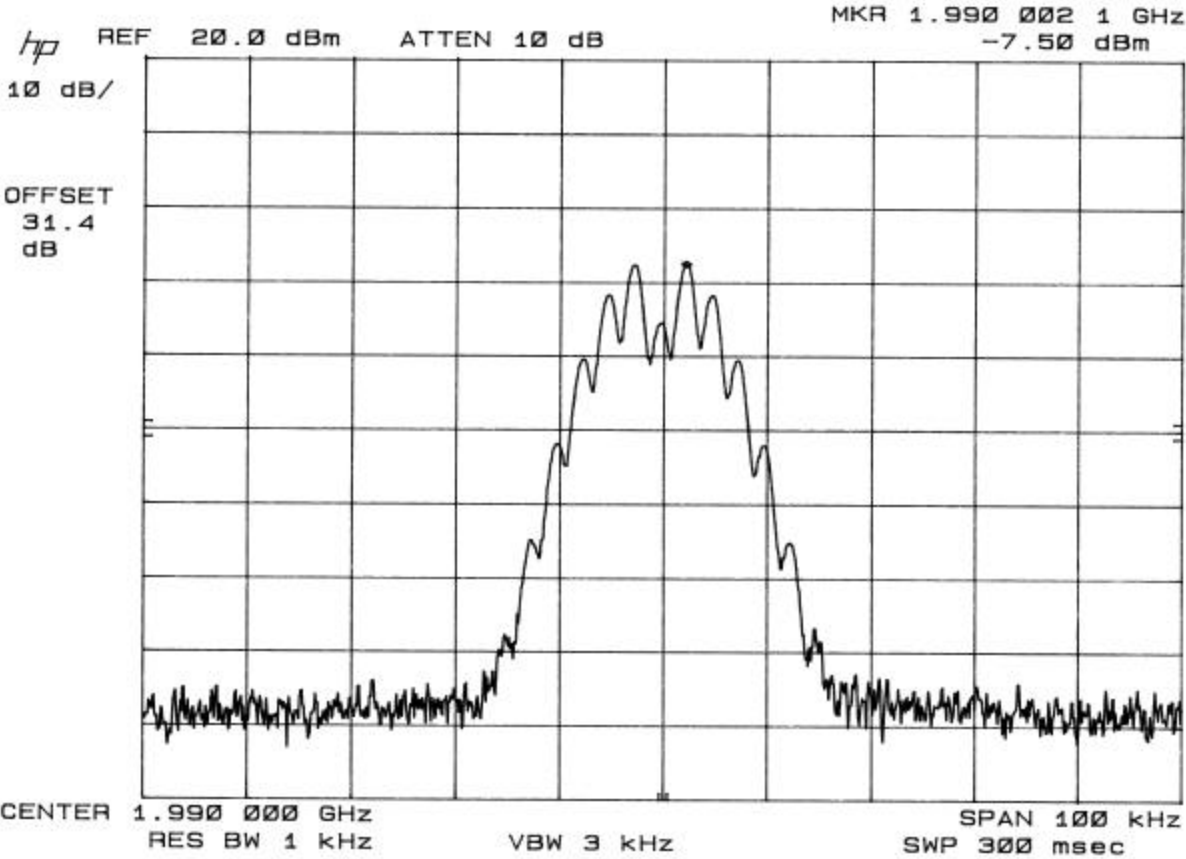



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 18 Feb 2004	Conformance Standards <input checked="" type="checkbox"/> FCC Part 15 <input checked="" type="checkbox"/> FCC Part 22 <input checked="" type="checkbox"/> FCC Part 24 <input checked="" type="checkbox"/> FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Uplink	Signal Source - CDMA - Input - 828MHz			

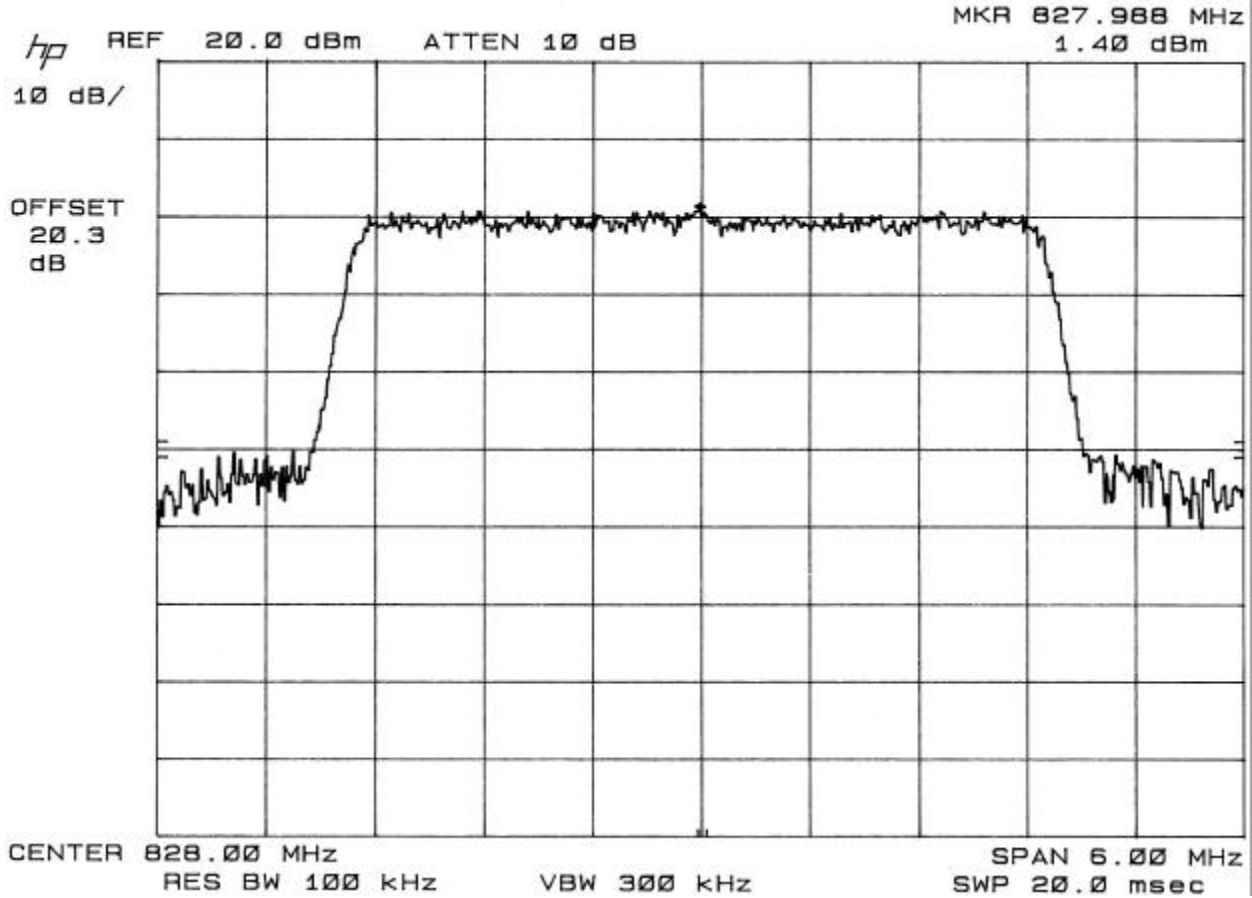



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 18 Feb 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Uplink Signal Source - CDMA – Output – 828MHz				

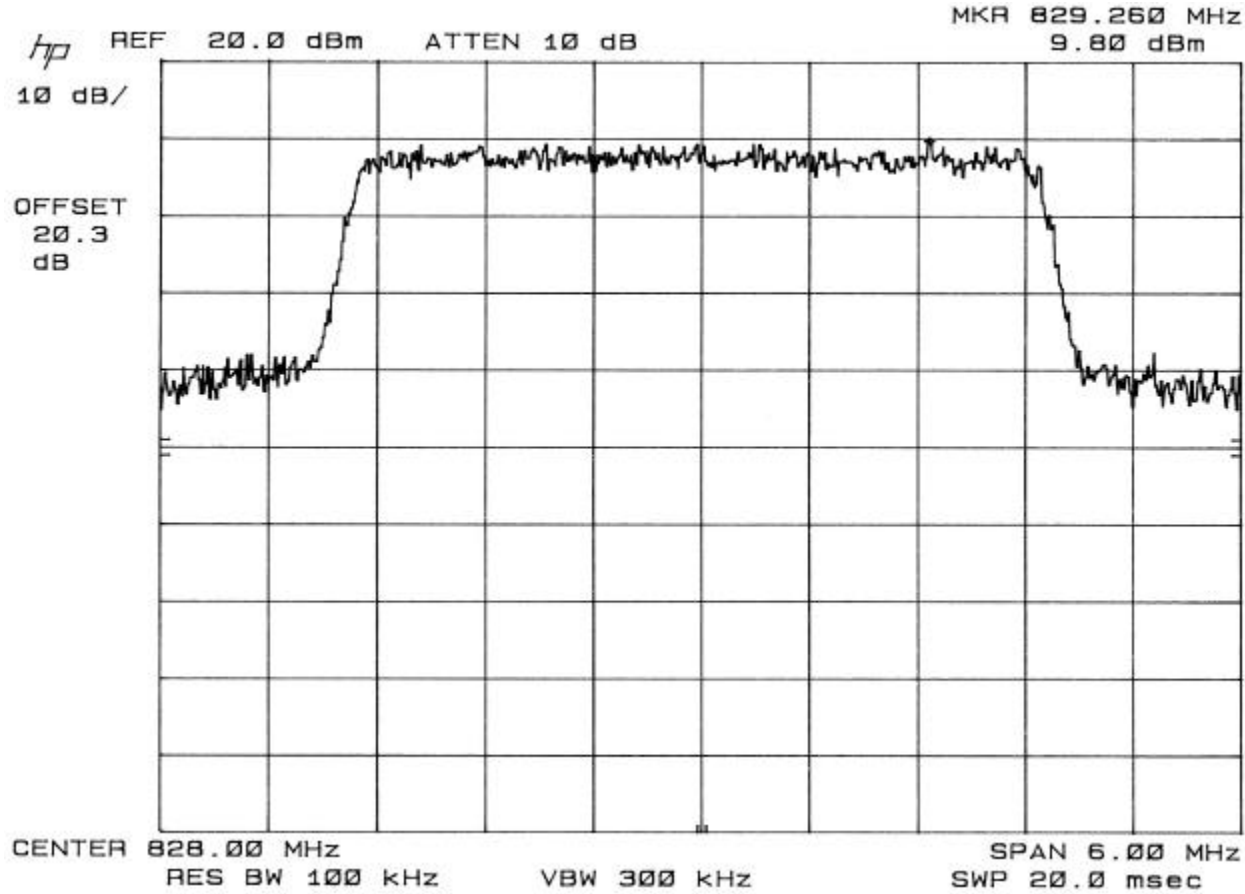



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Uplink Signal Source - CDMA – Input – 836.5MHz			

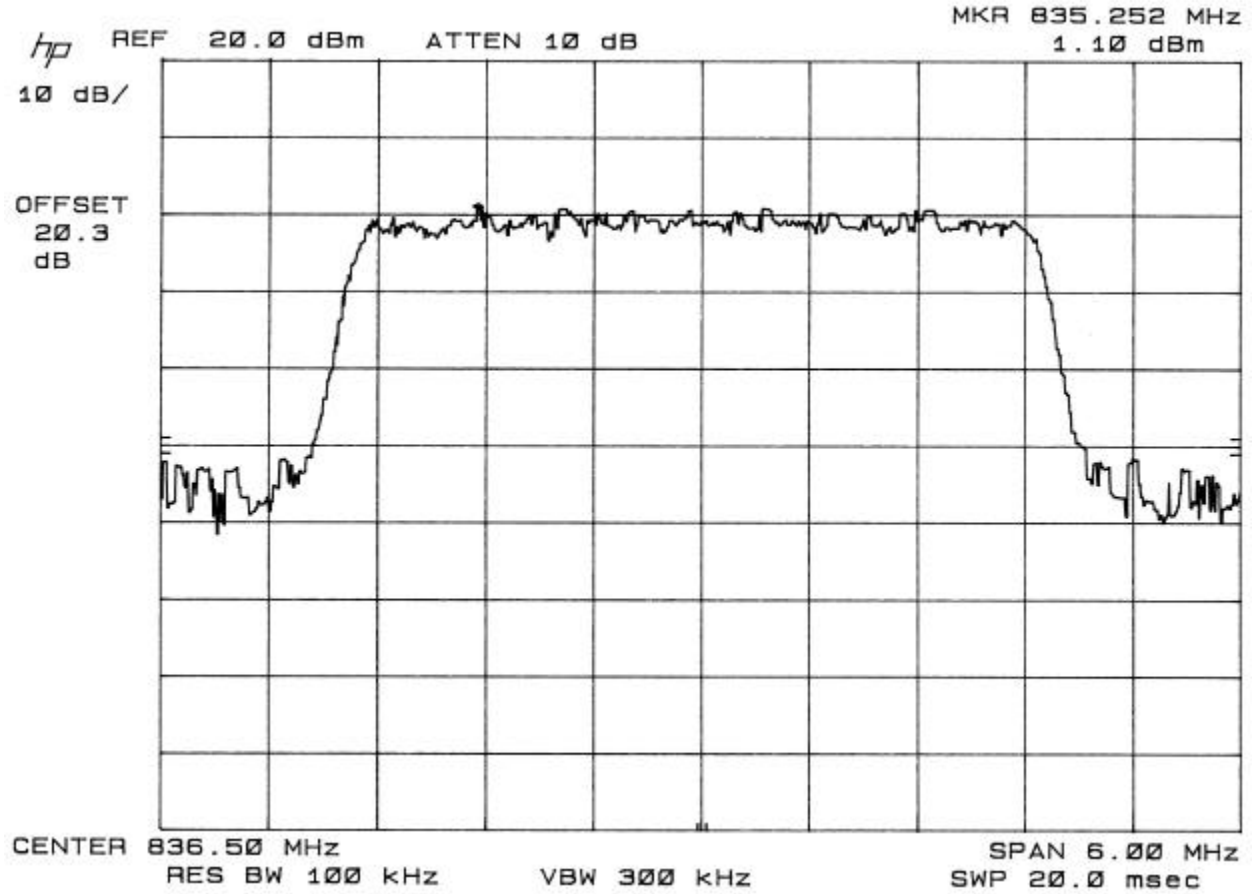



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Uplink Signal Source - CDMA – Output – 836.5MHz			

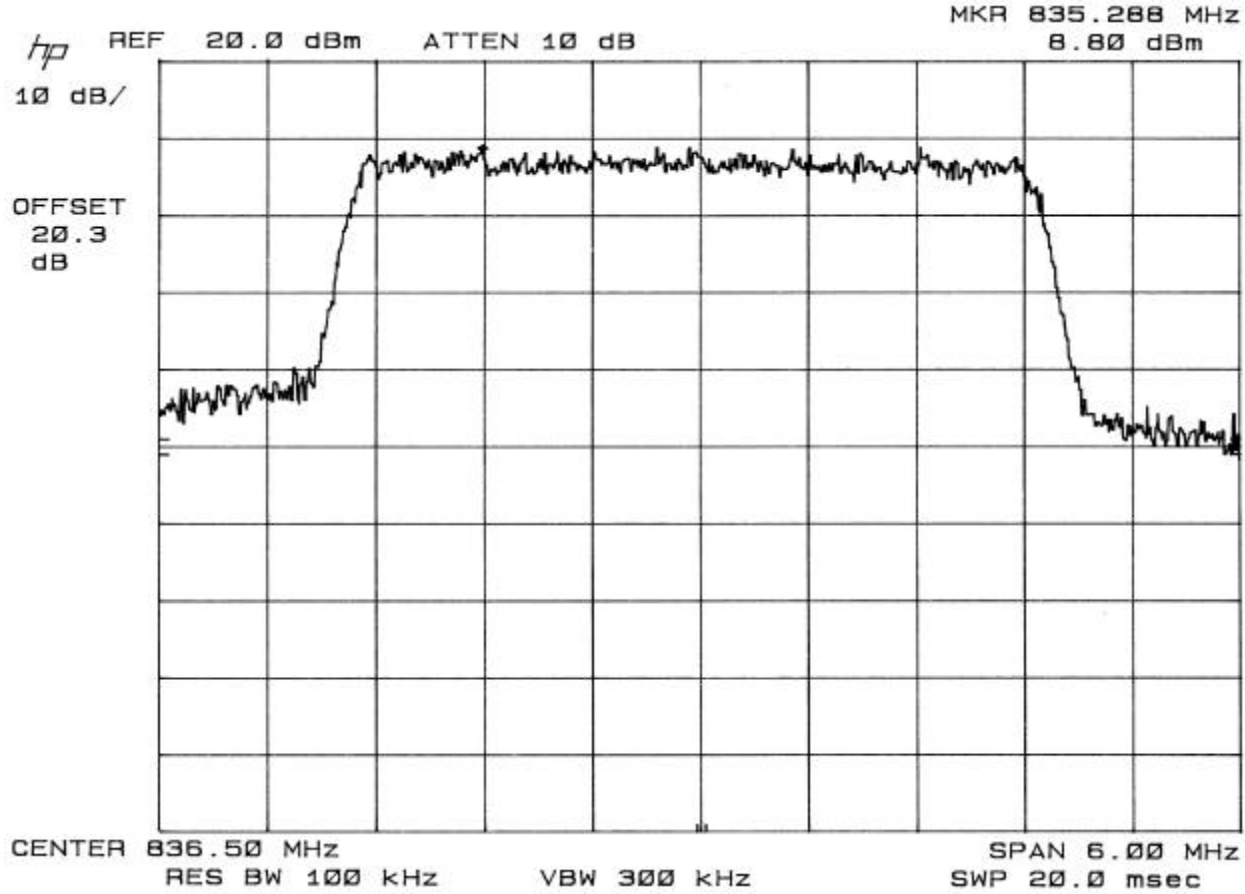



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 18 Feb 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Uplink	Signal Source - CDMA - Input - 845MHz			

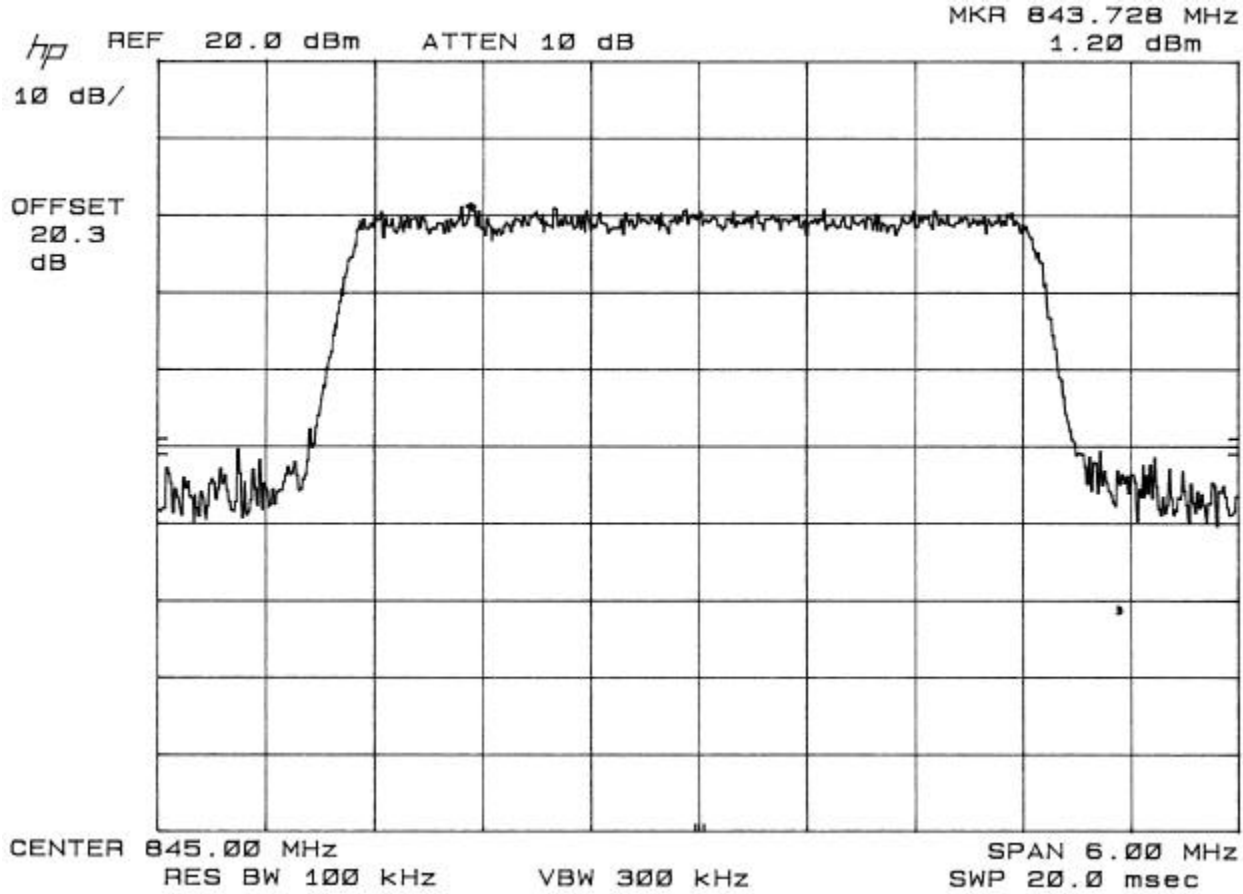



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 18 Feb 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Uplink Signal Source - CDMA – Output – 845MHz				

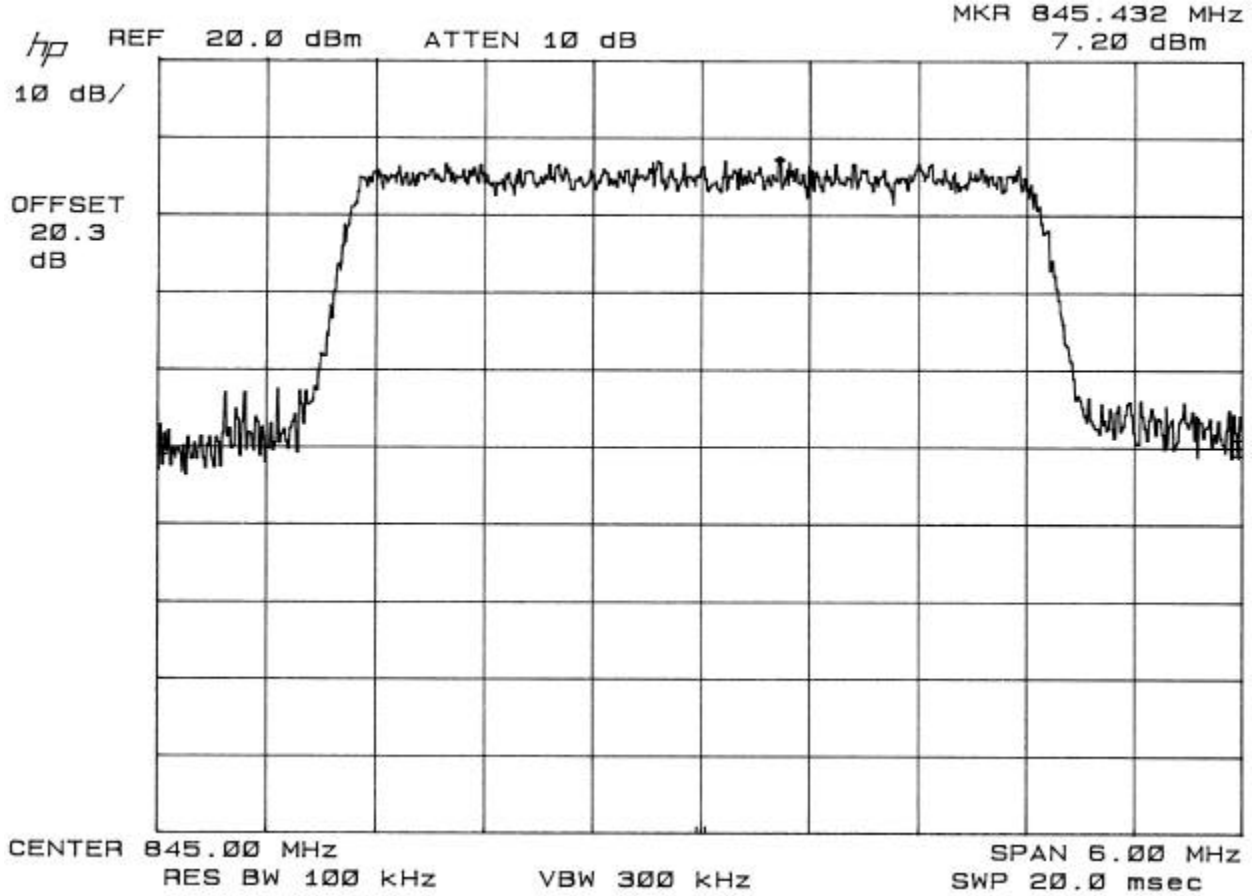



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 18 Feb 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Uplink	Signal Source - CDMA - Input - 1854MHz			

