Application for Certification
For an RF amplifier

Intelligent Wireless Products, Inc.
1000 Second Avenue, 12th Floor
Seattle, WA 98104

RF amplifier

FCC ID: V4B-CWAP819
IC ID: 7614A-CWAP819

REPORT # UT86010A-002

This report was prepared in accordance with the requirements of the FCC Rules and Regulations Part 2, Subpart J, 2.1031 through 2.1057, and Parts 22, and 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.
1100 E Chalk Creek Road
Coalville, UT 84017

Industry Canada Lab Code: IC 3386A-1

20 Dec 2007 (revised 18 Mar 2008)

TEST LAB PERSONNEL

Test Performed by:	Date	Signature
Yancey Staples	20 Dec 2007	**YS**

APPROVALS

Quality Approval	Date	Signature
Les Payne Facility Manager	20 Dec 2007	

Original report UT86010A-001 **Dated 20 Dec 2007**
Revised report UT86010A-002 **Dated 18 Mar 2008 (name change)**

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1.0 ADMINISTRATIVE DATA

1.1 Certifications and Qualifications

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

1.2 Measurement Repeatability Information

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

C. L. Payne III (Para. 1.1)
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1.3 Test Methodology

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

1.4 Test Equipment

FIGURE 1: TEST EQUIPMENT

Description	Manufacturer	M/N	S/N	Cal Due Date	Test Used On
Signal Generator	Rhode & Schwarz	SMU 200A	100094	11/28/07	RF Power Out put, Inter-Mod, Cond Spur, Rad Spur, Characteristics
Spectrum Analyzer	Agilent	E4407B	MY45103462	08/18/08	RF Power Out put, Inter-Mod, Cond Spur, Rad Spur, Characteristics, RE
S/A Display	H/P	85662A	2318A05282	10/06/08	RE
Spectrum Analyzer	H/P	85680B	2330A02791	10/06/08	RE
Q-P Adapter	H/P	85650A	2811A01240	10/06/08	RE
RF-Preselector	H/P	8566B	259101-2	10/06/08	RE
Bicon Antenna	AH Systems	SAS-200/540	524	01/02/09	RE
Logarithmic Antenna	EMCO	3146	1284	01/03/09	RE
DRG Antenna	EMCO	3115	2280	02/03/08	RE
DRG Antenna	EMCO	3115	2281	10/04/08	RE,Rad spur
50 ohm Load	Decibel	DB4303G	2309	1/11/08	RF Power Out put, Inter-Mod, Cond Spur, Rad Spur, Characteristics, RE
Directional Coupler	DNB	DNBDCRIV	12401	09/08/08	RF Power Out put, Inter-Mod, Cond Spur, Characteristics

1. 5 DEVIATIONS

Deviations/Modifications to the EUT
None.

Deviations/Modifications from test standard.
None

1.6 TEST DESCRIPTION

1.6.1 RF Power Output

For RF amplifier.

1.6.2 Emissions Limitation and Occupied Bandwidth

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

1.6.3 Conducted Spurious Emissions at Antenna Terminals

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

1.6.4 Radiated Field Strength of Spurious Emissions

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

1.6.5 Conducted Emissions

Emissions which are conducted onto the AC power mains.

1.6.6 Radiated Emissions

Emissions which emanate from the EUT.

2.1033 (C) (1) Application for Certification

Name of Applicant:		Intelligent Wireless Products, Inc. 1000 Second Avenue, 12th Floor Seattle, WA 98104
FRN:		0017492612
Applicant is:	X	Manufacturer Vendor Licensee Prospective Licensee Other
Name of Manufacturer		Intelligent Wireless Products, Inc.
Description:		RF amplifier
Part Number:		CWAP819
Anticipated Production Quantity:		Multiple Units
Applicable FCC Parts:		22, and 24
Applicable IC Standard:		RSS-131
FCC ID No:		V4B-CWAP819
IC ID No:		7614A-CWAP819

FCC Emissions Designator:		
	22H	F1D and F8W
	22H	GXW
	22.901(d)	DXW
	24E	F1D and F8W
	24E	GXW
	24E	DXW
	24E	F9W

Frequency Range:			
Uplink	824.025-848.975	MHz	
Uplink	1850.025-1909.975	MHz	
Downlink	869.025-893.975	MHz	
Downlink	1930.025-1989.975	MHz	

Rated Conducted Output:			
1.032W	(30.14dBm)	824.025-848.975	MHz
0.796W	(29.01dBm)	1850.025-1909.975	MHz
0.054W	(17.35dBm)	869.025-893.975	MHz
0.0272W	(14.34dBm)	1930.025-1989.975	MHz

2.1033 (C) (2) FCC Identifier

FCC ID: V4B-CWAP819

2.1033 (C) (3) Installation Instruction and Manual

Customer will provide.