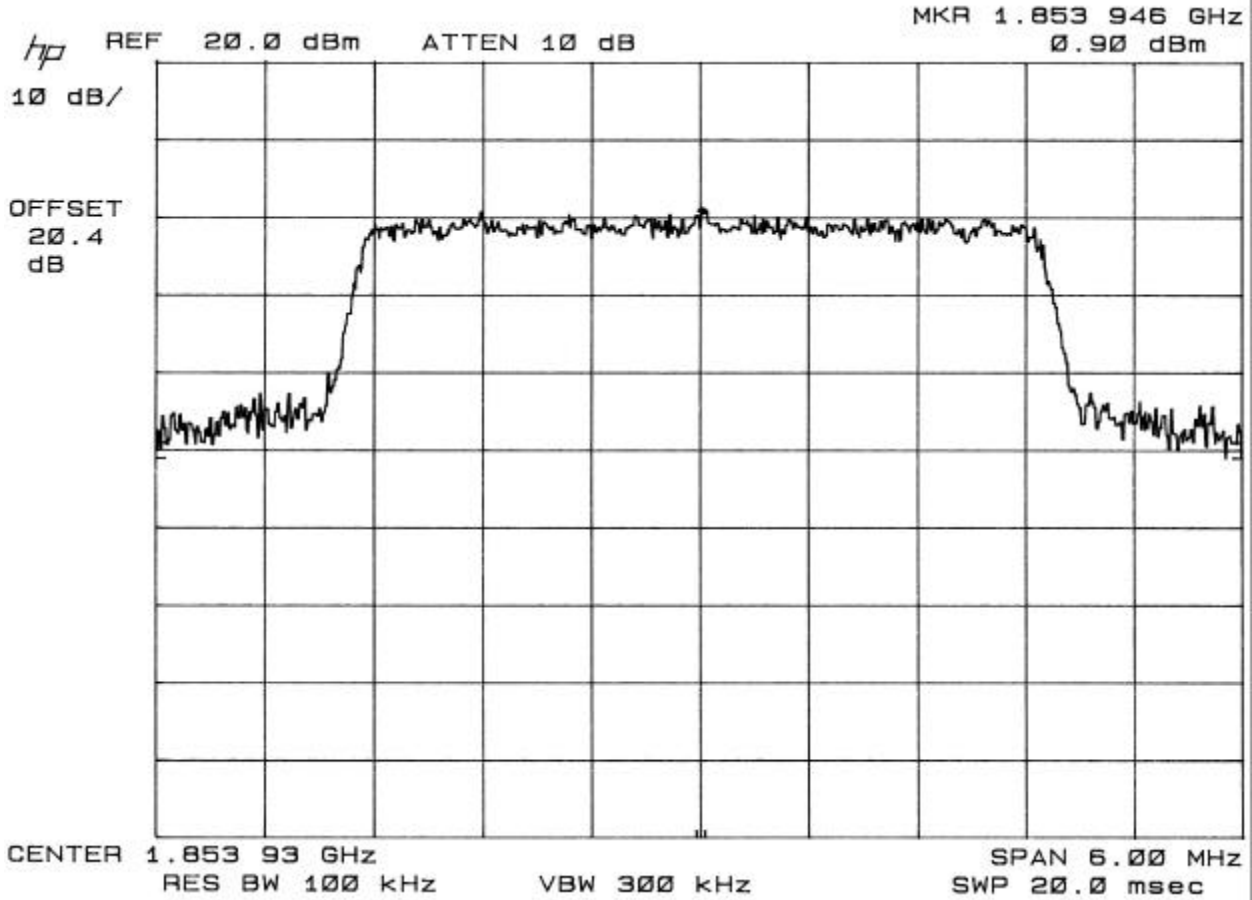



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 18 Feb 2004	Conformance Standards <input checked="" type="checkbox"/> FCC Part 15 <input checked="" type="checkbox"/> FCC Part 22 <input checked="" type="checkbox"/> FCC Part 24 <input checked="" type="checkbox"/> FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Uplink	Signal Source - CDMA – Output – 1854MHz			

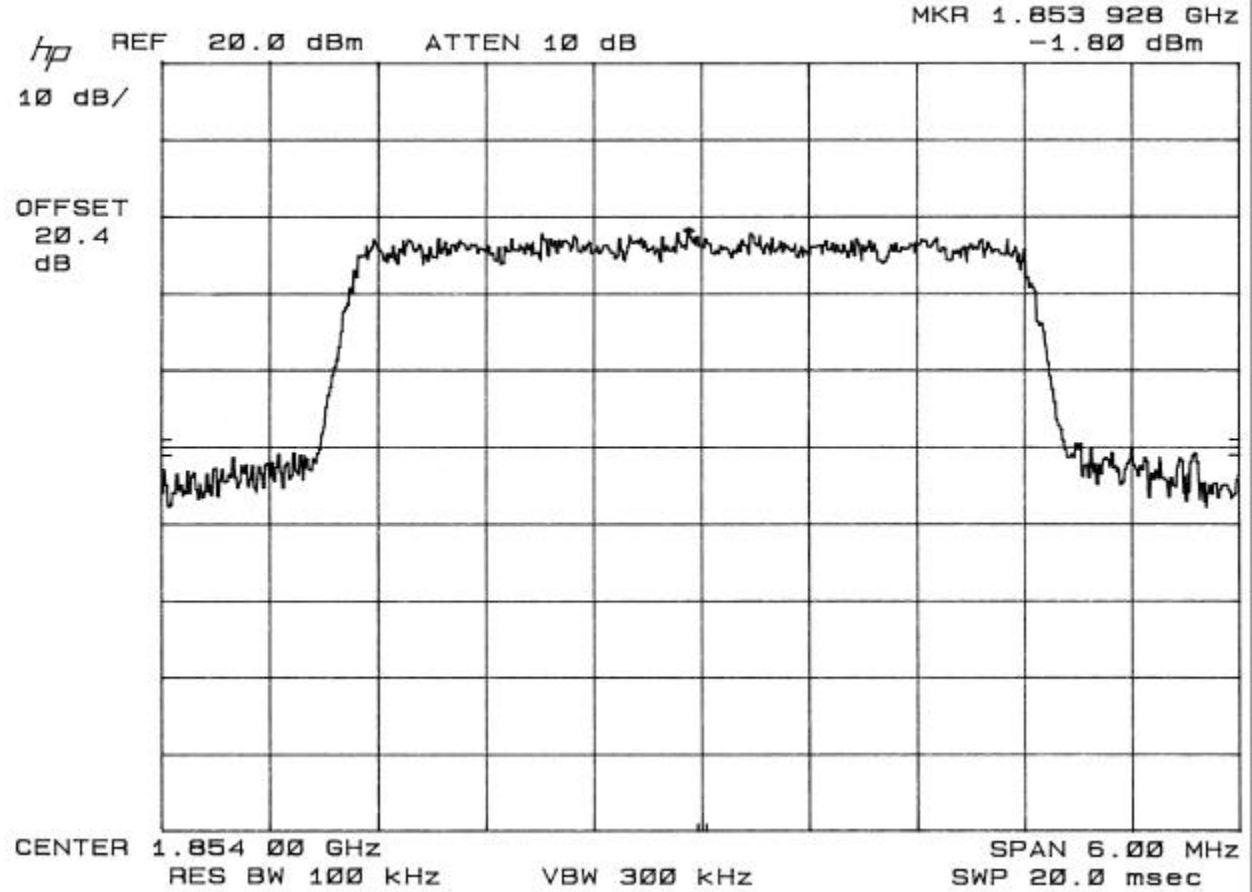



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 18 Feb 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Uplink Signal Source - CDMA - Input - 1880MHz				

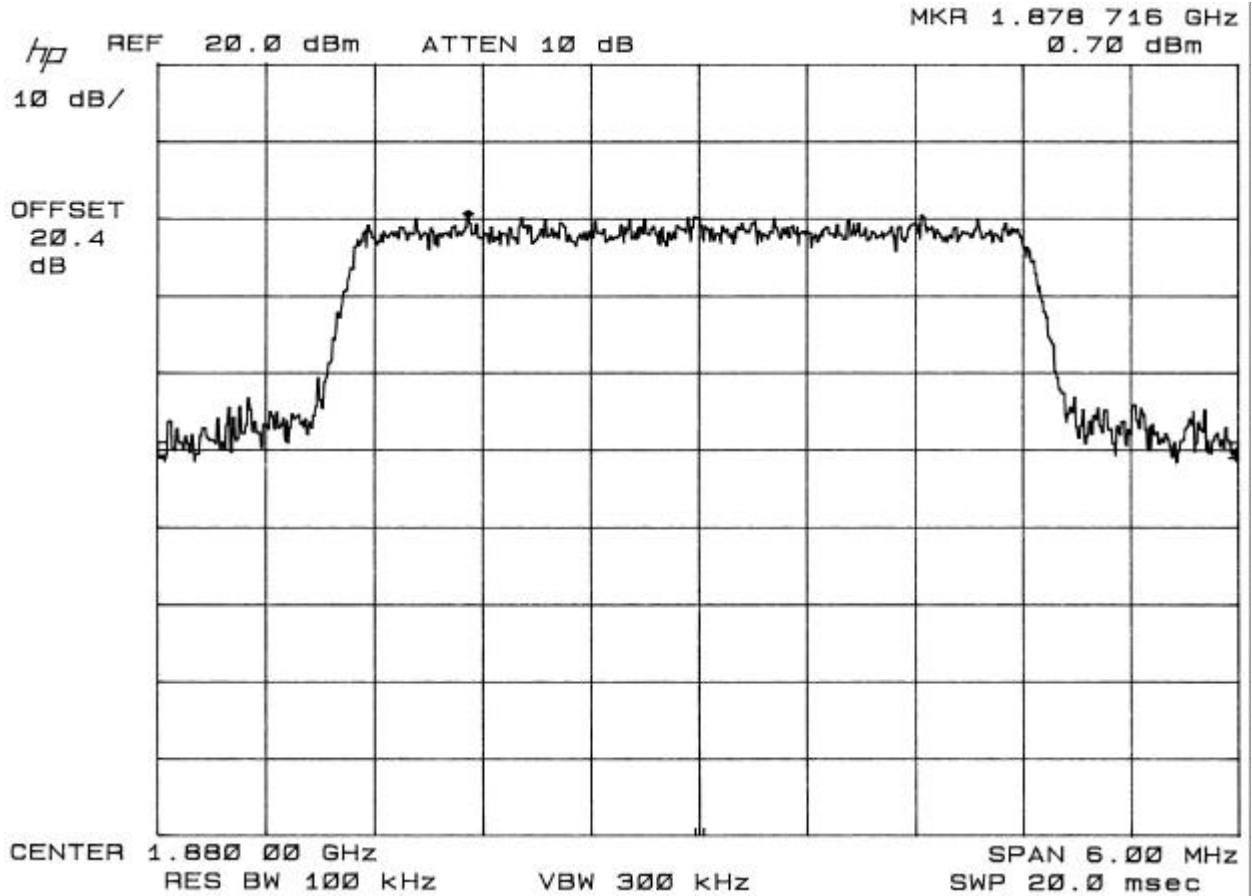



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Uplink Signal Source - CDMA - Output - 1880MHz			

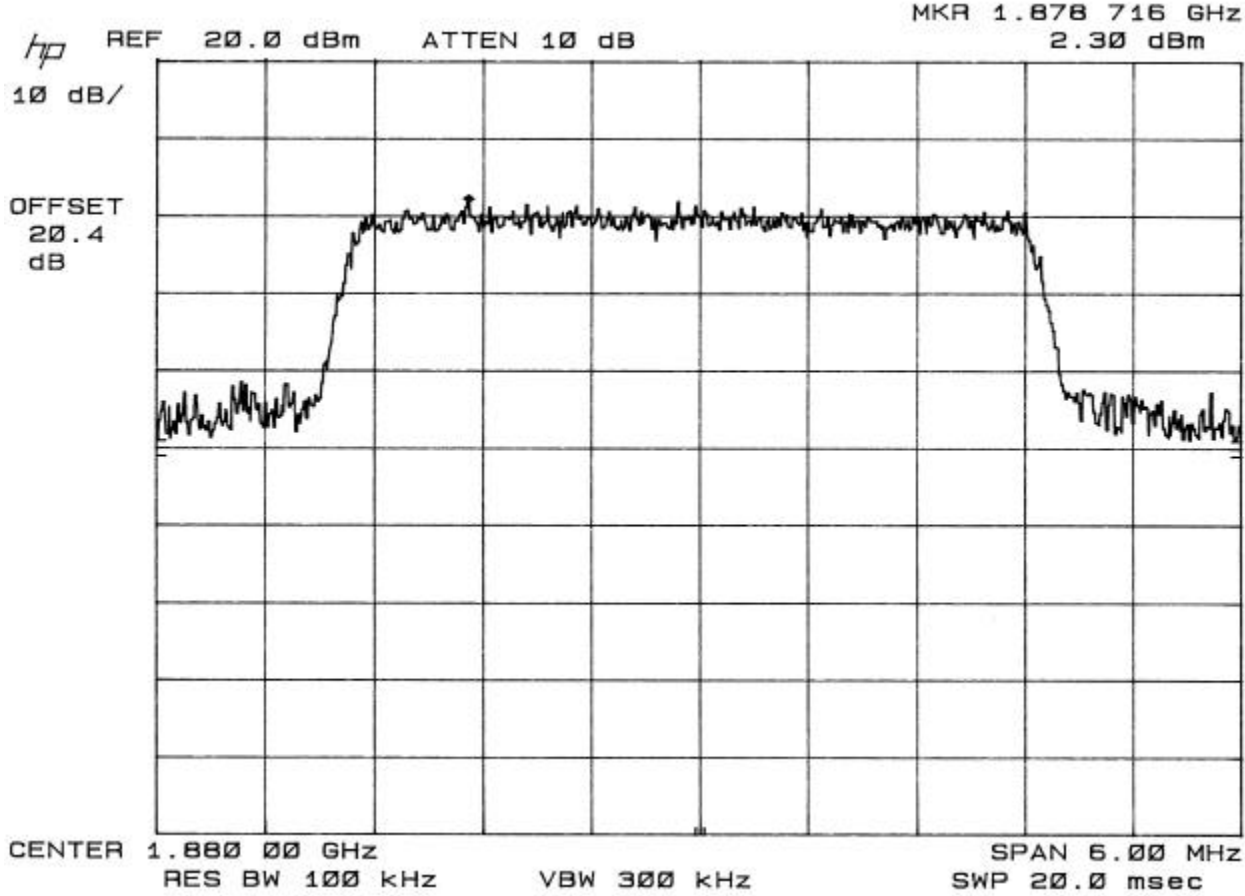



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 18 Feb 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Uplink	Signal Source - CDMA - Input - 1906MHz			

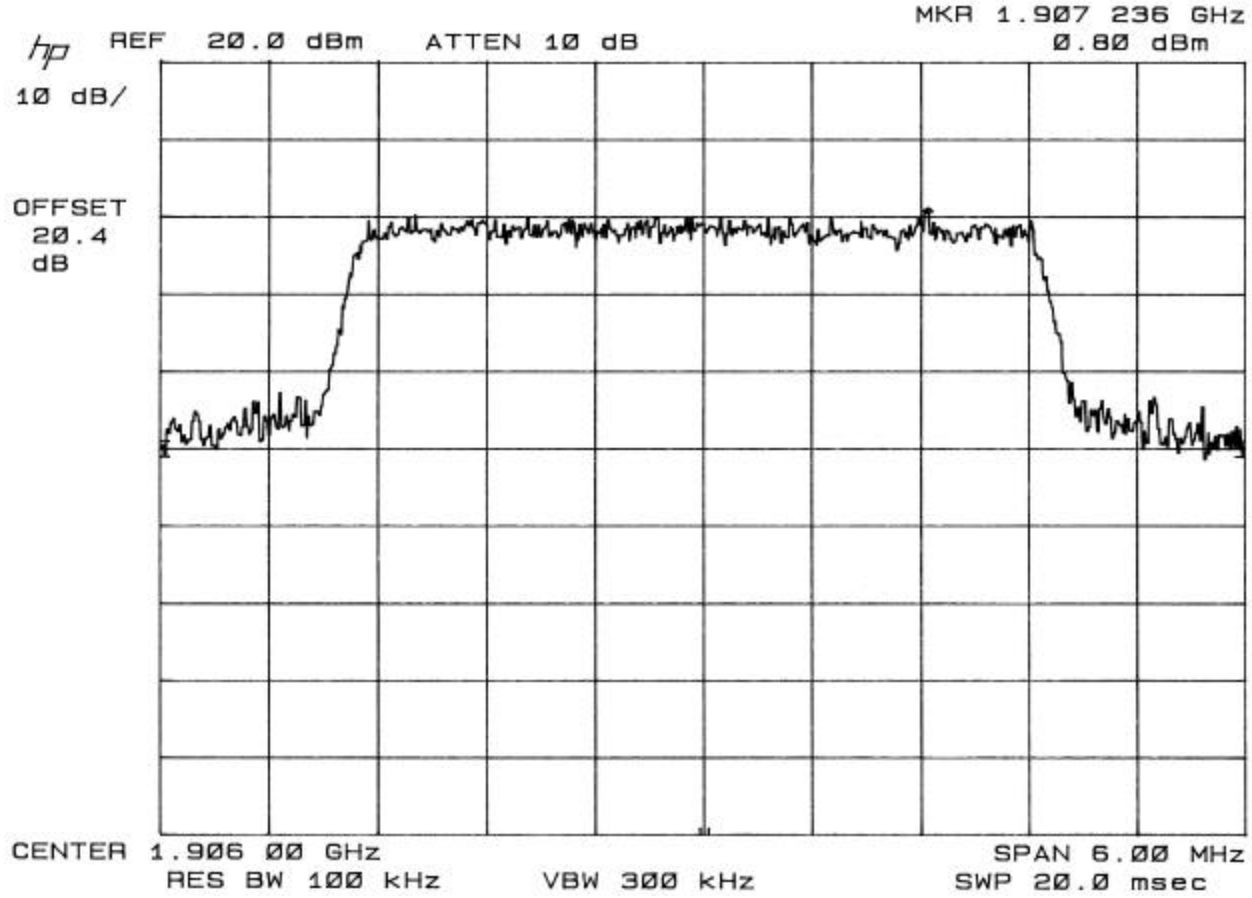



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Uplink Signal Source - CDMA - Output - 1906MHz			

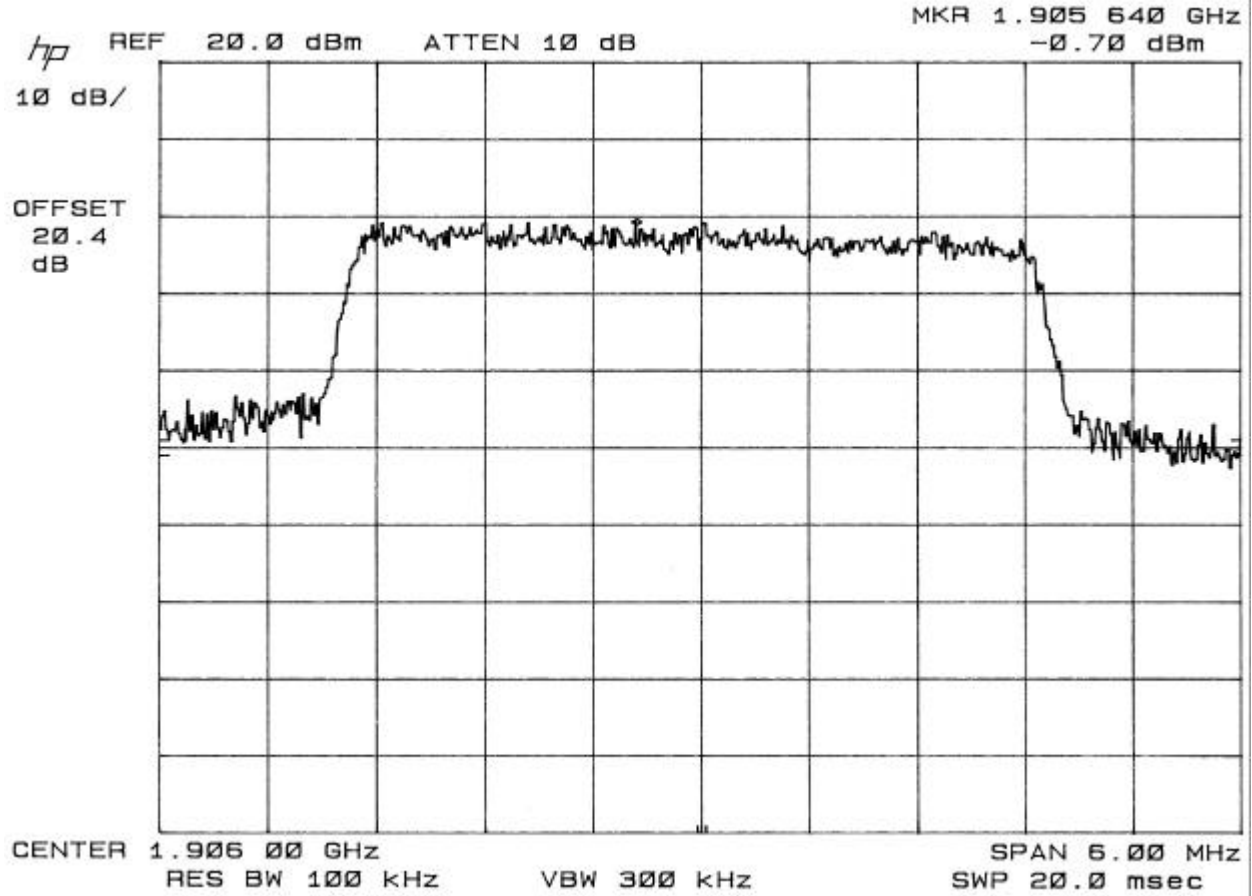



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 18 Feb 2004	Conformance Standards <input checked="" type="checkbox"/> FCC Part 15 <input checked="" type="checkbox"/> FCC Part 22 <input checked="" type="checkbox"/> FCC Part 24 <input checked="" type="checkbox"/> FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Downlink Signal Source - CDMA – Input – 873MHz				