2.1033 (C) (4) Type of Emission

824.025 – 848.975 MHz	22H	F1D and F8W 40K0F1D
824.200 – 848.800 MHz	22H	GXW 300KGXW
824.025 – 848.975 MHz	22.901(d)	DXW 30K0DXW
1850.025 – 1909.975 MHz	24E	F1D and F8W 40K0F1D
1850.200 – 1909.800 MHz	24E	GXW 300KGXW
1850.025 – 1909.975 MHz	24E	DXW 30K0DXW
1851.000 – 1909.000 MHz	24E	F9W 1M25F9W

2.1033 (C) (5) Frequency Range

Uplink	824.025 – 848.975 MHz	Downlink	869.025 – 893.975 MHz
Uplink	1850.025 – 1909.975 MHz	Downlink	1930.025 – 1989.975 MHz

2.1033 (C) (6) Operating Power (Conducted)

Uplink	824.025 – 848.975 MHz	1.032W	(30.14dBm)
Downlink	869.025 – 893.975 MHz	0.054W	(17.35dBm)
Uplink	1850.025 – 1909.975 MHz	0.796W	(29.01dBm)
Downlink	1930.025 – 1989.975 MHz	0.0272W	(14.34dBm)

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

RULES PART	MAXIMUM POWER (WATTS)
Part 22	7
Part 24	2

2.1033 (C) (8) Input Power Characteristics

19.00 mW Maximum

2.1033 (C) (9) Tune Up Procedure

Customer will provide.

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

Customer will provide.

2.1033 (C) (11) Equipment Identification Plate

Customer will provide.

2.1033 (C) (12) Equipment Photographs - Internal

Customer will provide.

2.1033 (C) (12) Equipment Photographs - External

Customer will provide.

2.1033 (C) (13) Digital Modulation Techniques

AMPS / CDMA / TDMA /GSM

2.1033 (c) (14) Test Data

See 2.1046-2.1053 and Radiated Emissions

FIGURE 2: TEST RESULT SUMMARY

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

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

2.1033 (c) (14)

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

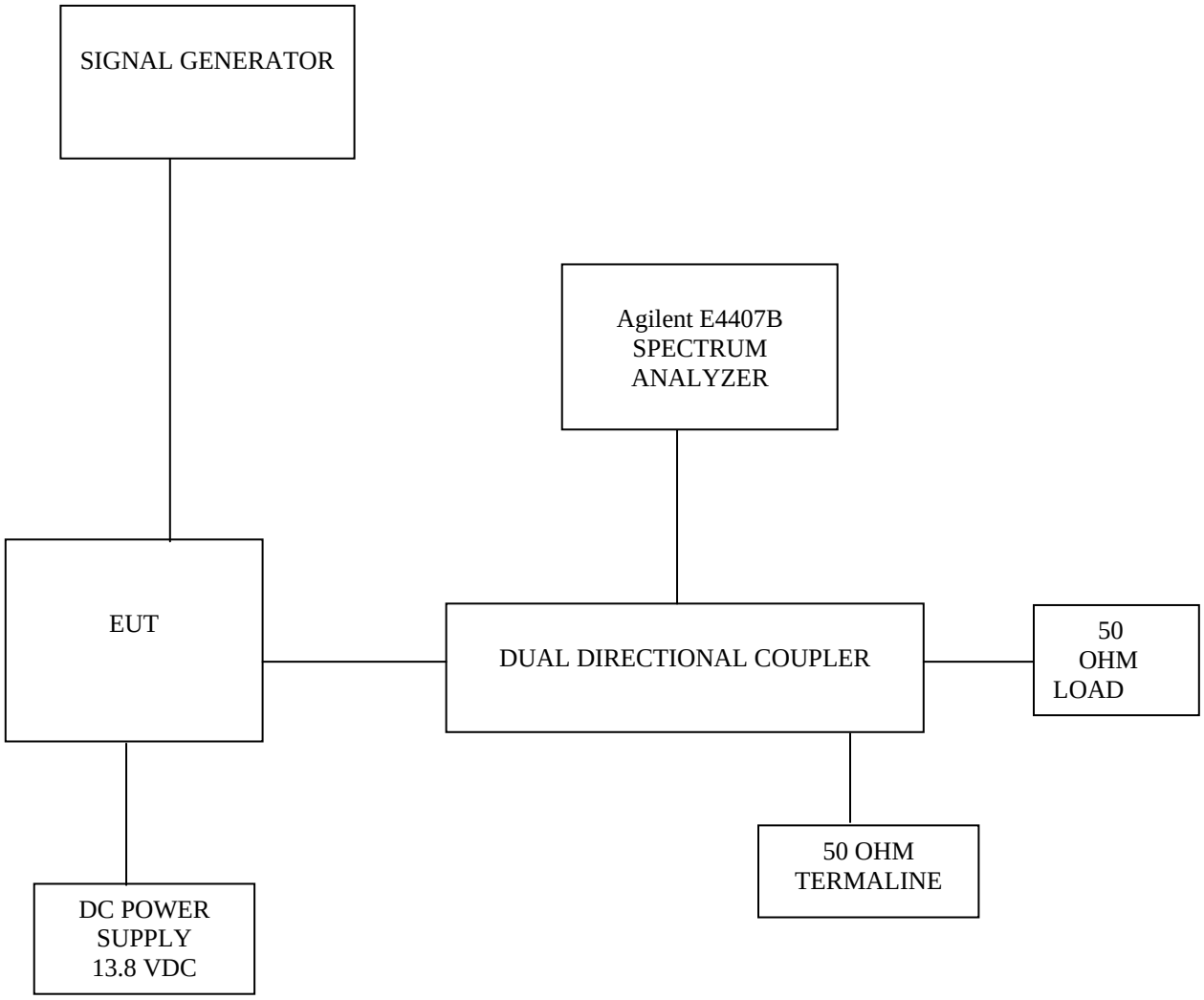
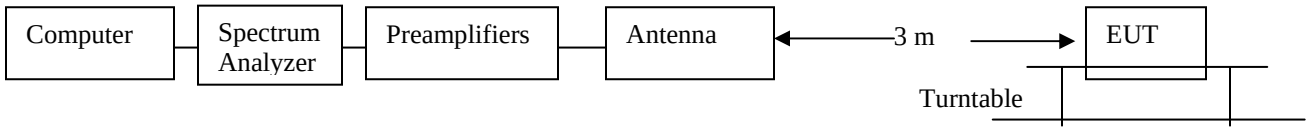