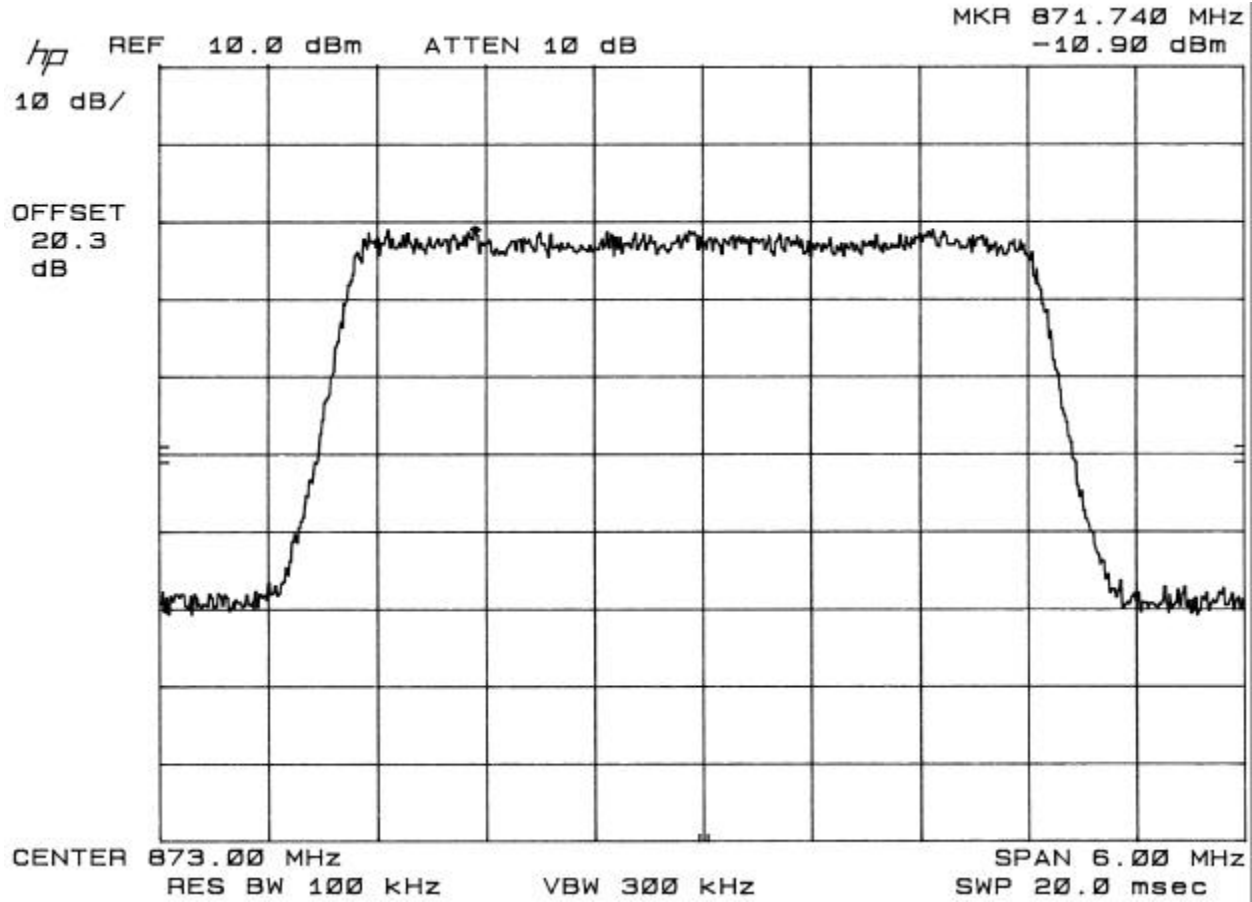



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CDMA - Output - 873MHz			

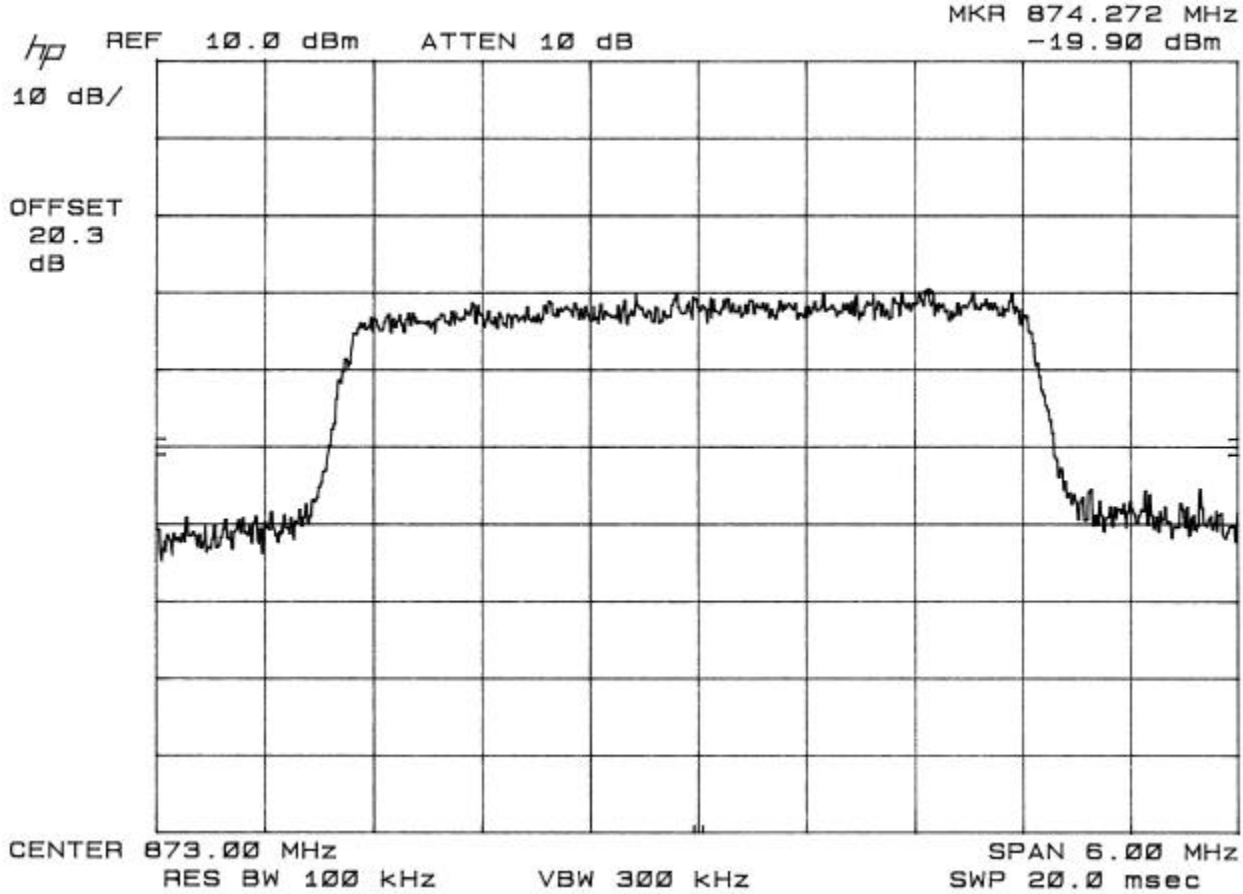



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CDMA - Input - 881.5MHz			

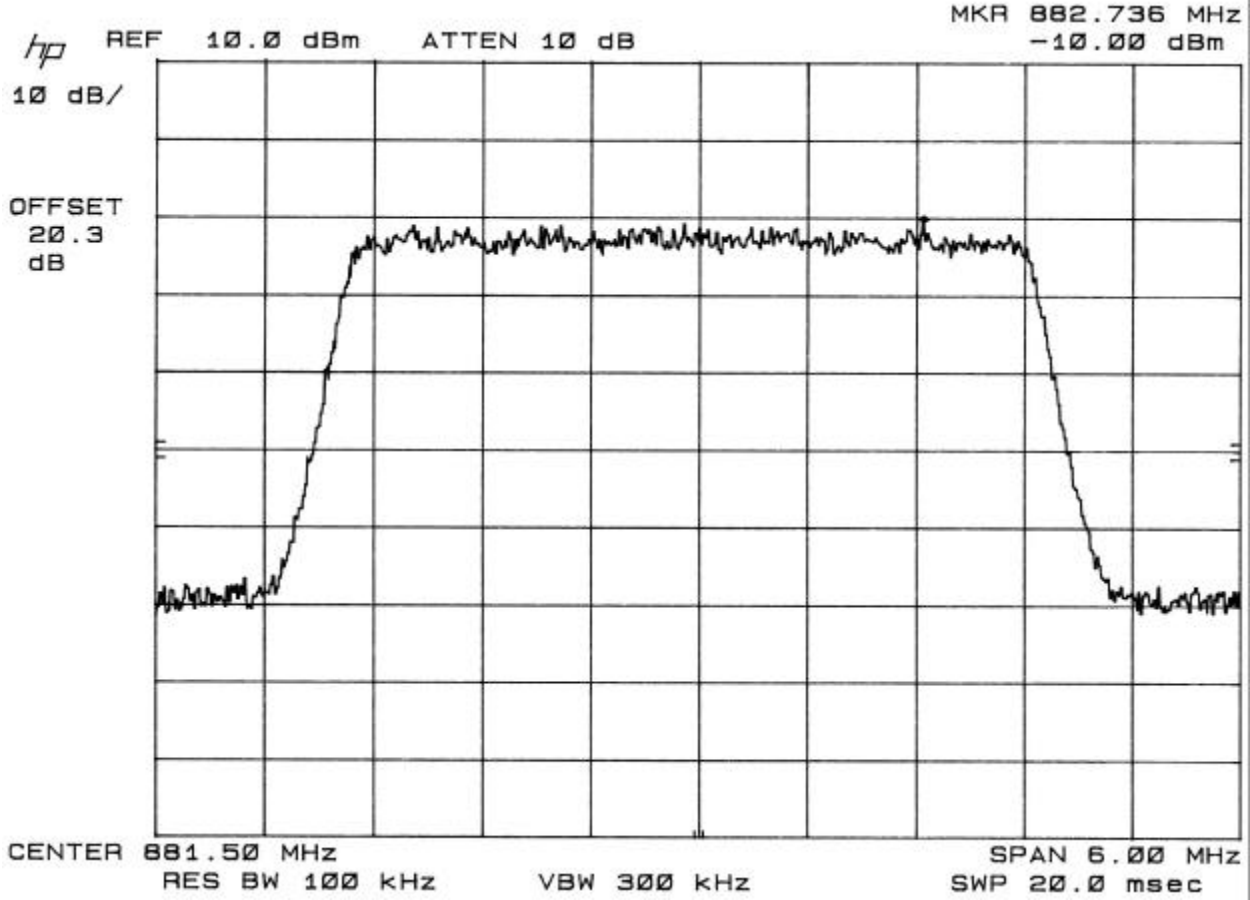



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CDMA – Output – 881.5MHz			

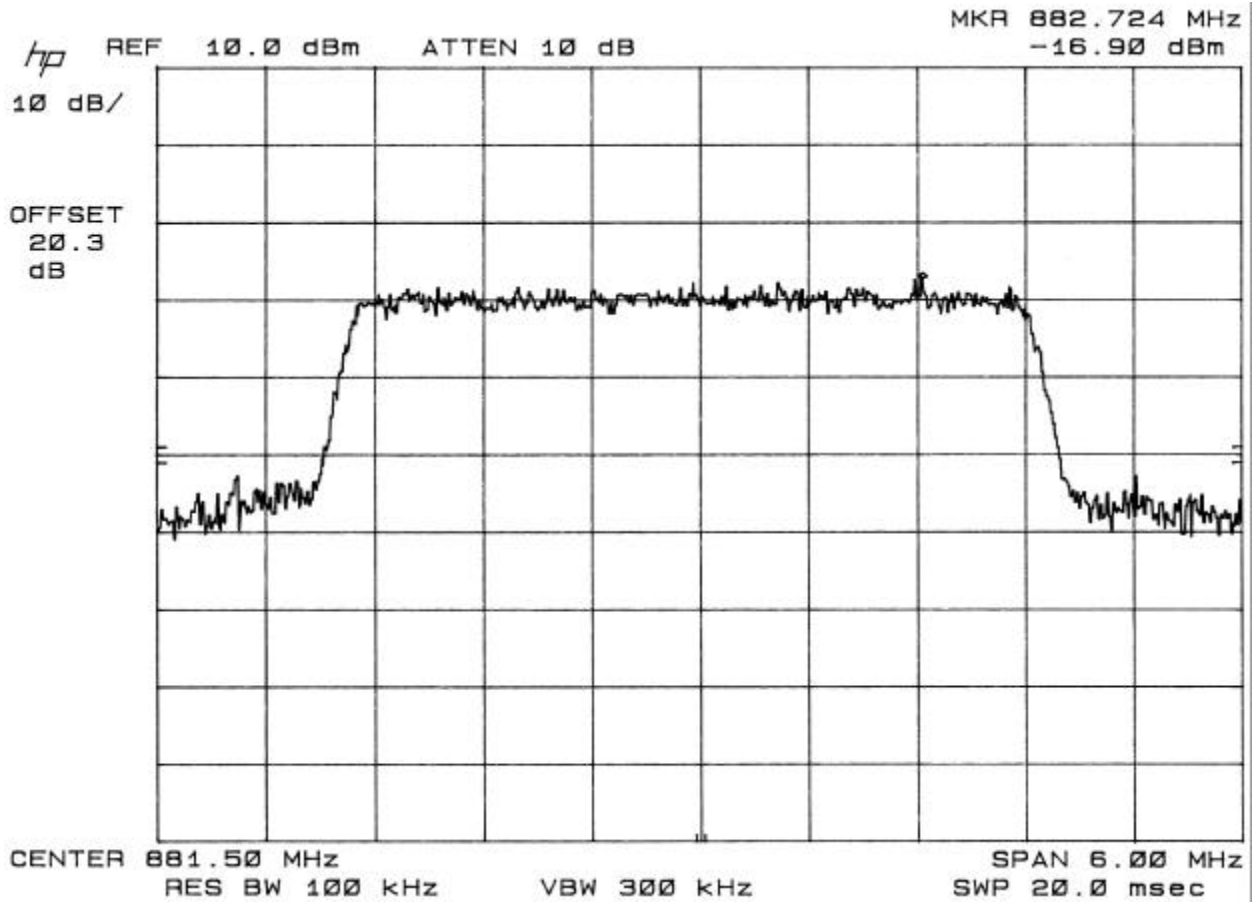



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CDMA - Input - 890MHz			

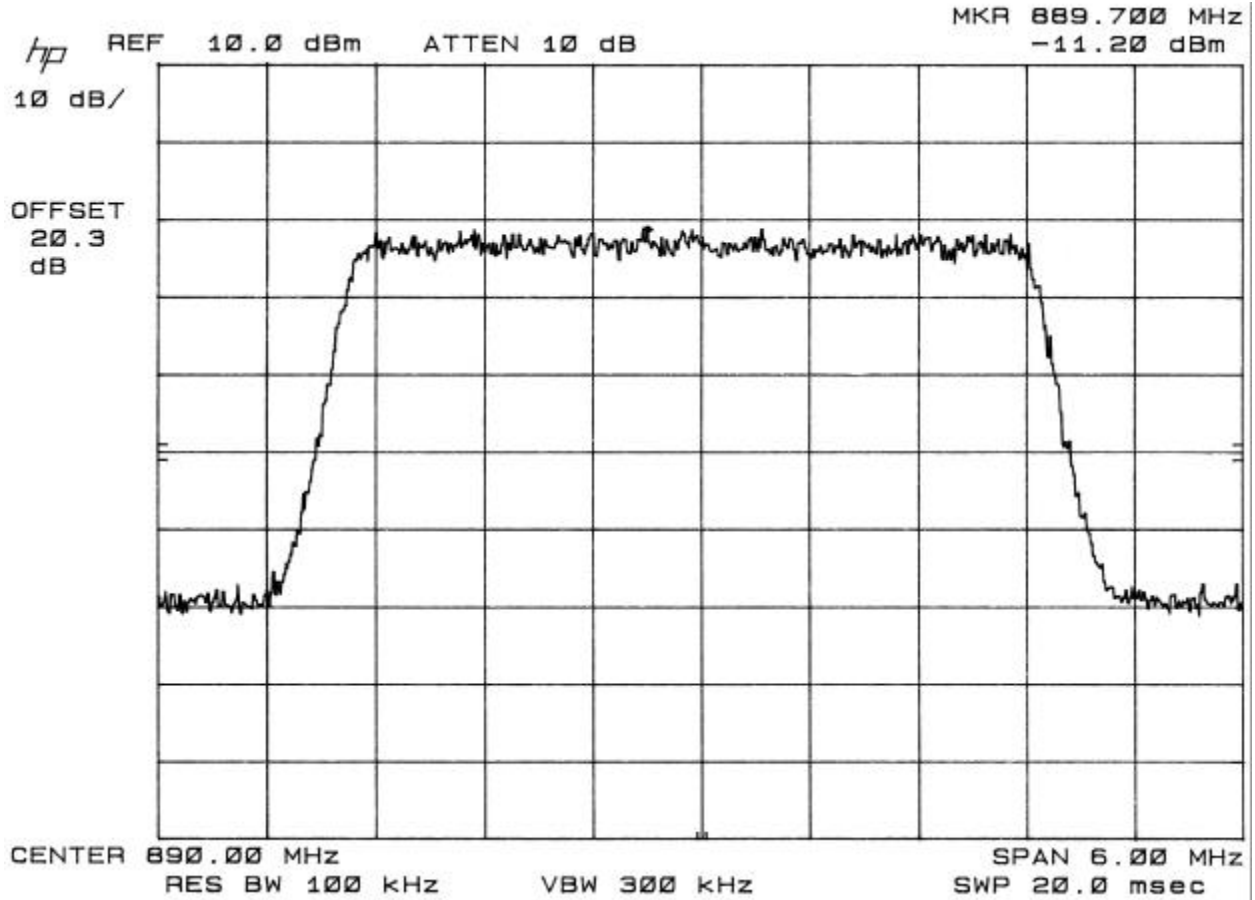



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CDMA – Output – 890MHz			

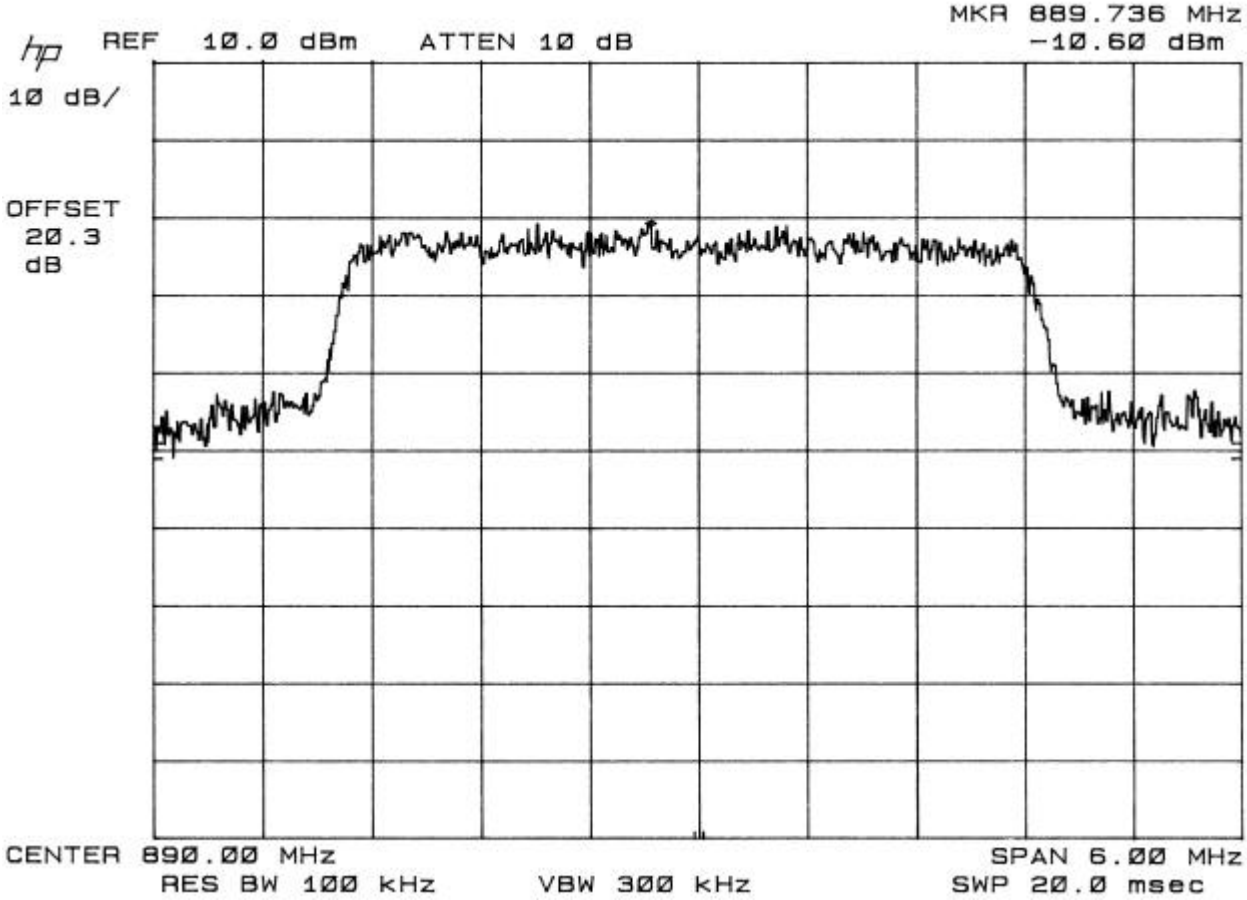



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CDMA - Input - 1934MHz			

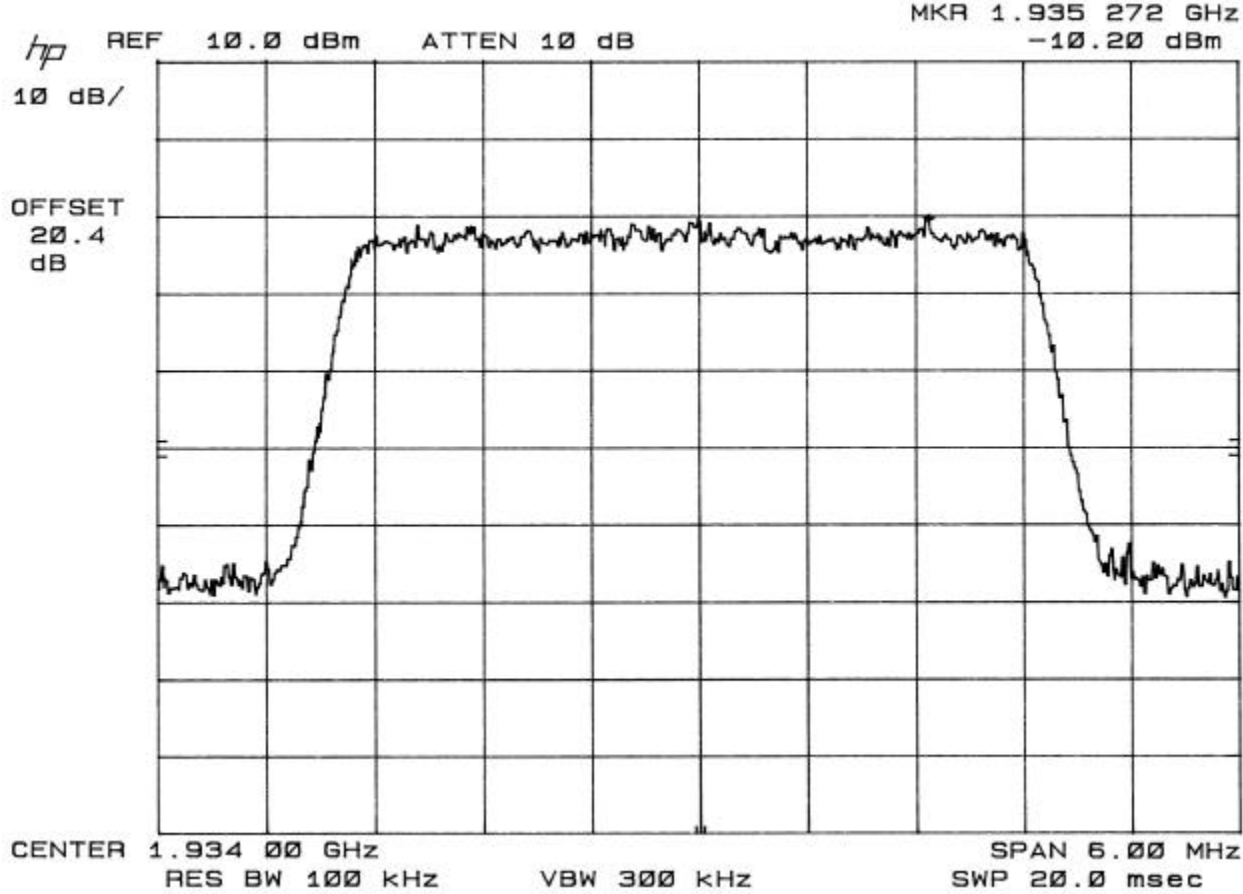



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CDMA – Output – 1934MHz			