FIGURE 4: TEST SET UP BLOCK DIAGRAM FOR RADIATED EMISSIONS



2.1046 Measurement of RF Power Output

Definition: For RF amplifier

Test Method: See FIGURE 1.

Output Power is measured across a precision 50 ohm load with a Spectrum Analyzer. For all measurements the maximum signal was determined by input the signal until the unit would no longer amplify the signal. This signal has been plotted in the section as modulation characteristics as input (EUT removed form circuit) and output (EUT inserted in circuit). For the power measurement, typical signal is used. (GSM / TDMA)

Test Results: Frequency Range 824 - 894

Uplink

Signal Type	Freq (MHz)	Power (dBm)	Power (W)	Characteristics (dBm) In	Out	Gain
GSM	824.200	29.12	0.817	-26.90	21.57	48.47
GSM	836.500	30.14	1.032	-25.79	22.43	48.22
GSM	848.800	28.39	0.690	-25.87	20.65	46.52
TDMA	824.025	26.27	0.424	-17.67	29.25	46.92
TDMA	836.500	28.57	0.719	-17.66	29.72	47.38
TDMA	848.975	24.07	0.255	-18.23	26.69	44.92

Downlink

Signal Type	Freq (MHz)	Power (dBm)	Power (W)	Characteristics (dBm) In	Out	Gain
GSM	869.200	15.22	0.033	-27.79	6.616	34.41
GSM	881.500	17.35	0.054	-27.17	8.705	35.88
GSM	893.800	16.81	0.048	-27.13	8.520	35.65
TDMA	869.025	15.53	0.036	-17.21	15.390	32.60
TDMA	881.500	17.18	0.052	-17.50	17.310	34.81
TDMA	893.975	17.14	0.052	-18.47	16.770	35.24

2.1046 Measurement of RF Power Output

Definition: For RF amplifier

Test Method: See FIGURE 1.

Output Power is measured across a precision 50 ohm load with a Spectrum Analyzer. For all measurements the maximum signal was determined by input the signal until the unit would no longer amplify the signal. This signal has been plotted in the section as modulation characteristics as input (EUT removed form circuit) and output (EUT inserted in circuit). For the power measurement, typical signal is used. (GSM / TDMA / CDMA)

Test Results: Frequency Range 1850 - 1990:

Uplink

Signal Type	Freq (MHz)	Power (dBm)	Power (W)	Characteristics (dBm) In	Out	Gain
GSM	1850.200	28.60	0.724	-26.75	18.48	45.23
GSM	1880.000	28.18	0.658	-26.70	14.65	41.35
GSM	1909.800	25.64	0.366	-26.71	18.21	44.92
TDMA	1850.025	29.01	0.796	-19.94	21.47	41.41
TDMA	1880.000	28.20	0.661	-20.18	28.80	48.98
TDMA	1909.975	25.24	0.334	-20.23	25.84	46.07
CDMA	1851.000	22.33	0.171	-41.67	15.62	57.29
CDMA	1880.000	21.55	0.143	-41.46	15.53	56.99
CDMA	1909.000	14.84	0.030	-41.71	11.05	52.76

Downlink

Signal Type	Freq (MHz)	Power (dBm)	Power (W)	Characteristics (dBm) In	Out	Gain
GSM	1930.200	11.69	.0148	-30.99	3.634	34.62
GSM	1960.000	14.16	.0261	-31.01	6.317	37.31
GSM	1989.800	13.85	.0243	-31.50	5.100	36.60
TDMA	1930.025	11.28	.0134	-21.47	11.550	33.02
TDMA	1960.000	14.34	.0272	-21.22	14.390	35.61
TDMA	1989.975	14.16	.0261	-21.72	13.730	35.45
CDMA	1931.000	11.23	.0133	-43.50	4.873	48.37
CDMA	1960.000	13.92	.0246	-43.29	7.738	51.03
CDMA	1989.000	12.49	.0177	-43.63	6.534	50.16

2.1046 Measurement of Mean Output Power (IC RSS-131 Cl 4.3)

Definition: For RF amplifier

Test Method: See FIGURE 1.