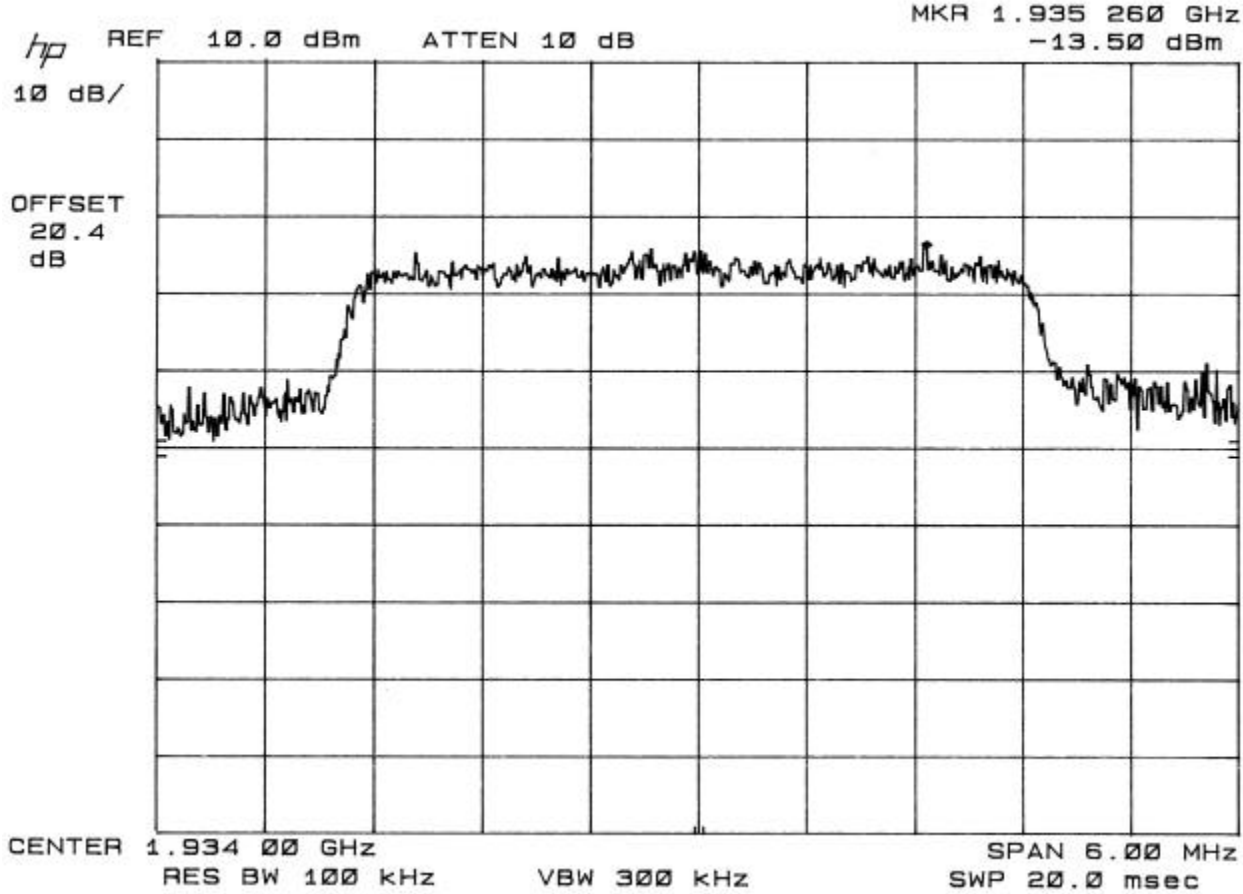



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CDMA - Input - 1960MHz			

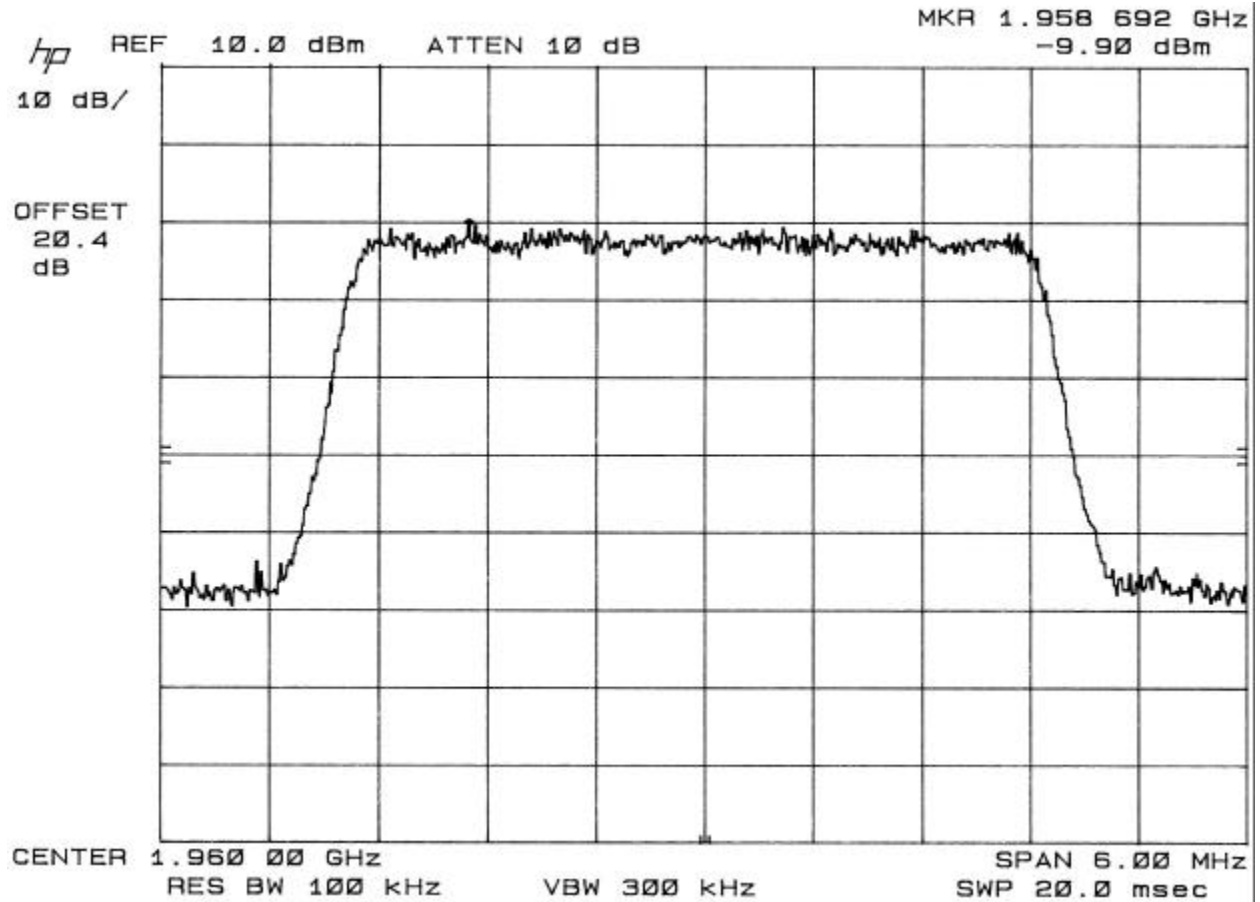



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CDMA – Output – 1960MHz			

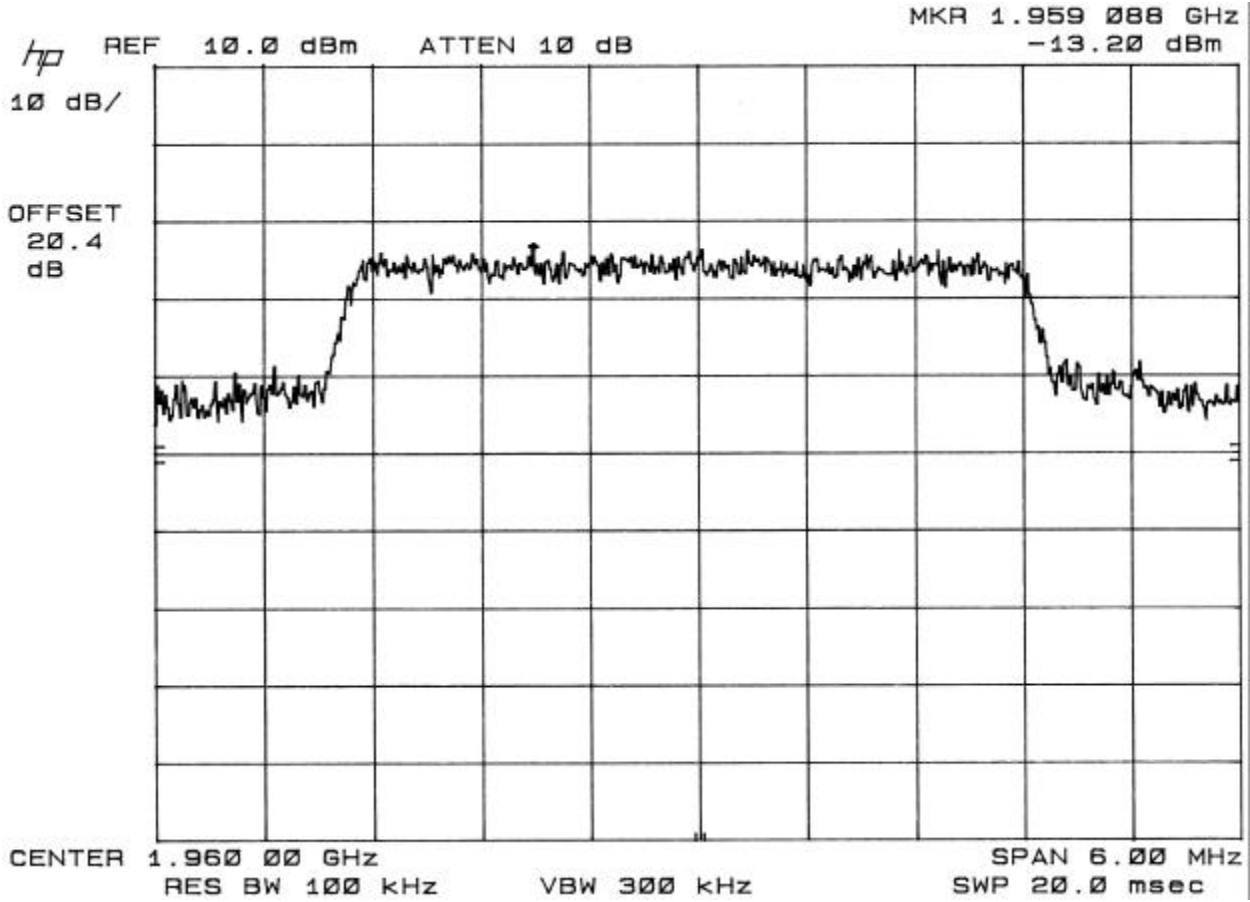



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		<h3>Occupied Bandwidth</h3>	
	DNB Job Number: RV48085A	Date: 18 Feb 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90	
Customer: Janizary Holdings Inc	Serial Number:			
Model Number: CA-819	Description: RF amplifier			
Description: Downlink Signal Source - CDMA - Input - 1986MHz				

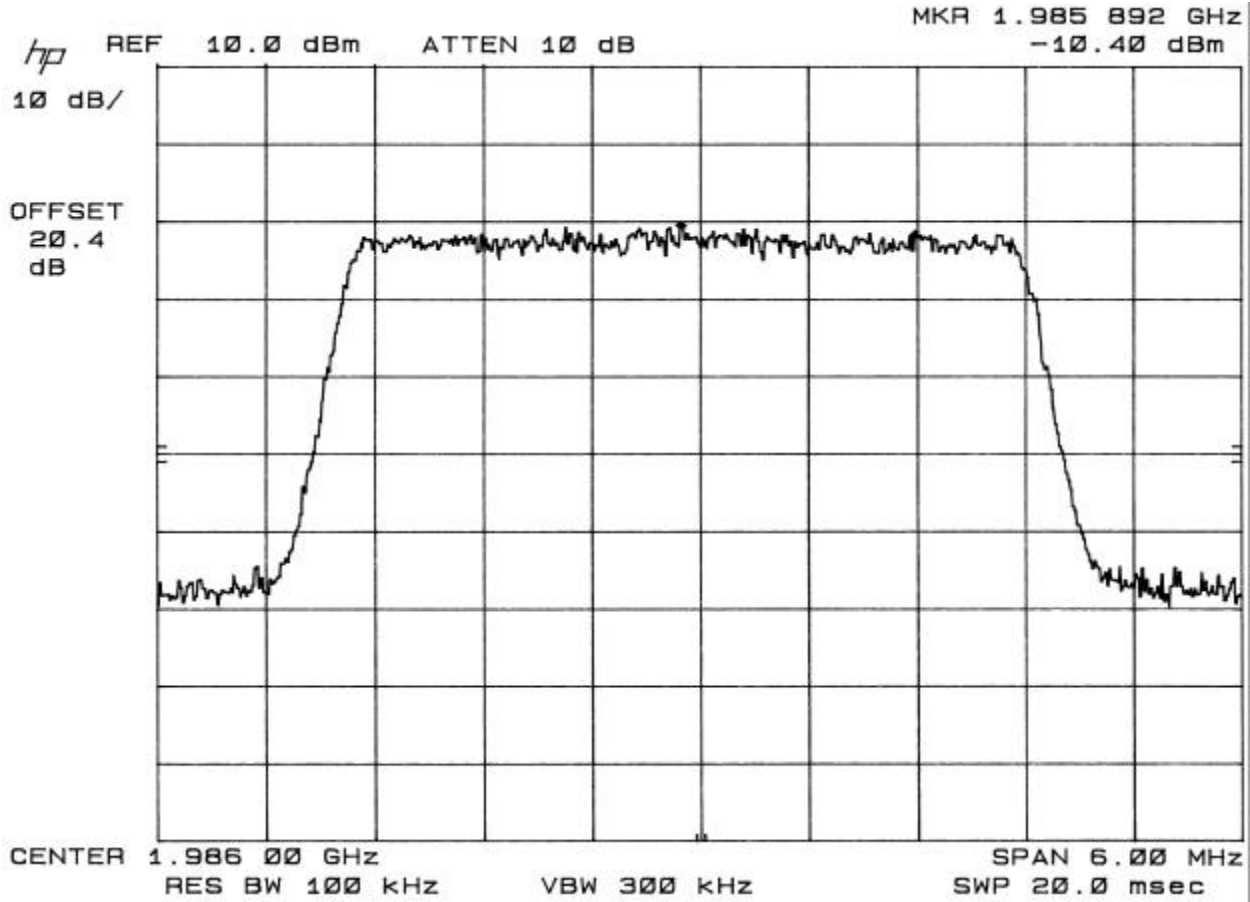



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Occupied Bandwidth	
	DNB Job Number:	RV48085A	Date:	18 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CDMA - Output - 1986MHz			