IC RSS-131 Clause **4.3 Mean Output Power**
4.3.1 Multi-channel Enhancer

The following subscript "o" denotes a parameter at the enhancer output point.

Connect two signal generators to the input of the Device Under Test (DUT), via a proper impedance matching network (and preferably via a variable attenuator) so that the two input signals are equal sinusoids (and can be raised equally).

Connect a dummy load of suitable load rating to the enhancer output point. Connect also a spectrum analyser to this output point via a coupling network and attenuator, so that only a portion of the output signal is coupled to the spectrum analyser. The coupling attenuation shall be stated in the test report.

Set the two generator frequencies f_1 and f_2 such that they and their third-order intermodulation product frequencies, $f_3 = 2f_1 - f_2$ and $f_4 = 2f_2 - f_1$, are all within the passband of the DUT. Raise the input level to the DUT while observing the output tone levels, P_{o1} and P_{o2}, and the intermodulation product levels, P_{o3} and P_{o4}.

For enhancers rated 500 watts or less: Raise the input level to the DUT until the greater level of the intermodulation products at the enhancer output terminals, P_{o3} or P_{o4}, equals -43 dBW.

Record all signal levels and their frequencies. Calculate the mean output power (P_{mean}) under this testing condition using $P_{mean} = P_{o1} + 3$ dB. (Reference Intermodulation plots on pages 108-127)

IC RSS-131 Clause **6.2 Output Power**

The manufacturer's output power rating P_{rated} MUST NOT be greater than P_{mean} for all types of enhancers.

Uplink Range 824 - 849

Signal Type	Freq (MHz)	P_{MEAN} (dBm)	$P_{MEASURED}$ (dBm)	P_{RATED} (dBm)
GSM	824.200	22.46	29.12	22.00
GSM	848.800	23.64	28.39	23.50
TDMA	824.025	23.00	26.27	22.50
TDMA	848.975	21.90	24.07	21.50

Downlink Range 869 - 894

Signal Type	Freq (MHz)	P_{MEAN} (dBm)	$P_{MEASURED}$ (dBm)	P_{RATED} (dBm)
GSM	869.200	10.30	15.22	10.00
GSM	893.800	11.78	16.81	11.50
TDMA	869.025	7.65	15.53	7.50
TDMA	893.975	11.43	17.14	11.00

Uplink Range 1850 - 1910

Signal Type	Freq (MHz)	P_{MEAN} (dBm)	$P_{MEASURED}$ (dBm)	P_{RATED} (dBm)
GSM	1850.200	24.30	28.60	24.00
GSM	1909.800	22.02	25.64	21.50
TDMA	1850.025	19.86	29.01	19.50
TDMA	1909.975	19.10	25.24	19.00
CDMA	1851.000	19.87	22.33	19.50
CDMA	1909.000	22.07	14.84	22.00

Downlink Range 1930 - 1990

Signal Type	Freq (MHz)	P_{MEAN} (dBm)	$P_{MEASURED}$ (dBm)	P_{RATED} (dBm)
GSM	1930.200	4.79	11.69	4.50
GSM	1989.800	9.11	13.85	9.00
TDMA	1930.025	7.29	11.28	7.00
TDMA	1989.975	7.71	14.16	7.50
CDMA	1931.000	5.41	11.23	5.00
CDMA	1989.000	7.82	12.49	7.50

FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 824.200 MHz		

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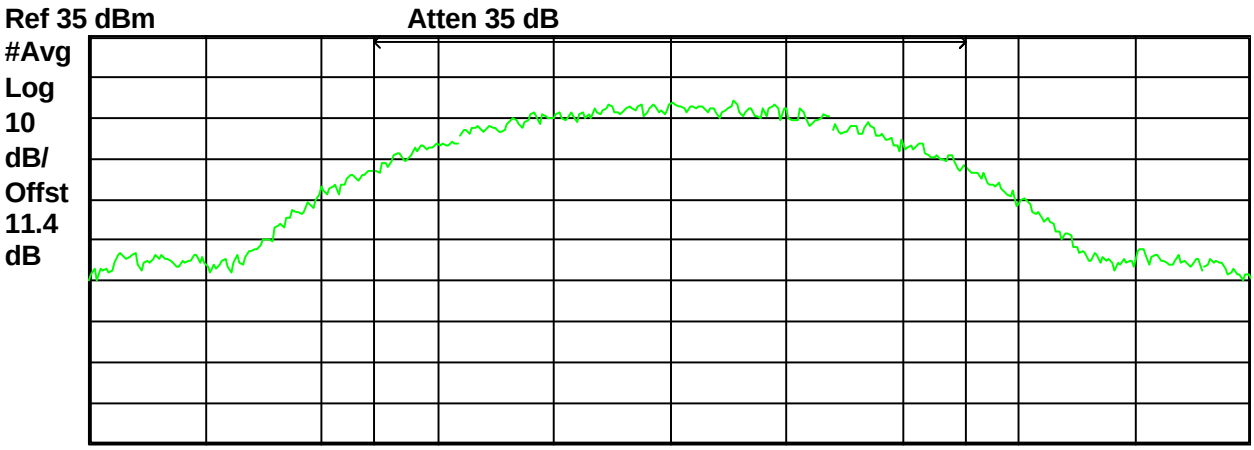