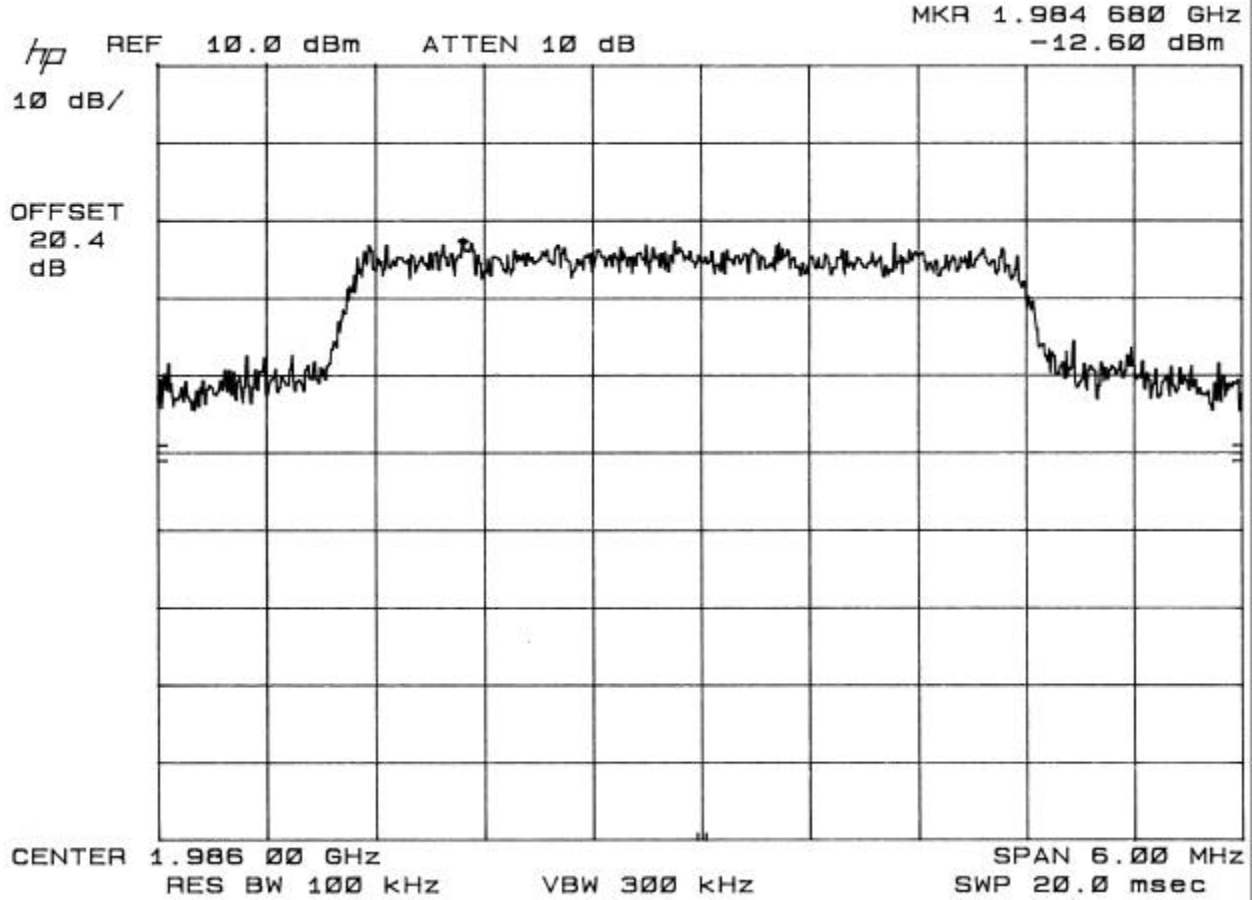



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Input - 869 / 894 MHz			

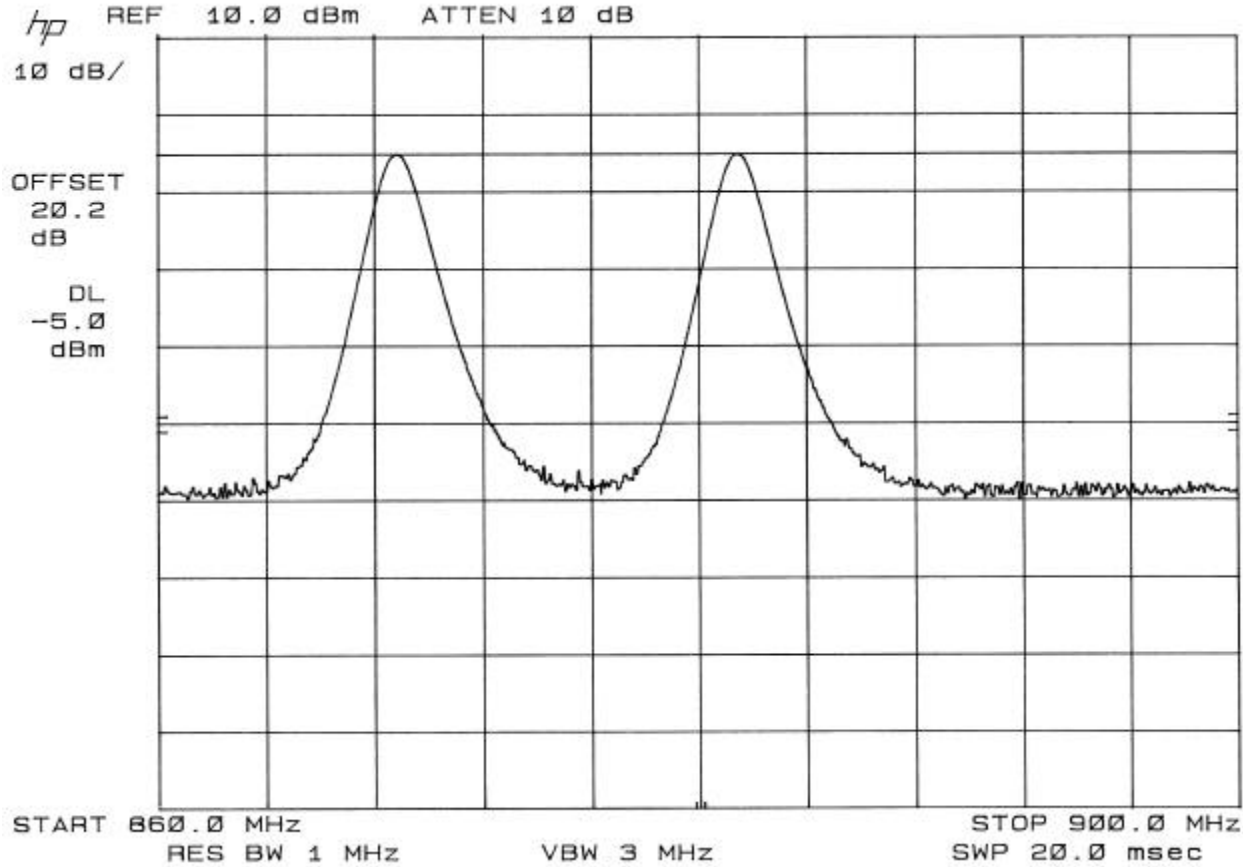



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Output - 869 / 894 MHz			

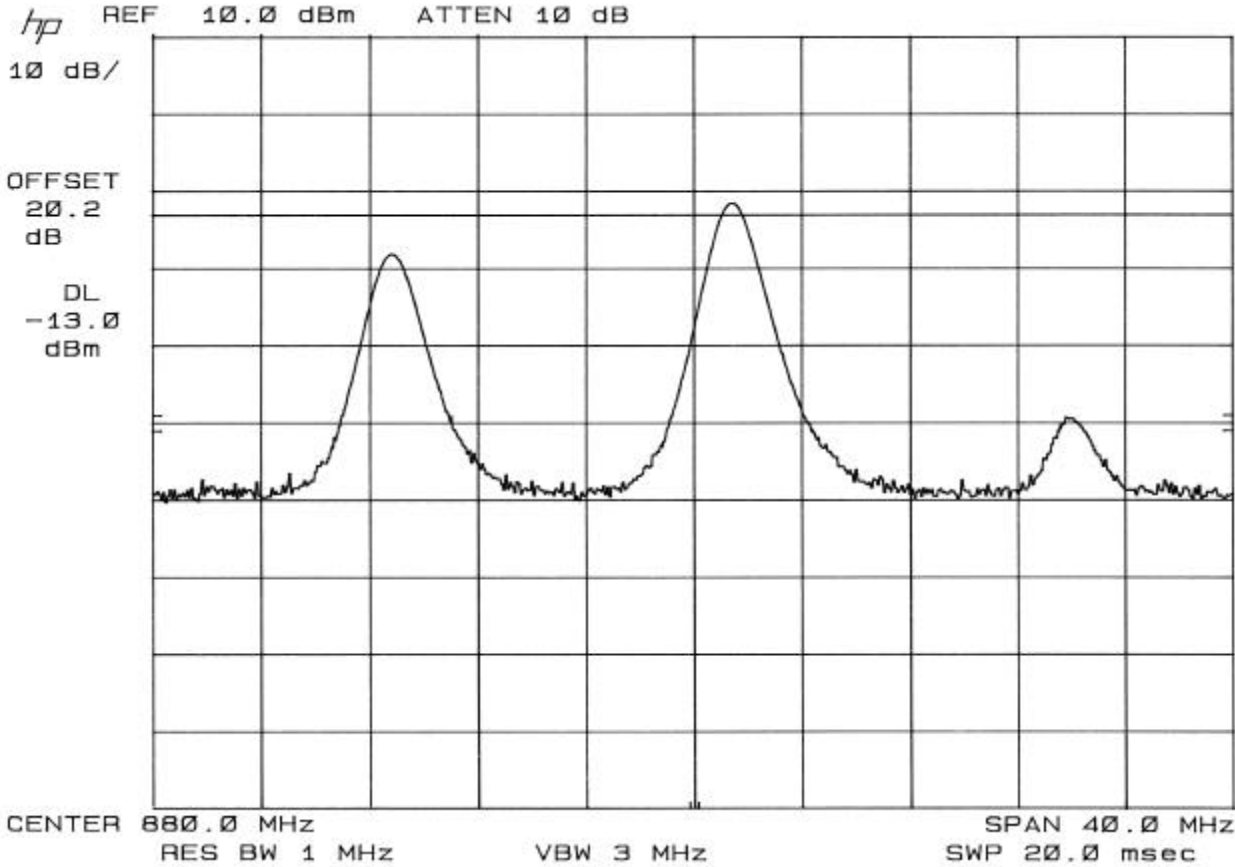



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Output - 869 / 894 MHz			

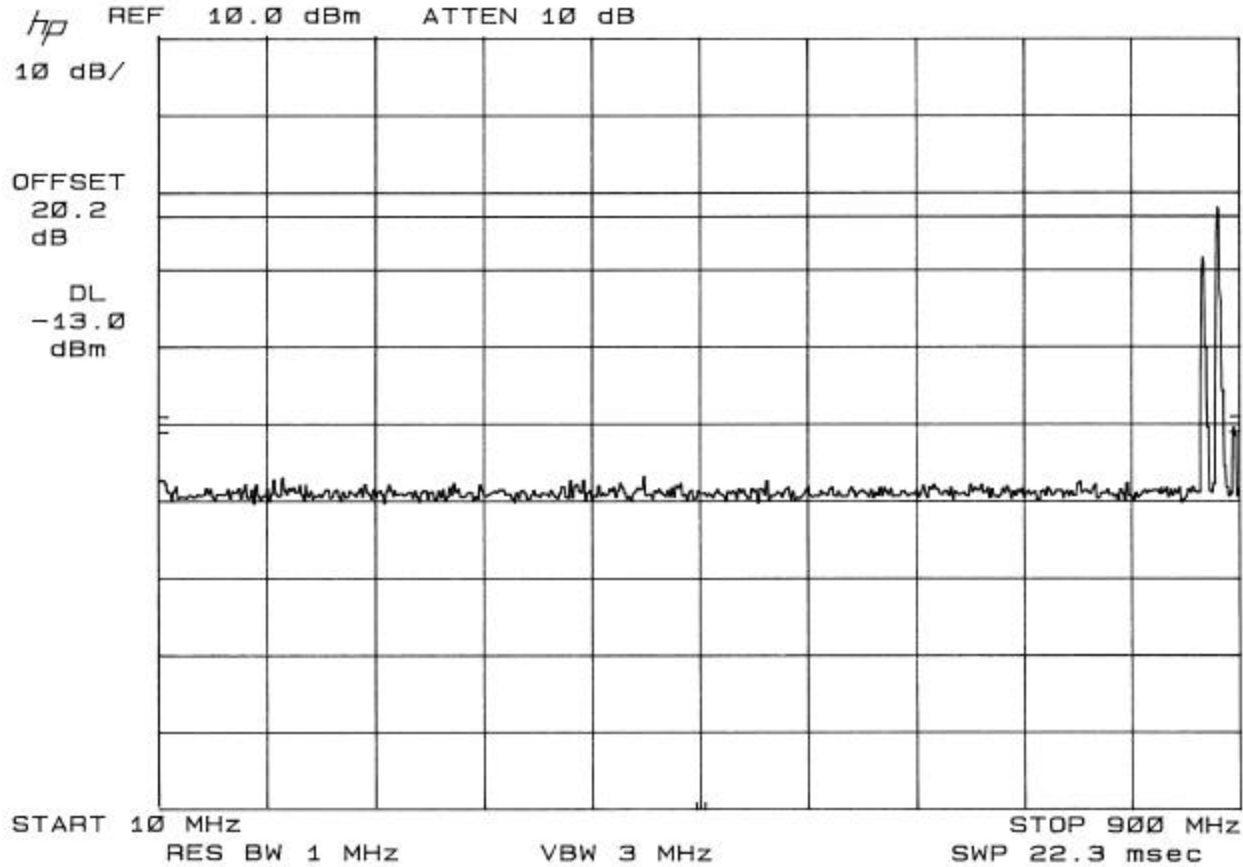



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Output - 869 / 894 MHz			

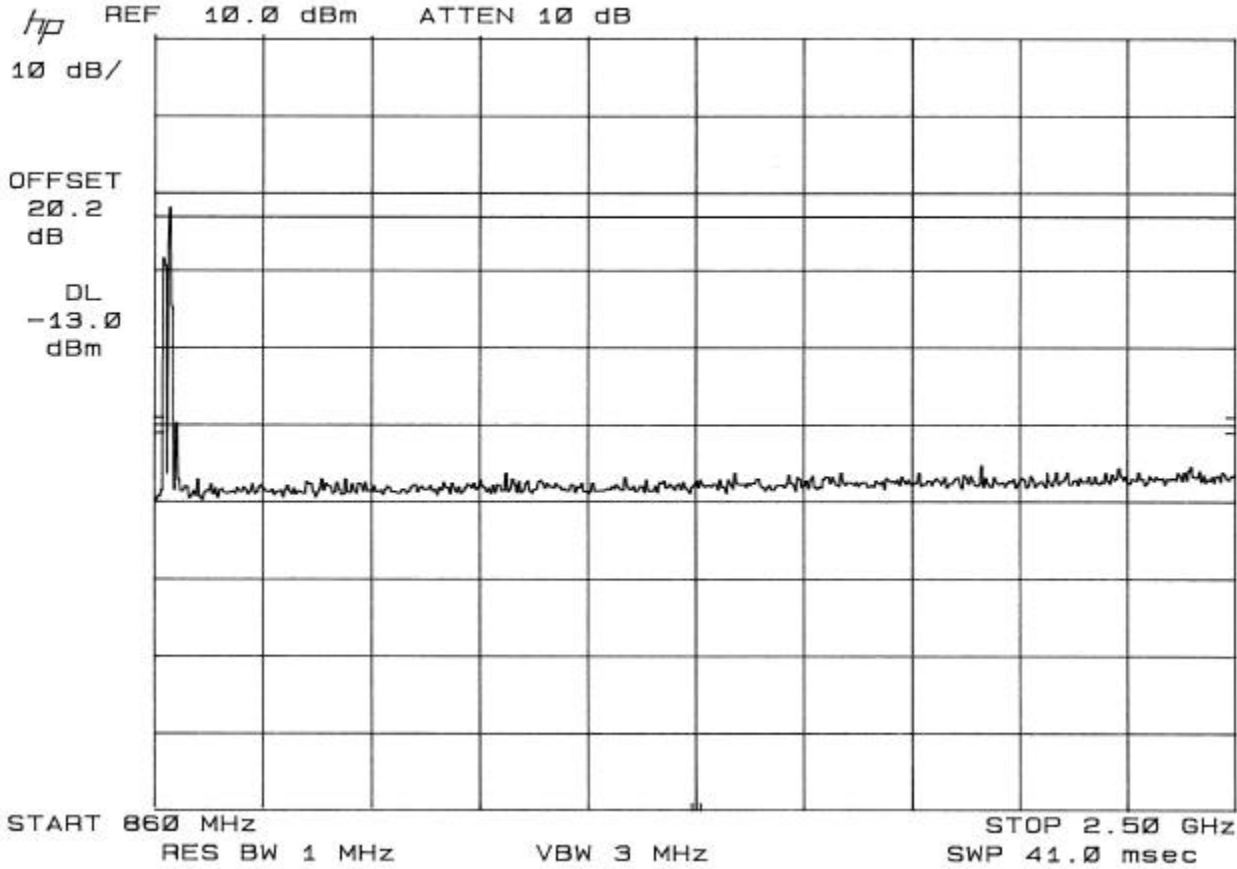



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Output - 869 / 894 MHz			

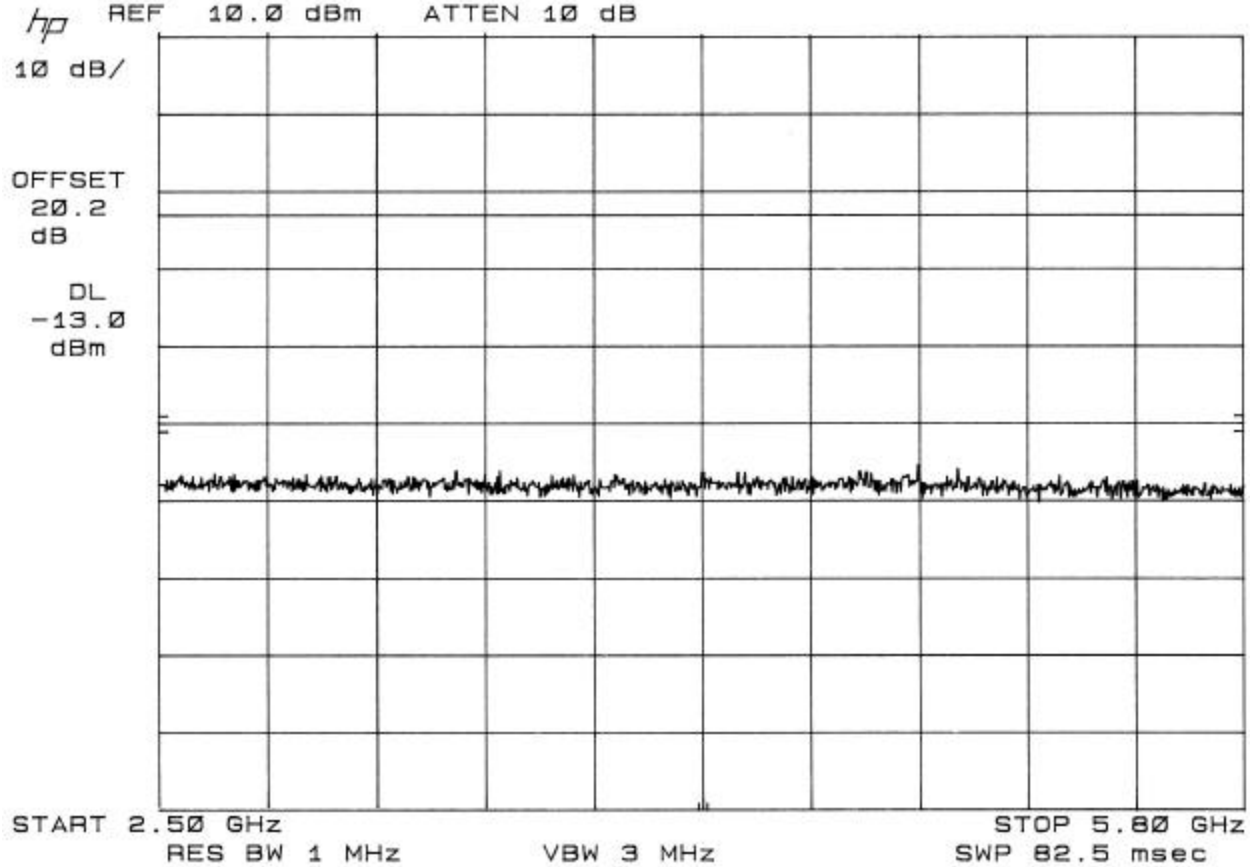



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Output - 869 / 894 MHz			

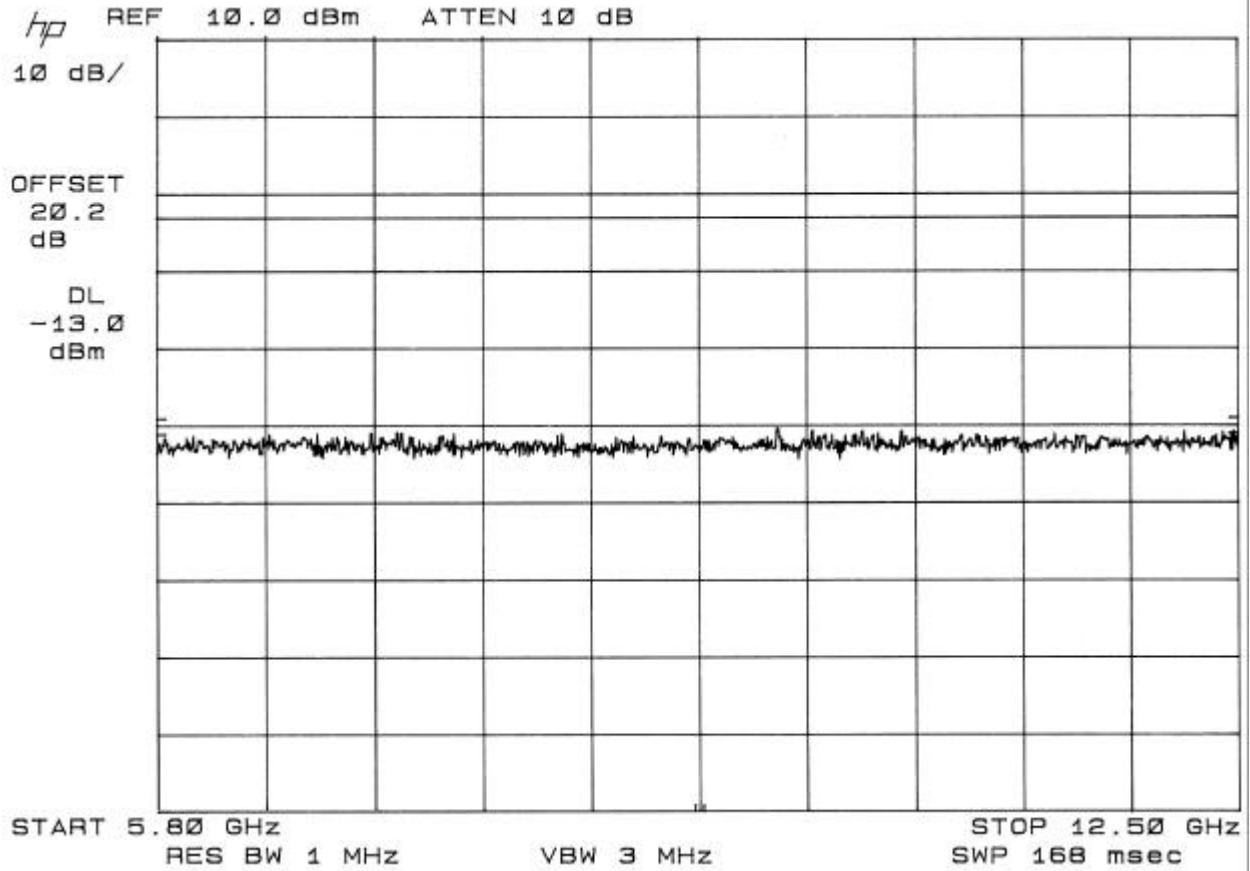



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Input - 1930 / 1990 MHz			

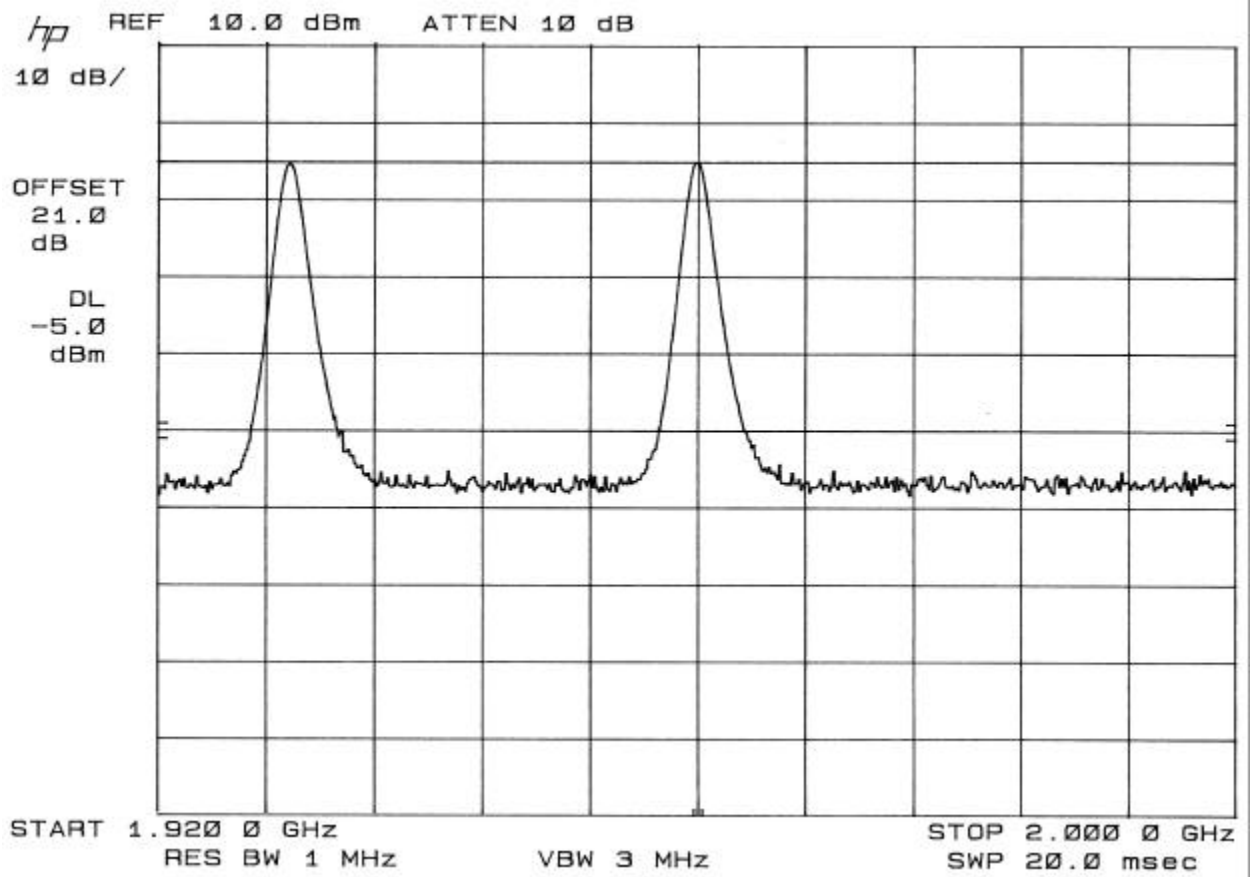



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Output - 1930 / 1990 MHz			

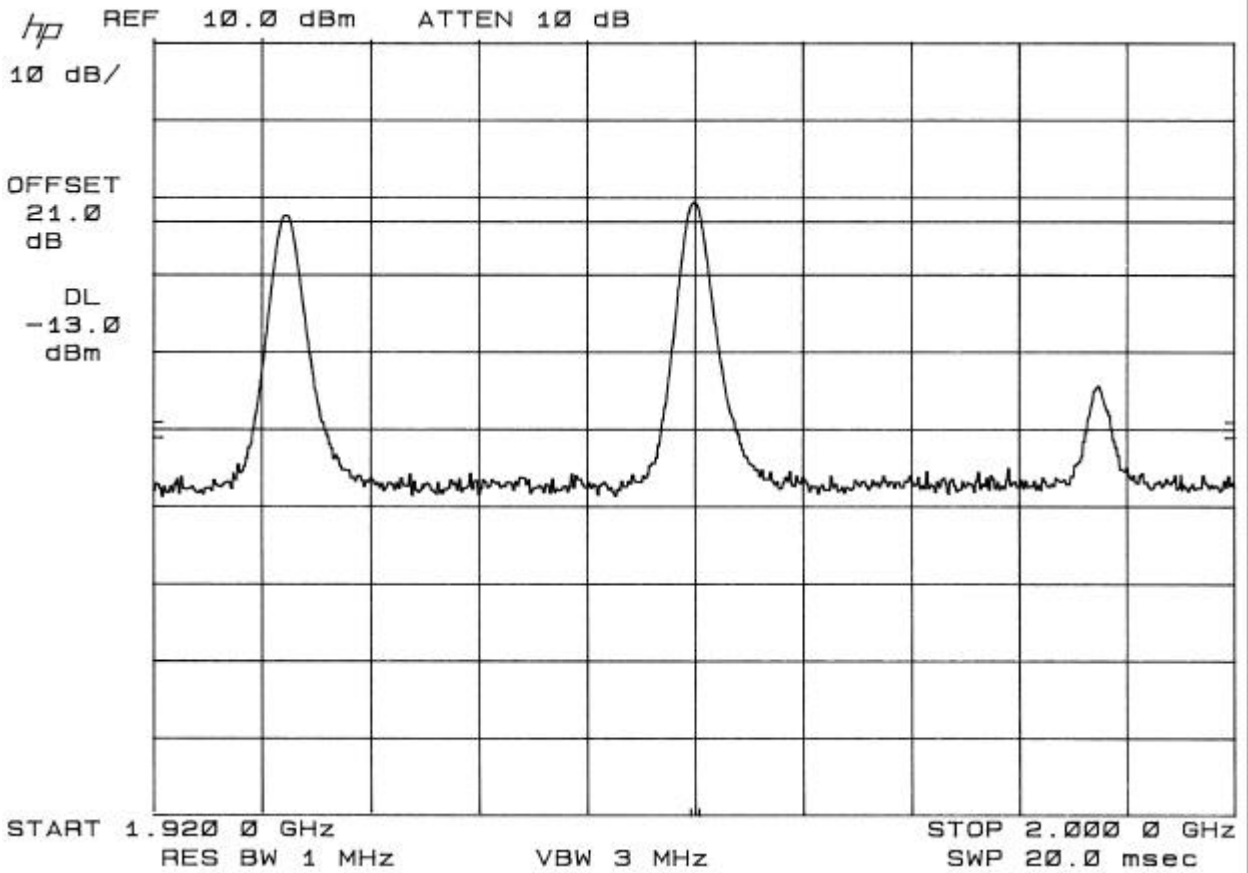



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW – Output – 1930 / 1990 MHz			