Channel Power

29.12 dBm / 255.0000 kHz

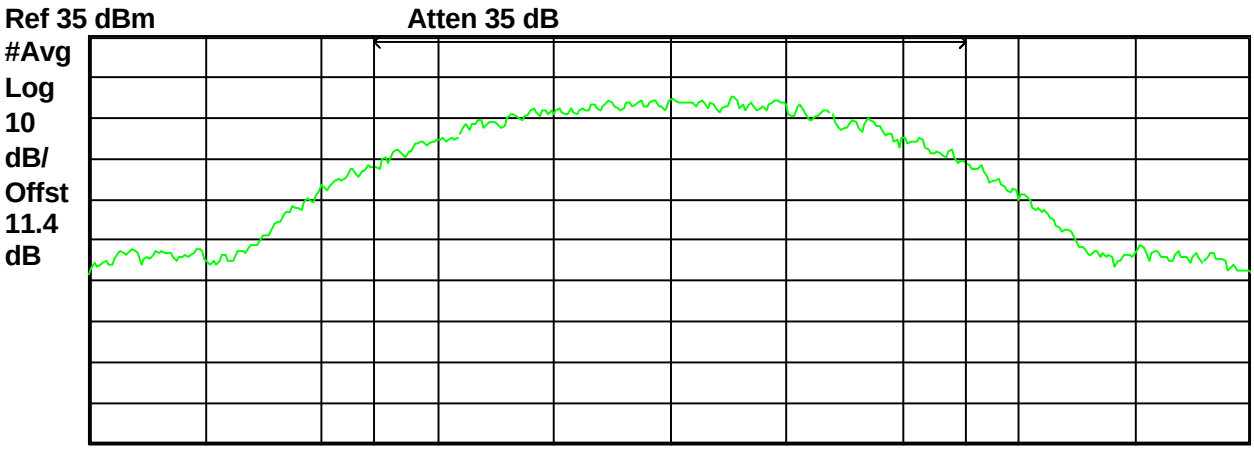
Power Spectral Density

-24.94 dBm/Hz

FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 836.500 MHz		

Agilent 13:12:01 Oct 11, 2007



Channel Power

30.14 dBm / 255.0000 kHz

Power Spectral Density

-23.92 dBm/Hz

FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 848.800 MHz		

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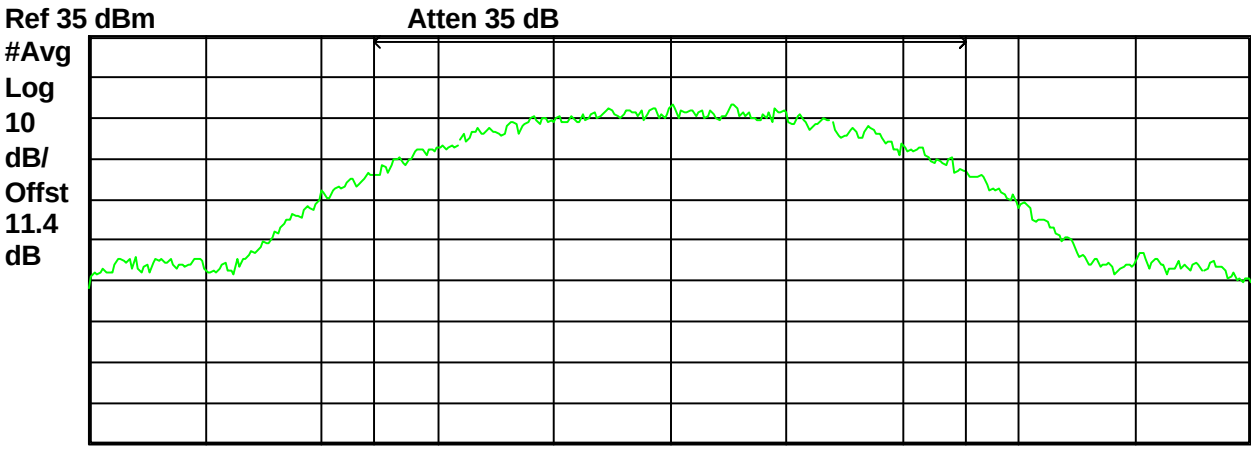