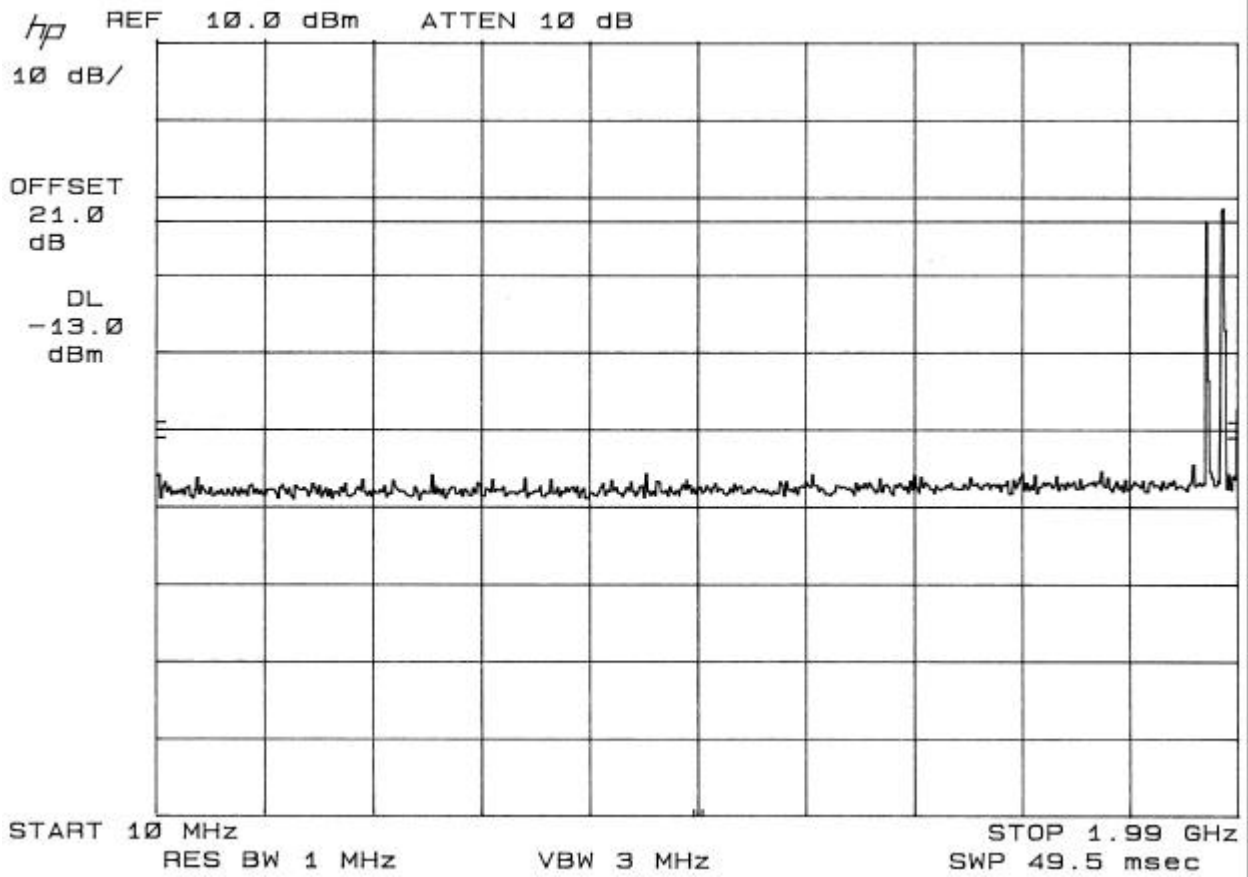



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Output - 1930 / 1990 MHz			

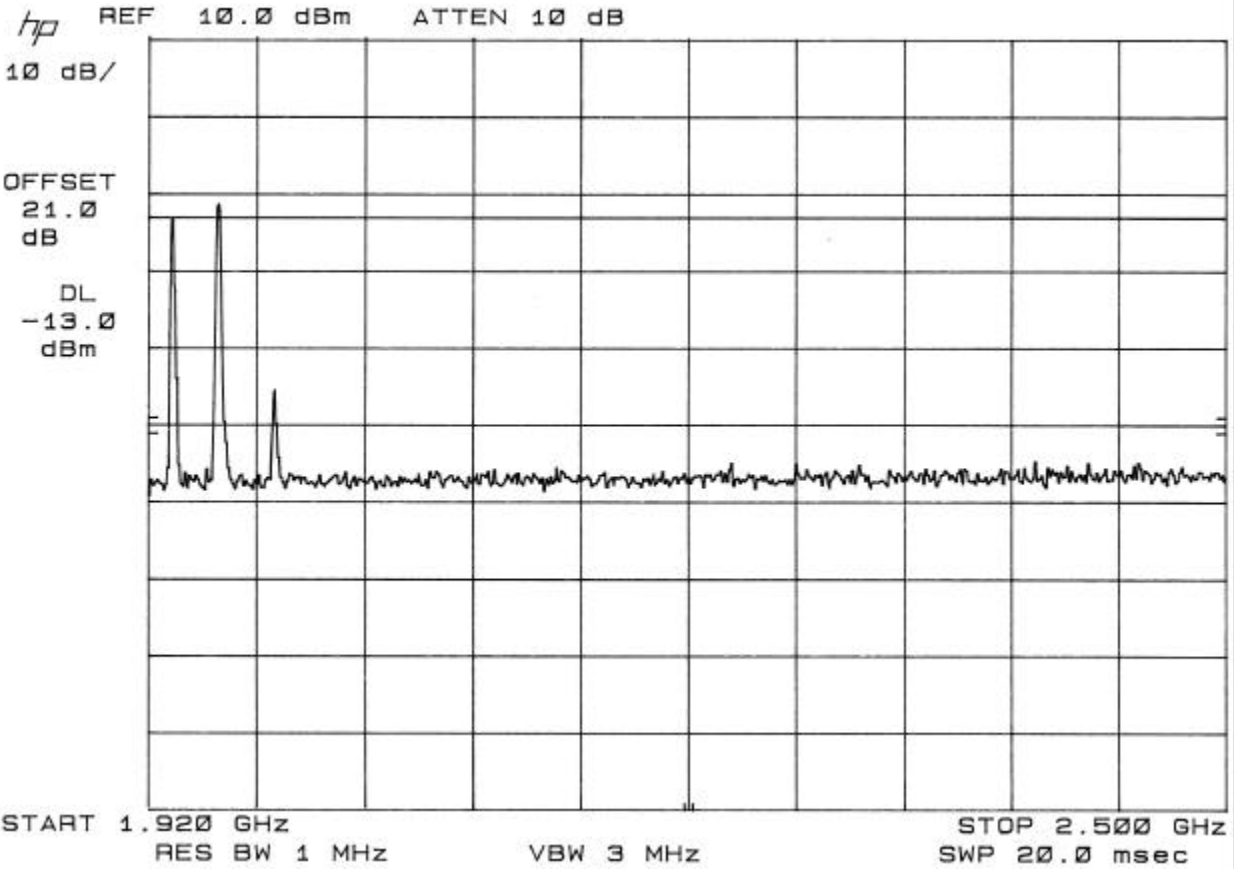



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Output - 1930 / 1990 MHz			

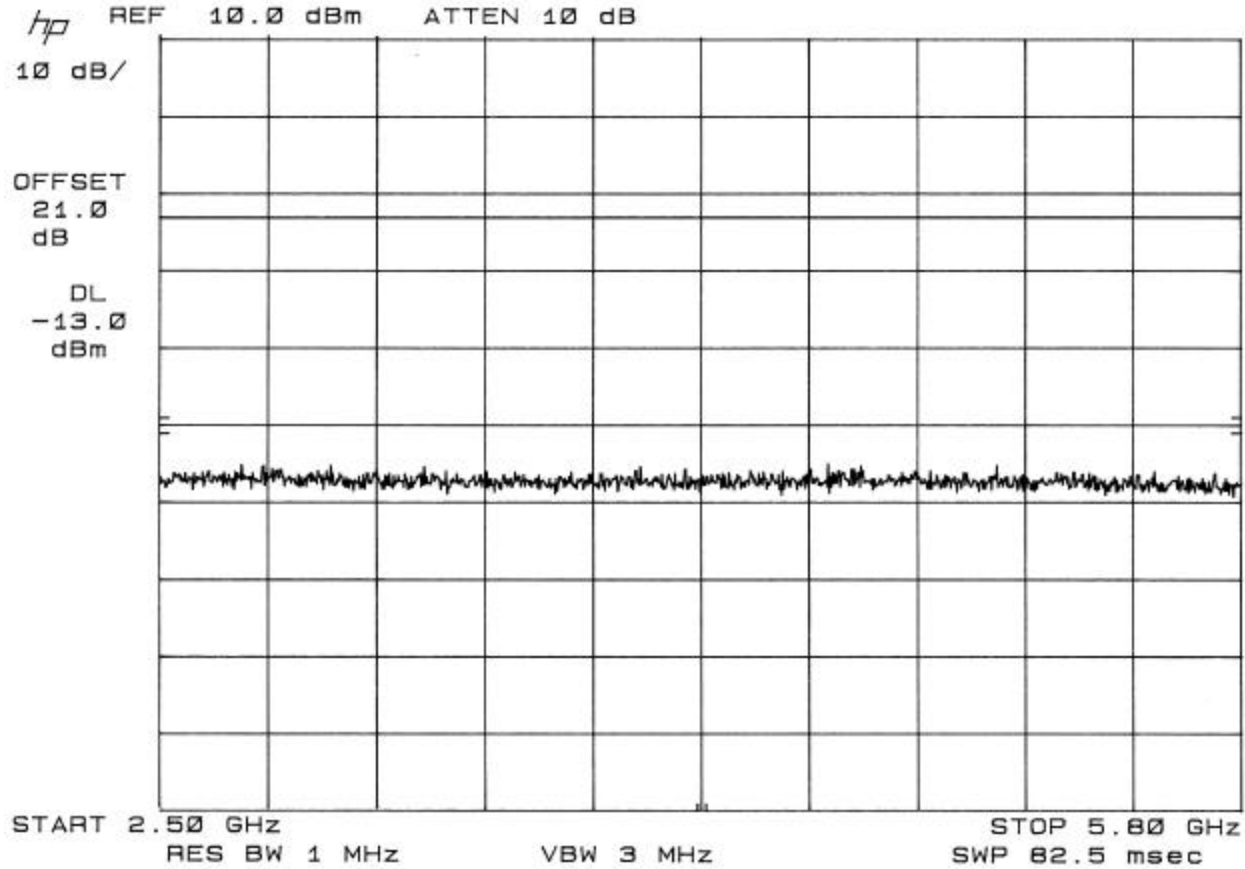



FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Output - 1930 / 1990 MHz			

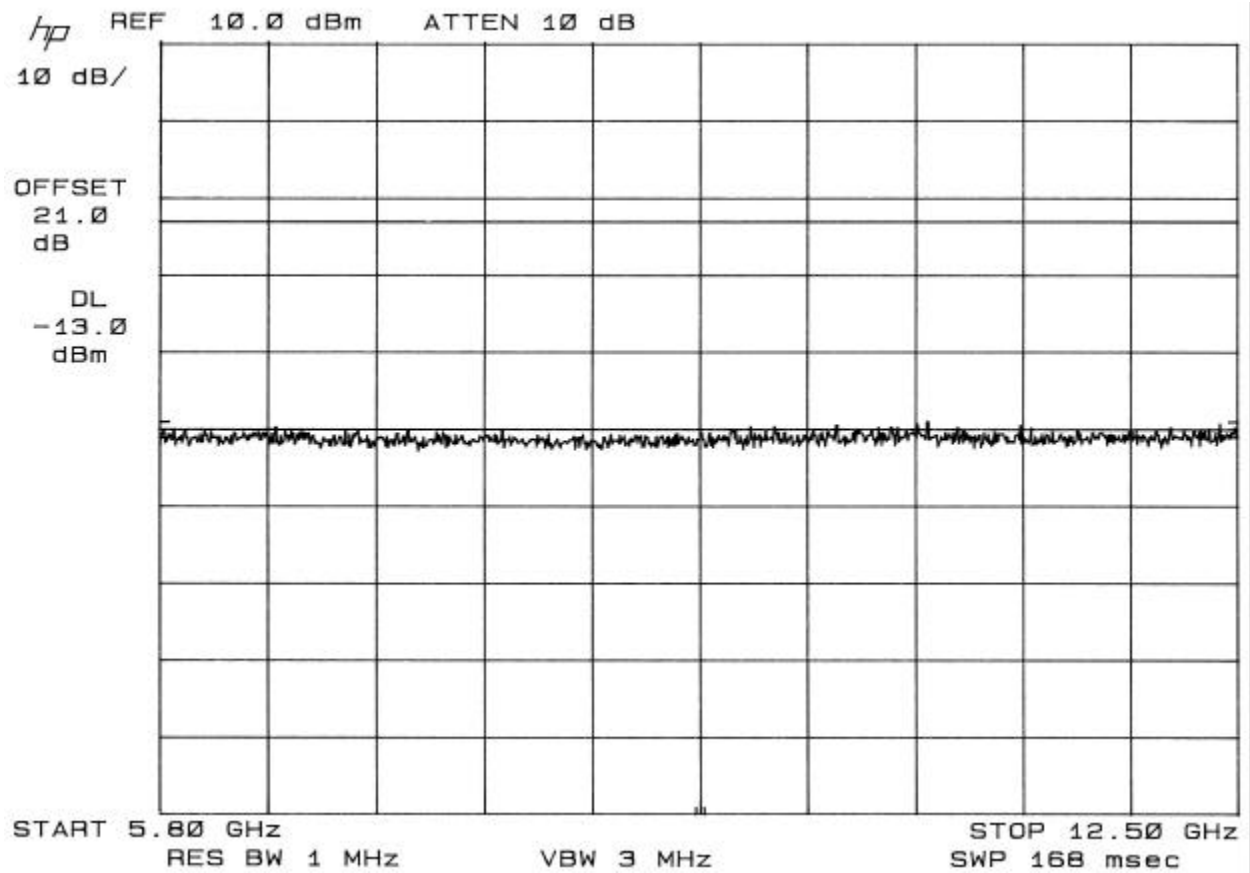

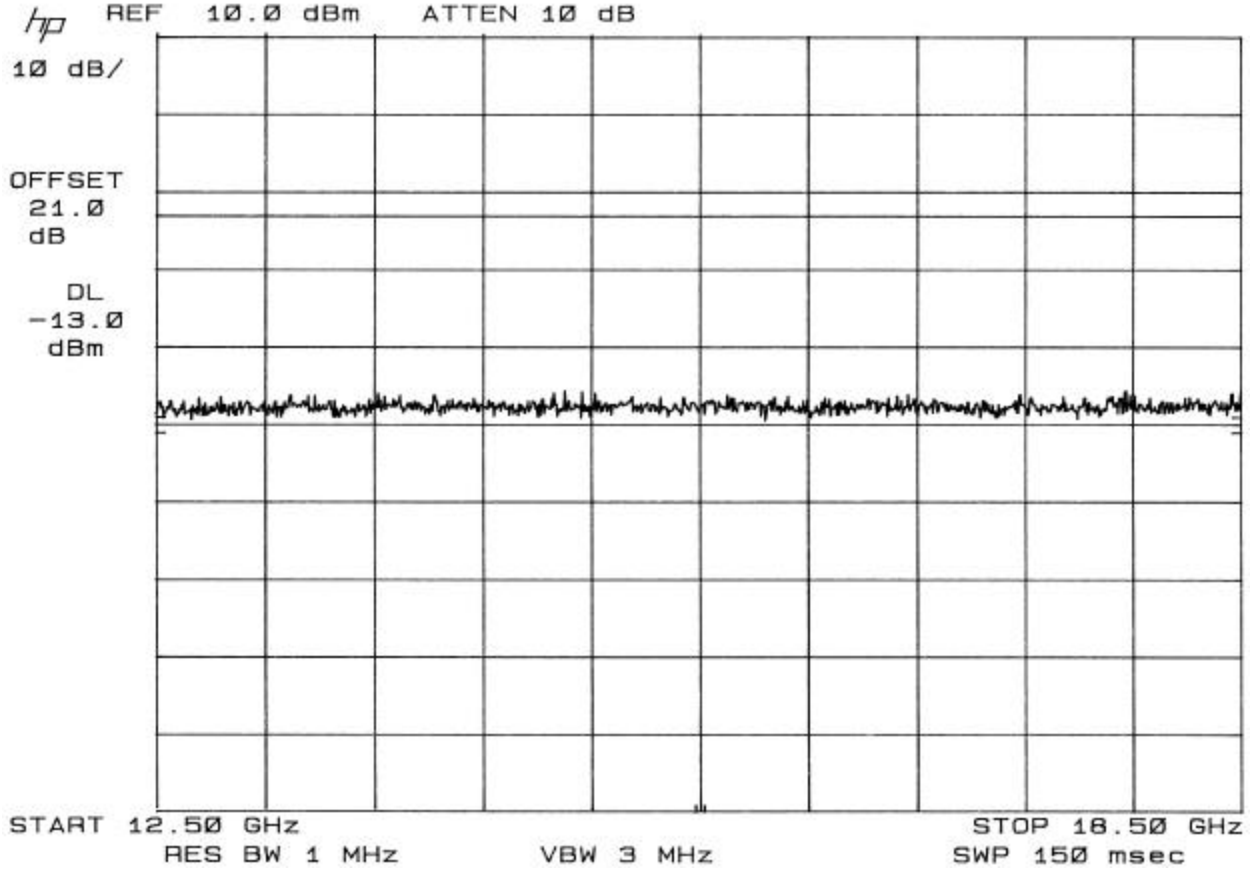


FIGURE 6: OCCUPIED BANDWIDTH

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Inter-Modulation	
	DNB Job Number:	RV48085A	Date:	12 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink Signal Source - CW - Output - 1930 / 1990 MHz			



2.1051 Spurious Emissions at Antenna Terminals

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 10th harmonic of the carrier frequency.

Test Results: See Plots

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

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

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
	DNB Job Number:	RV48085A	Date:	Jan 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier			
	Uplink – 824MHz			

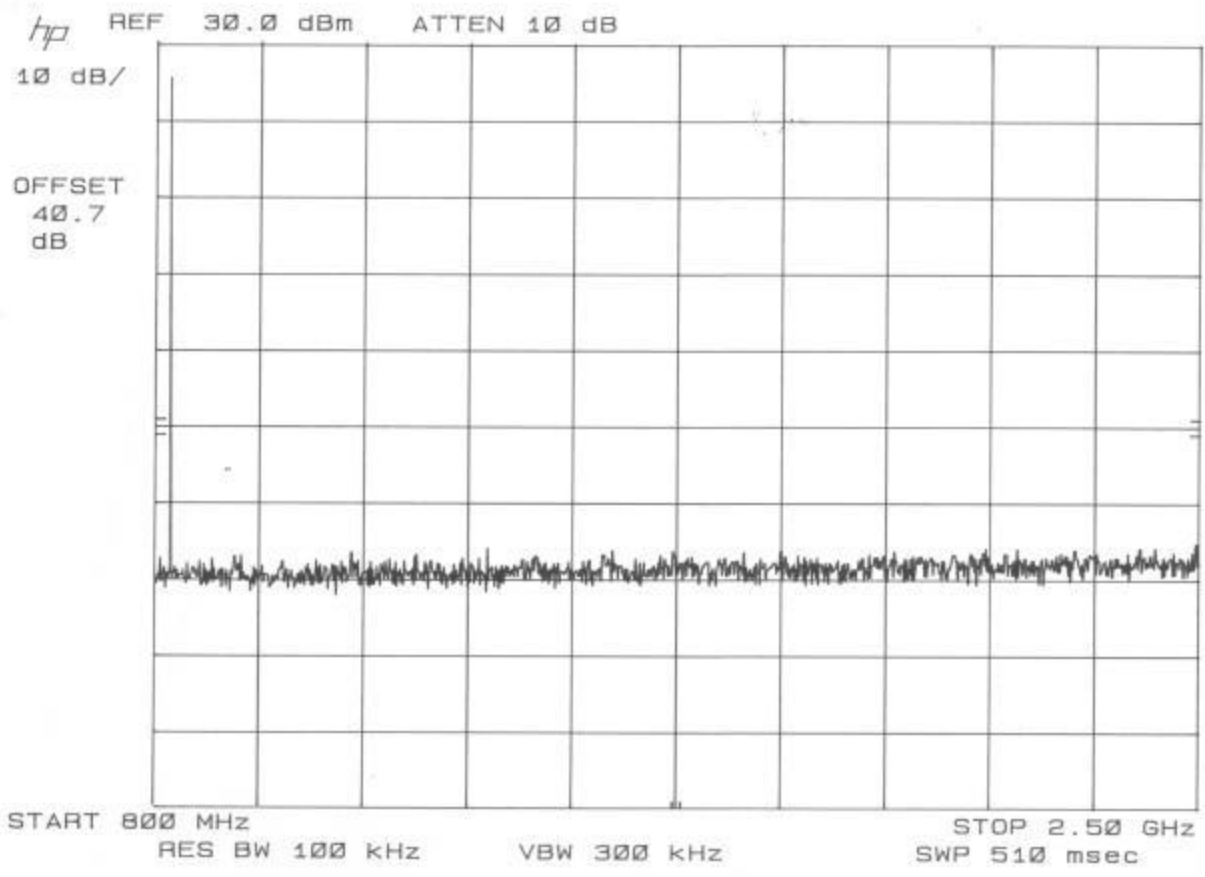



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
DNB Job Number:	RV48085A		Date:	Jan 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819		Serial Number:	
Description:	RF amplifier			
	Uplink – 824MHz			
				Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90

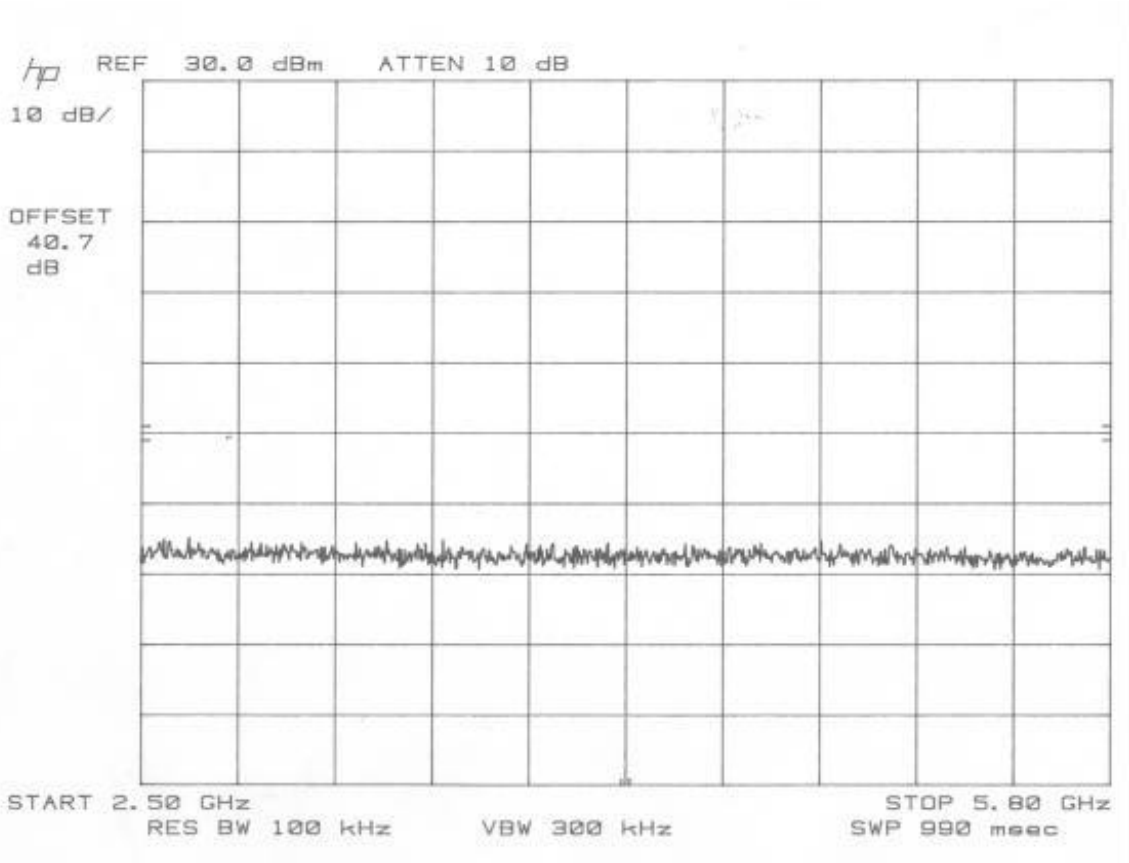



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
DNB Job Number:	RV48085A	Date:	Jan 2004	Conformance Standards <input checked="" type="checkbox"/> FCC Part 15 <input checked="" type="checkbox"/> FCC Part 22 <input checked="" type="checkbox"/> FCC Part 24 <input checked="" type="checkbox"/> FCC Part 90
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier			
	Uplink – 824MHz			

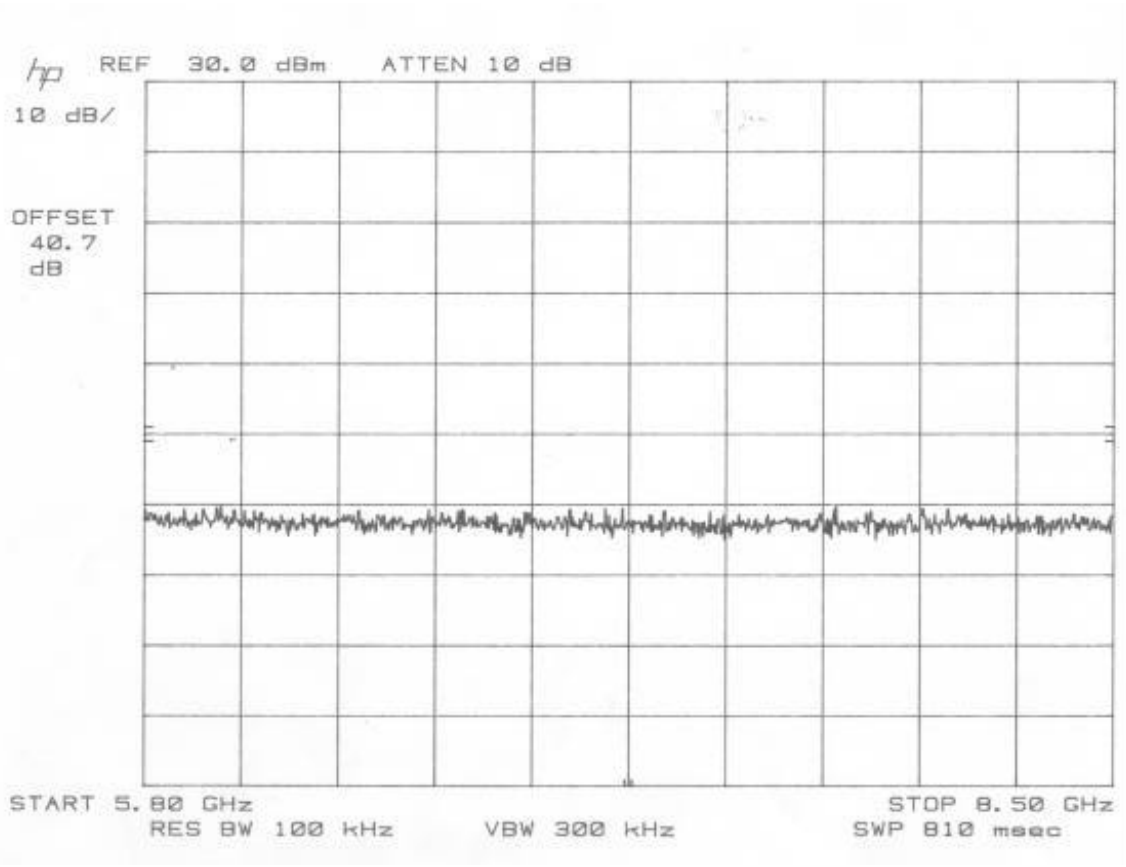



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
	DNB Job Number:	RV48085A	Date:	Jan 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Uplink – 1850MHz			

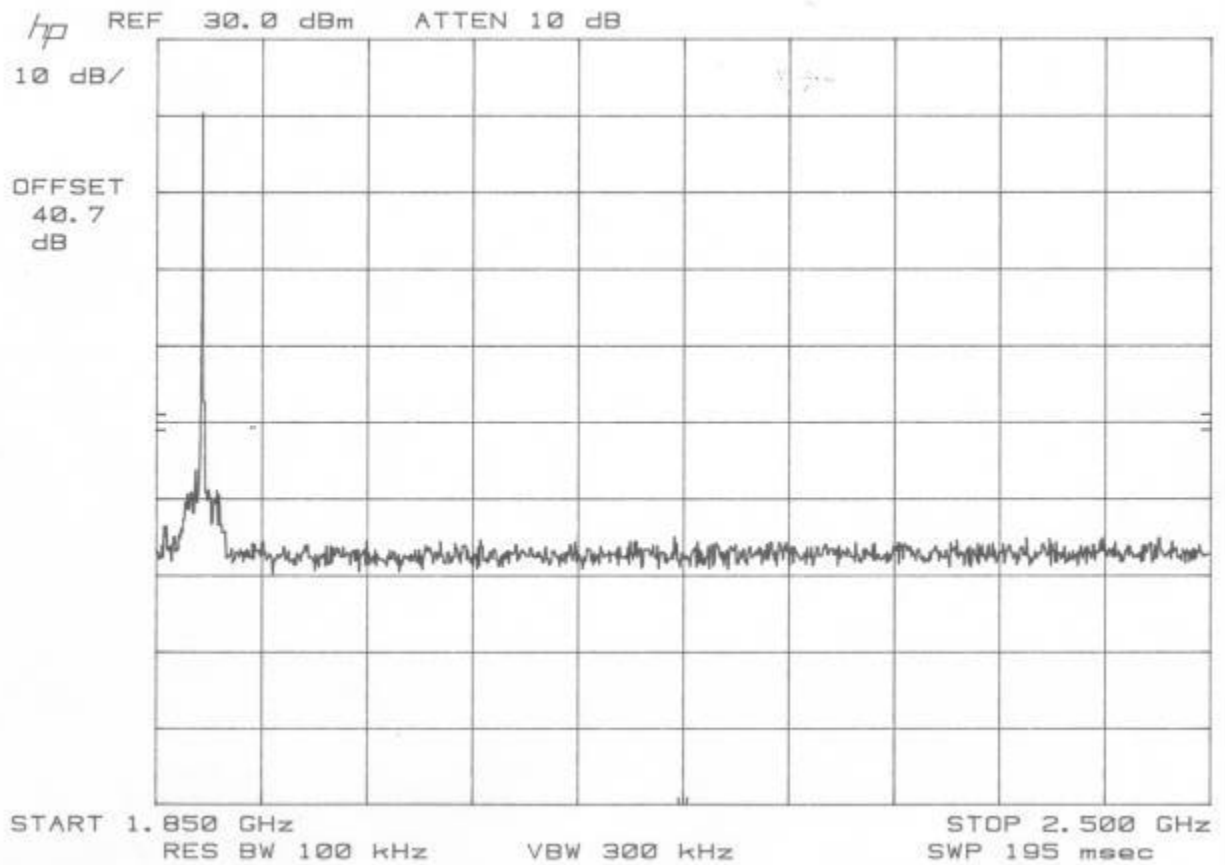



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
	DNB Job Number:	RV48085A	Date:	Jan 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Uplink – 1850MHz			

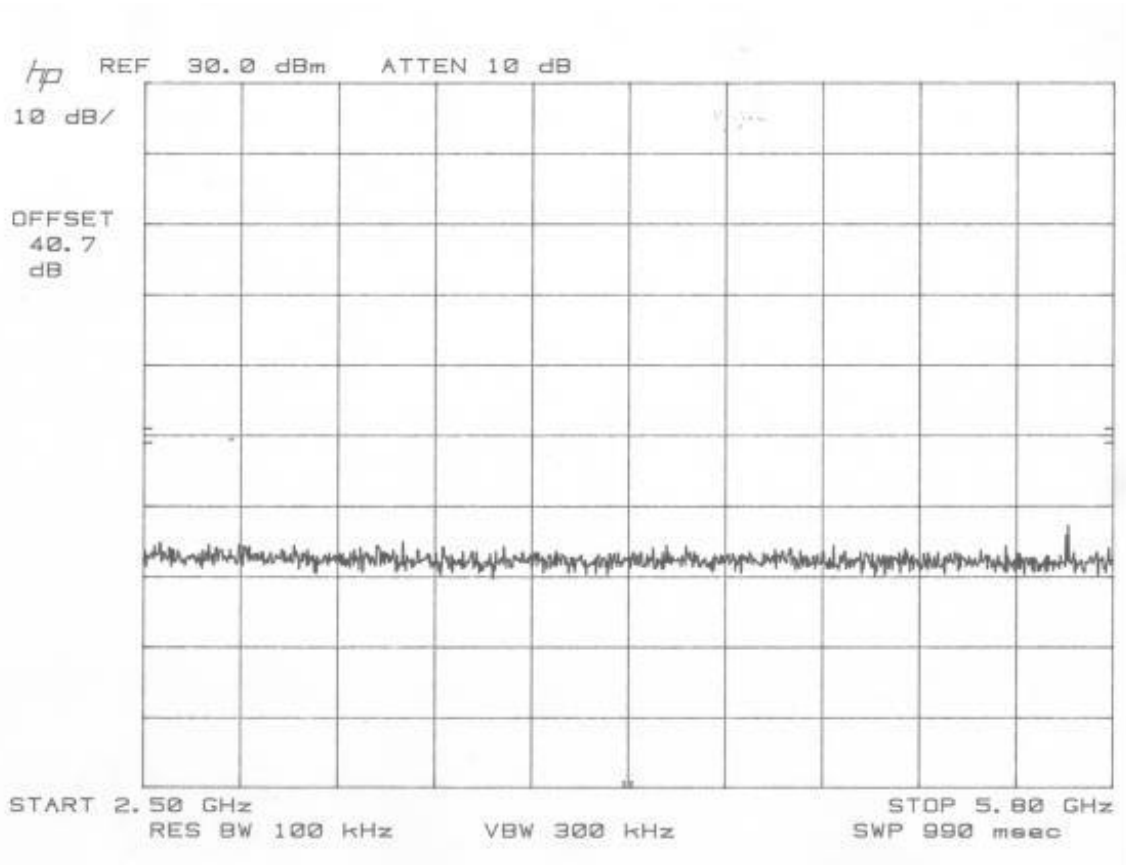



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
	DNB Job Number:	RV48085A	Date:	Jan 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Uplink – 1850MHz			

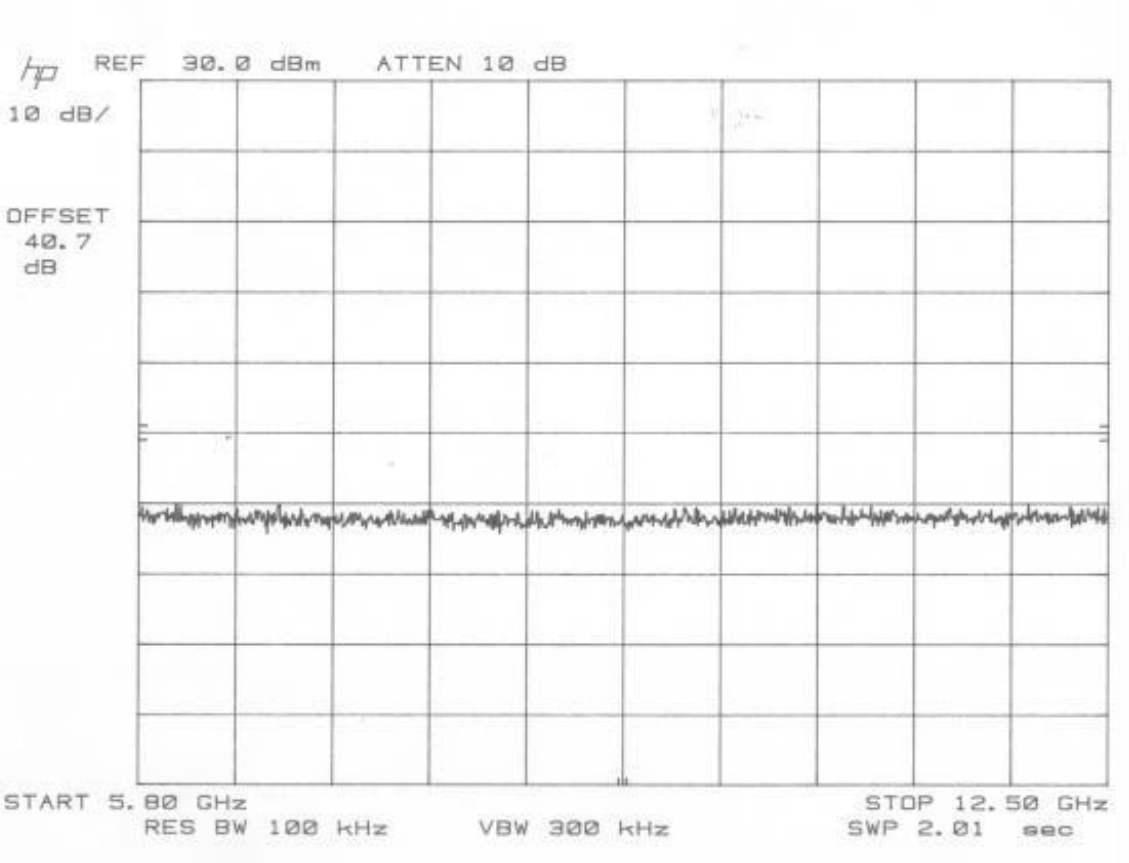



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
DNB Job Number:	RV48085A	Date:	Jan 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier			
	Uplink – 1850MHz			

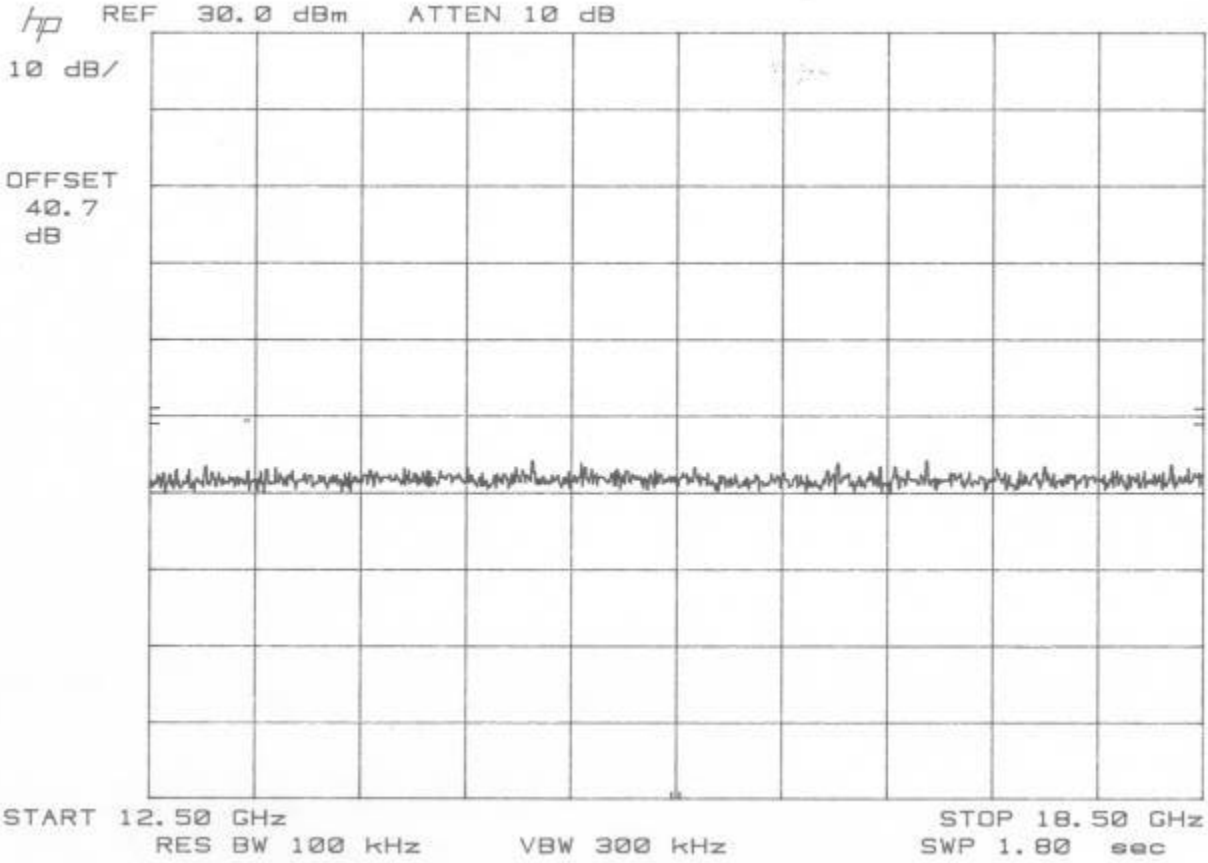



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
	DNB Job Number:	RV48085A	Date:	9 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier			
	Downlink – 869MHz			

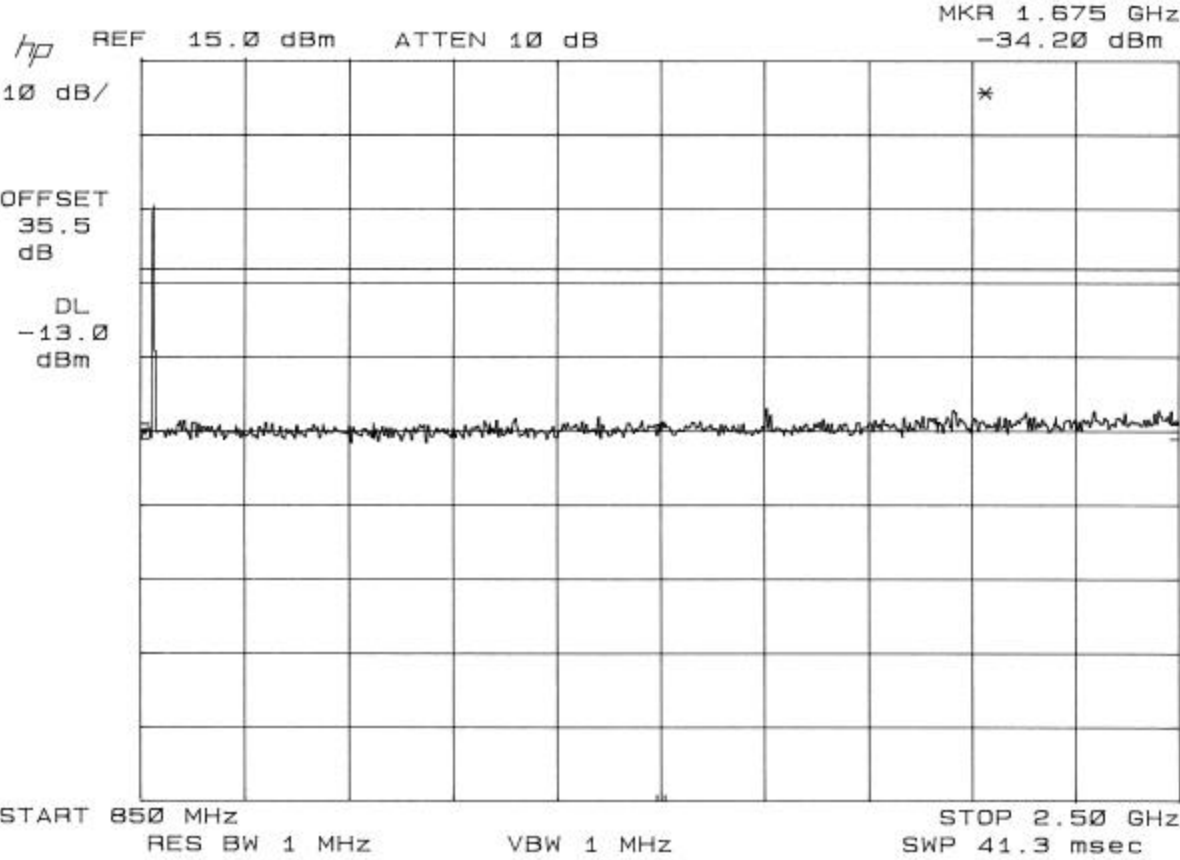



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
	DNB Job Number:	RV48085A	Date:	9 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink – 869MHz			