Channel Power

28.39 dBm / 255.0000 kHz

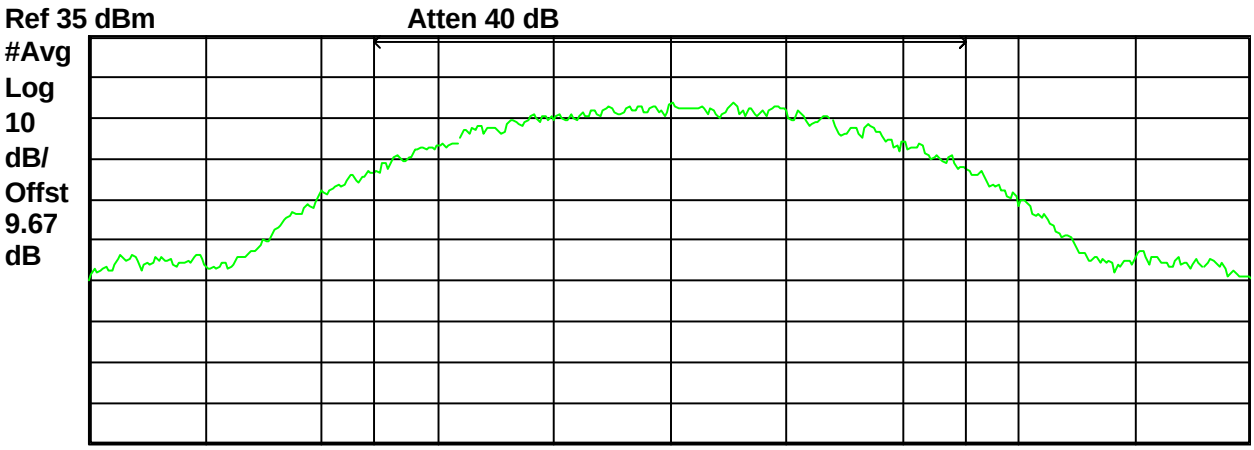
Power Spectral Density

-25.67 dBm/Hz

FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1850.200 MHz		

Agilent 13:17:56 Oct 11, 2007



Channel Power

28.60 dBm / 255.0000 kHz

Power Spectral Density

-25.47 dBm/Hz

FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1880.000 MHz		

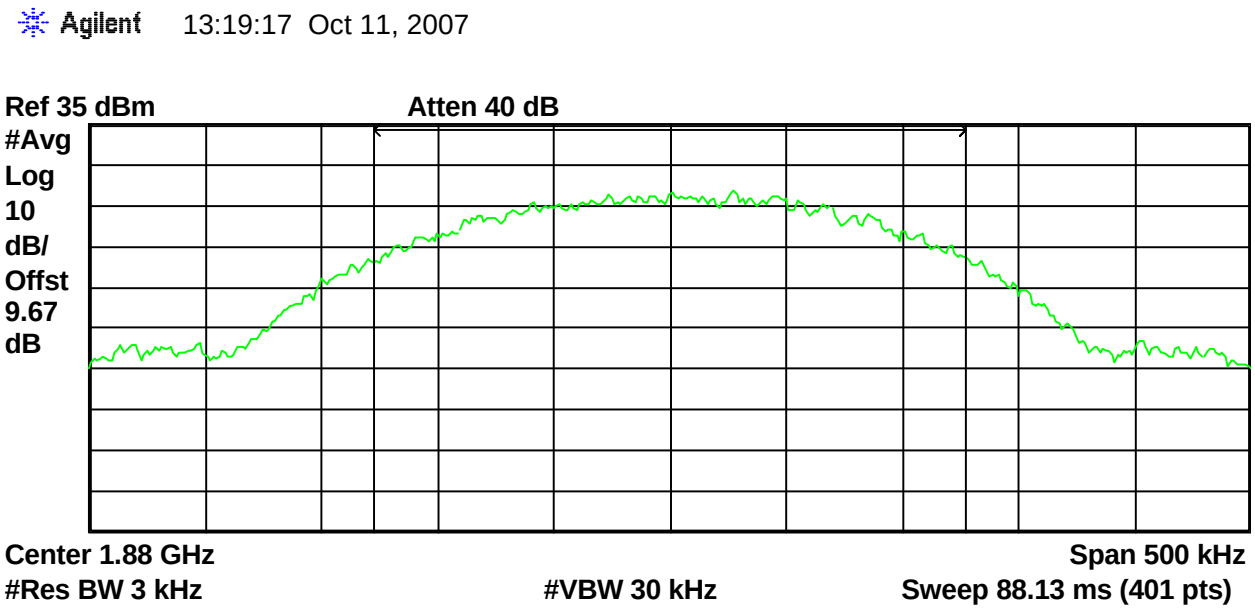


FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1909.800 MHz		

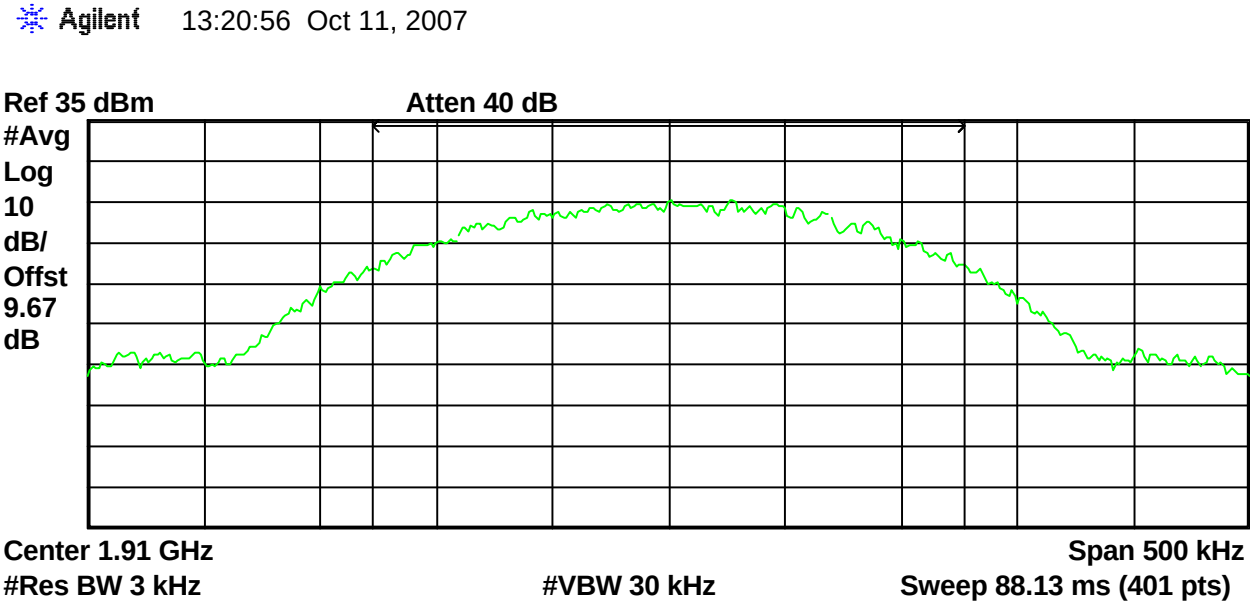


FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 824.025 MHz		

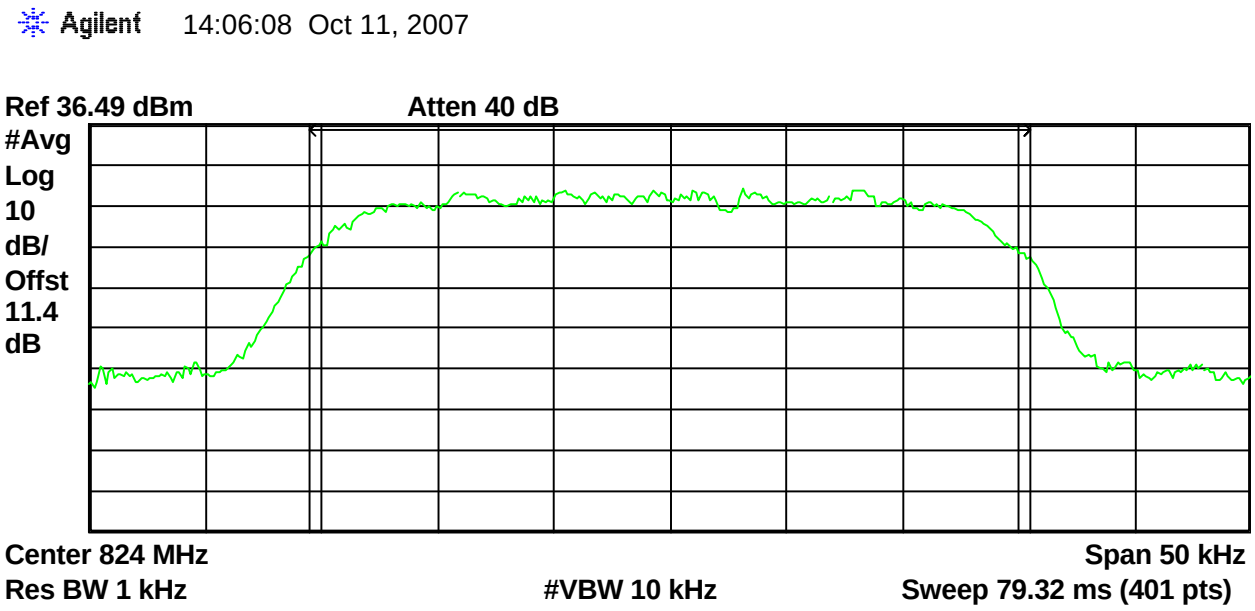


FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 836.5 MHz		

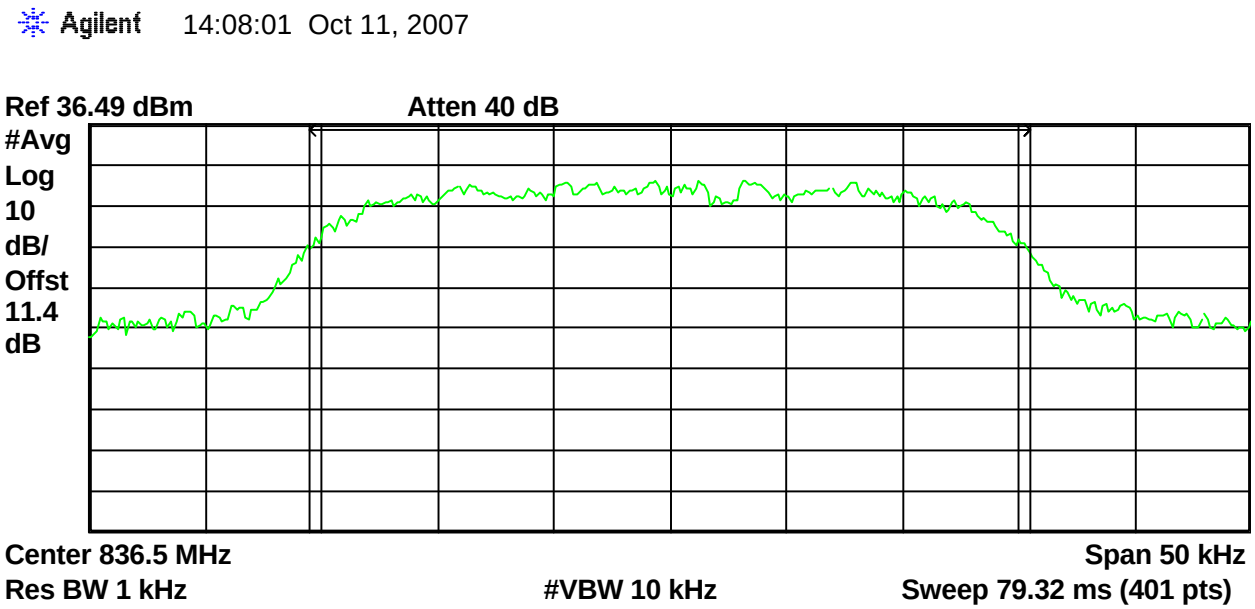


FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 848.975 MHz		

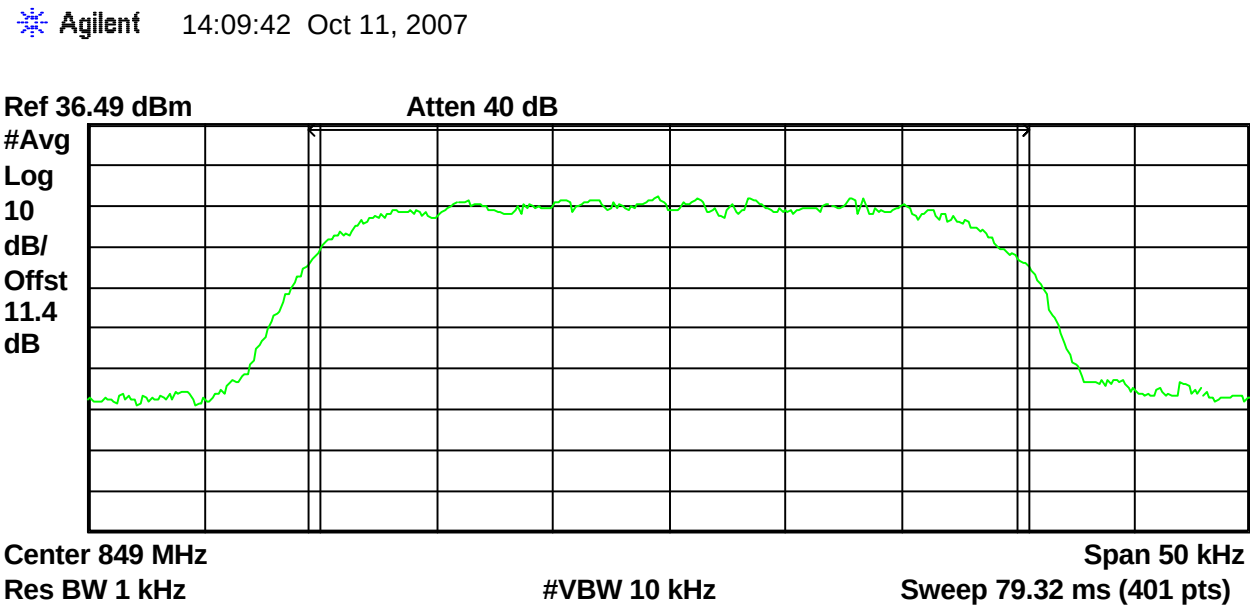


FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 1850.025 MHz		