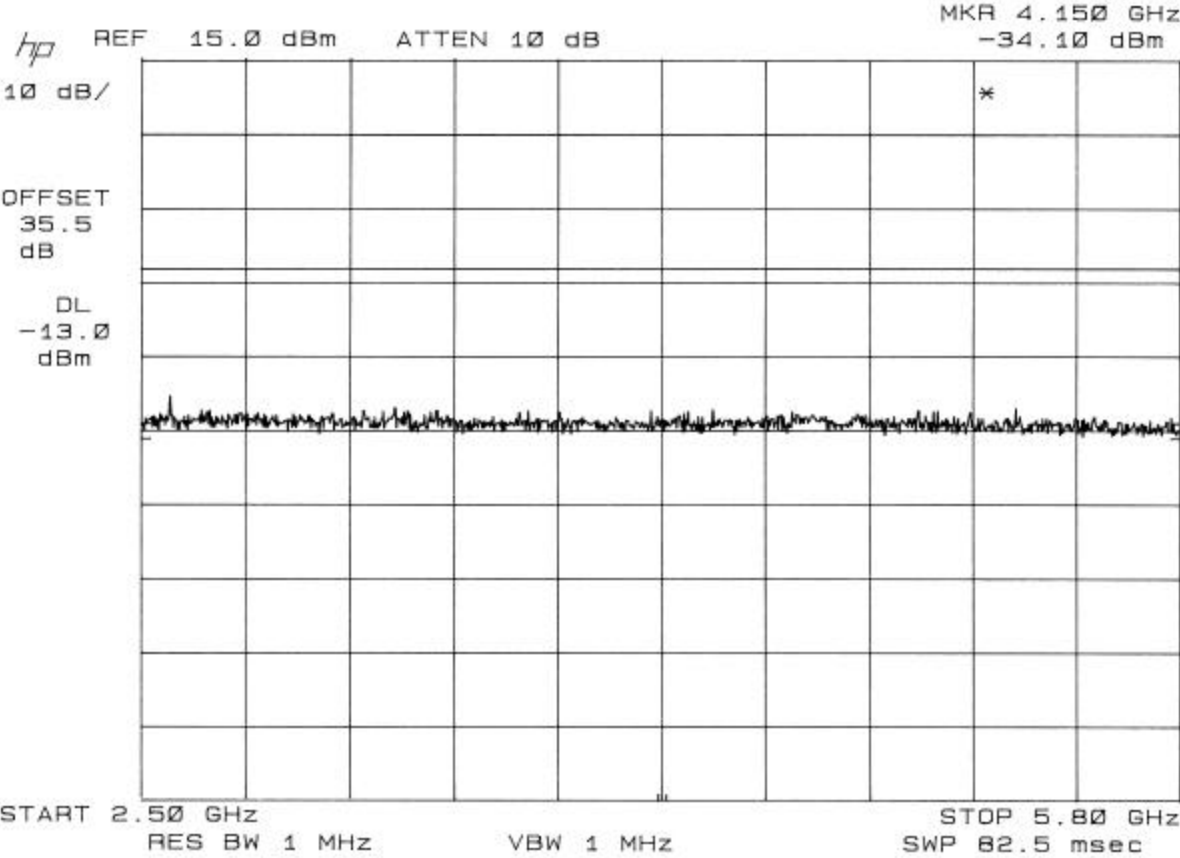



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
DNB Job Number:	RV48085A	Date:	9 Feb 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier			
	Downlink – 869MHz			

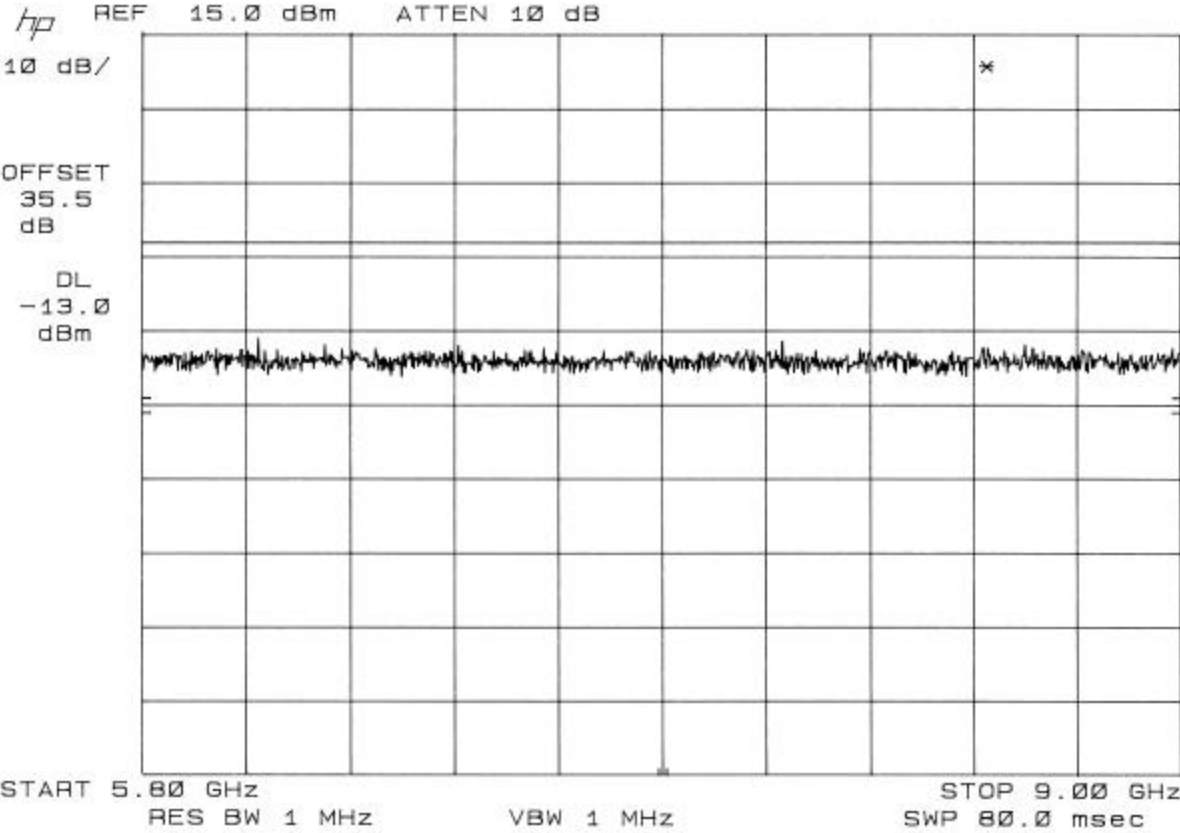



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
	DNB Job Number:	RV48085A	Date:	9 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink – 1930MHz			

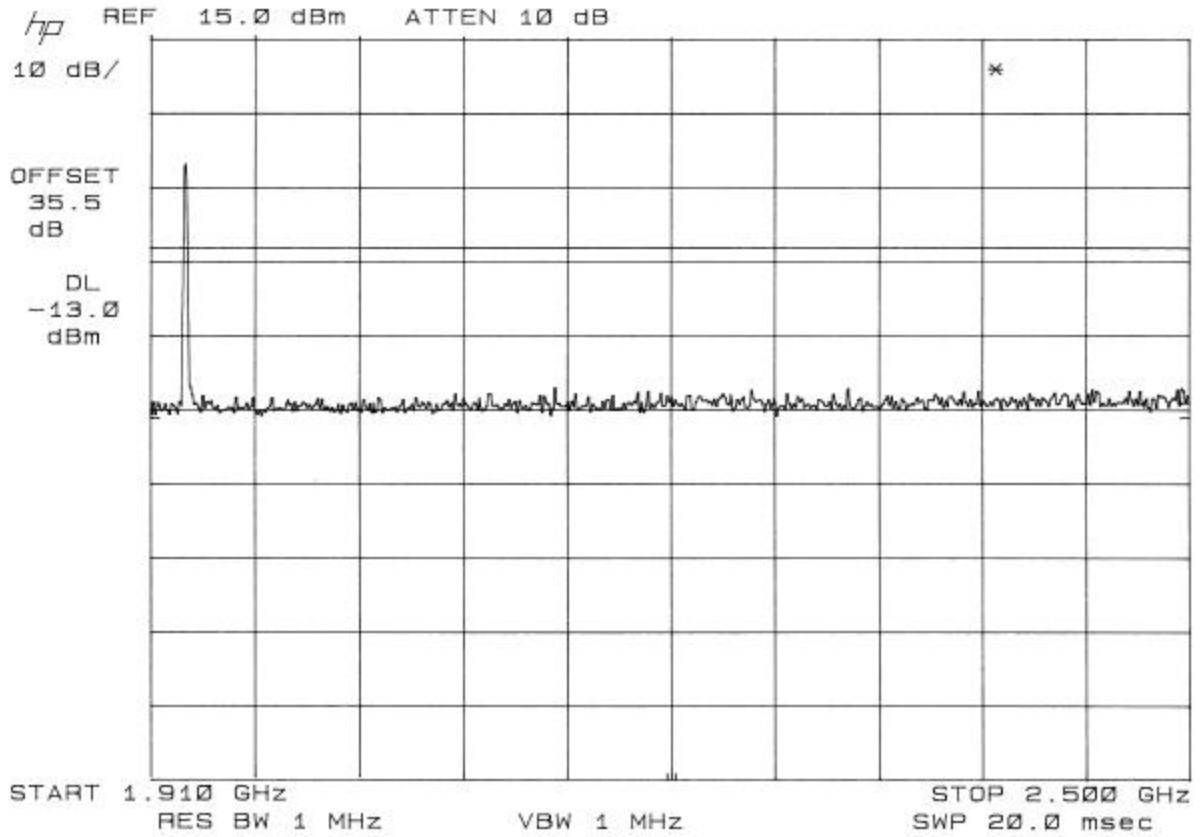



Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
	DNB Job Number:	RV48085A	Date:	9 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier Downlink – 1930MHz			

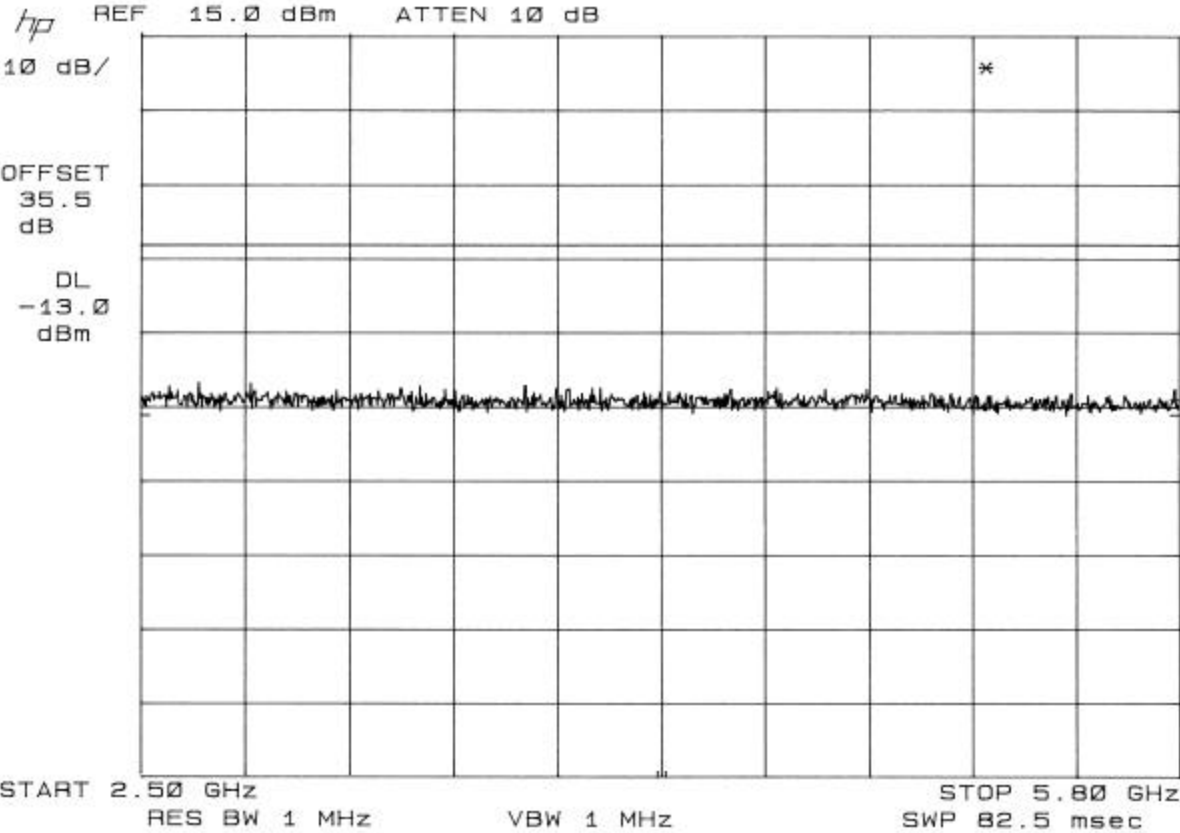

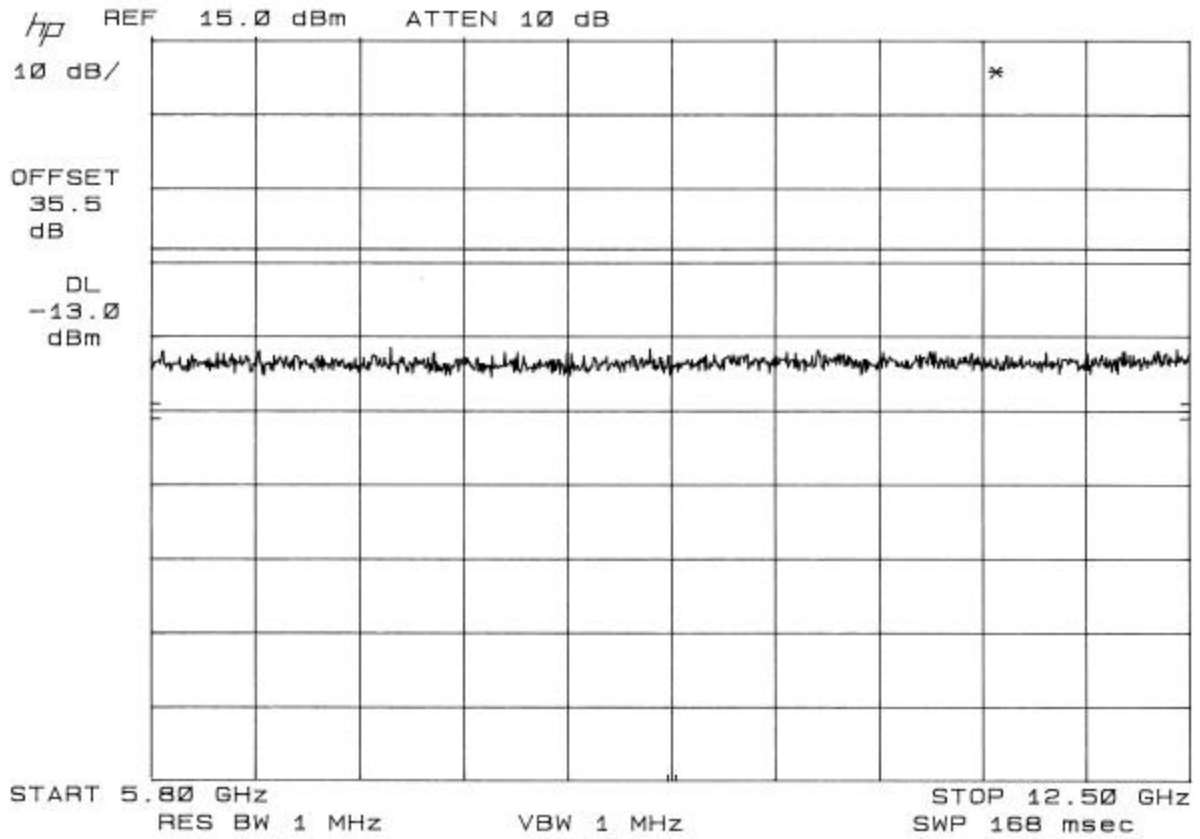


Figure 7: Conducted Spurious Emissions at Antenna Terminals, Uplink.

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704		Antenna Conducted Spurious	
	DNB Job Number:	RV48085A	Date:	9 Feb 2004
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier			
	Downlink – 1930MHz			



2.1053 Field Strength of Spurious Radiation

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 10th 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 subtracted from 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.

Test Results: All readings were at the spectrum analyzer ground floor above the fundamental.


All radiated spurious emissions are below the FCC Specifications.

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

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704	Radiated Spurious		
DNB Job Number:	RV48085A	Date:	19 Jan 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier			
	Uplink 824MHz			

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	1650	H	-52.91	-13	-39.91
	1650	V	-53.21	-13	-40.21
3rd	2475	H	-43.49	-13	-30.49
	2475	V	-43.69	-13	-30.69
4th	3300	H	-47.05	-13	-34.05
	3300	V	-46.75	-13	-33.75
5th	4125	H	-51.95	-13	-38.95
	4125	V	-51.15	-13	-38.15
6th	4950	H	-44.88	-13	-31.88
	4950	V	-46.78	-13	-33.78
7th	5775	H	-58.59	-13	-45.59
	5775	V	-54.99	-13	-41.99
8th	6600	H	-62.89	-13	-49.89
	6600	V	-62.99	-13	-49.99
9th	7425	H	-57.42	-13	-44.42
	7425	V	-57.92	-13	-44.92
10th	8250	H	-44.93	-13	-31.93
	8250	V	-43.93	-13	-30.93

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

	5969 Robinson Avenue Riverside, CA 92503 (909) 637-2630 FAX (909) 637-2704	Radiated Spurious		
DNB Job Number:	RV48085A	Date:	19 Jan 2004	Conformance Standards [X] FCC Part 15 [X] FCC Part 22 [X] FCC Part 24 [X] FCC Part 90
Customer:	Janizary Holdings Inc			
Model Number:	CA-819	Serial Number:		
Description:	RF amplifier			
	Uplink – 1850 MHz			

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	3700	H	-58.45	-13	-45.45
	3700	V	-58.05	-13	-45.05
3rd	5550	H	-45.20	-13	-32.20
	5550	V	-45.80	-13	-32.80
4th	7400	H	-56.10	-13	-43.10
	7400	V	-52.30	-13	-39.30
5th	9250 *	H	-62.10	-13	-49.10
	9250 *	V	-62.10	-13	-49.10
6th	11100 *	H	-66.66	-13	-53.66
	11100 *	V	-66.66	-13	-53.66
7th	12950 *	H	-62.83	-13	-49.83
	12950 *	V	-62.83	-13	-49.83
8th	14800 *	H	-62.51	-13	-49.51
	14800 *	V	-62.51	-13	-49.51
9th	16650 *	H	-63.00	-13	-50.00
	16650 *	V	-63.00	-13	-50.00
10th	18500 *	H	-55.92	-13	-42.92
	18500 *	V	-55.92	-13	-42.92

* Measurement made at instrument ground floor – no discernible reading

RADIATED EMISSIONS

Definition:

Emissions which emanate from the EUT.


Test Method: FCC Part 15 Class B

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 (909) 637-2630 FAX (909) 637-2704				Radiated Emissions											
DNB Job Number:		RV48085A				Date:			7 Jan 2004			Conformance Standards [X] FCC Part 15					
Customer:		Janizary Holdings Inc															
Model Number:		CA-819				Serial Number:											
Description:		RF amplifier															
		Correction Factors					in dBuV/m			in uV/m			Positions				
		Bcn	Log	Cbl	Amp	Dis	Corr	Lim	Delta	Corr	Lim	Delta	Typ	Tbl	Pl	Hgt	
30.945	22.7	12.4	0.0	0.8	-24.8	0.0	11.1	30	-18.9	4	32	-28	PK	343	H	2.06	
109.156	29.8	10.0	0.0	1.4	-24.6	0.0	16.6	30	-13.4	7	32	-25		343	H	2.06	
182.956	28.4	13.2	0.0	1.8	-24.7	0.0	18.7	30	-11.3	9	32	-23		343	H	2.06	
224.368	23.3	14.8	0.0	2.0	-24.7	0.0	15.4	30	-14.6	6	32	-26		343	H	2.06	
229.468	18.9	0.0	12.4	2.1	-24.7	0.0	8.7	30	-21.3	3	32	-29		82	H	2.12	
396.868	19.3	0.0	16.7	2.9	-25.0	0.0	13.9	37	-23.1	5	71	-66		82	H	2.12	
912.568	20.2	0.0	23.4	4.6	-25.6	0.0	22.4	37	-14.6	13	71	-58		258	H	2.12	
30.900	27.2	12.4	0.0	0.8	-24.8	0.0	15.6	30	-14.4	6	32	-26		184	V	1.10	
109.300	34.4	10.0	0.0	1.4	-24.6	0.0	21.2	30	-8.8	11	32	-21		184	V	1.10	
161.214	26.3	12.4	0.0	1.7	-24.7	0.0	15.7	30	-14.3	6	32	-26		343	V	2.20	
223.303	23.5	14.7	0.0	2.0	-24.7	0.0	15.5	30	-14.5	6	32	-26		343	V	2.20	
227.668	21.6	0.0	12.4	2.1	-24.7	0.0	11.4	30	-18.6	4	32	-28		258	V	1.00	
346.468	21.1	0.0	14.9	2.7	-24.9	0.0	13.8	37	-23.2	5	71	-66		258	V	1.00	
917.968	18.7	0.0	23.5	4.6	-25.5	0.0	21.3	37	-15.7	12	71	-59		258	V	1.00	

2.1055 Measurement of Frequency Stability

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

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

RF Exposure

The CA-819 (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 CA-819 (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

Input

Transmitter Power: 500 mW

Antenna Gain: 3 dB

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

Frequency range: 824-849 MHz and 1850-1910 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

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.

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

@ 824 – 849 MHz

P is 500 mW

G is 2 dB (Antenna gain – loss) or $10^{(2/20)}$ or 1.25

R is 20 cm

$$\underline{S = 0.125 \text{ mW/cm}^2}$$

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/cm² 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/cm² for 30 minutes.**

Conclusion: Meets MPE limits

@ 1850 – 1910 MHz

P is 500 mW

G is 1 dB (Antenna gain – loss) or $10^{(1/20)}$ or 1.12

R is 20 cm

$$\underline{S = 0.112 \text{ mW/cm}^2}$$

For Occupational/Controlled Exposure

From 1,500 to 100,000 MHz, power density limit is **5 mW/cm² for 6 minutes.**

For General Population/Uncontrolled Exposure

From 1,500 to 100,000 MHz, power density limit is **1 mW/cm² for 30 minutes.**

Conclusion: Meets MPE limits

Appendix A

Photographs

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PHOTOS: RADIATED EMISSIONS: BICON

Notes:



PHOTOS: RADIATED EMISSIONS: LOG

Notes:



PHOTOS: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS

Notes:



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

Notes:

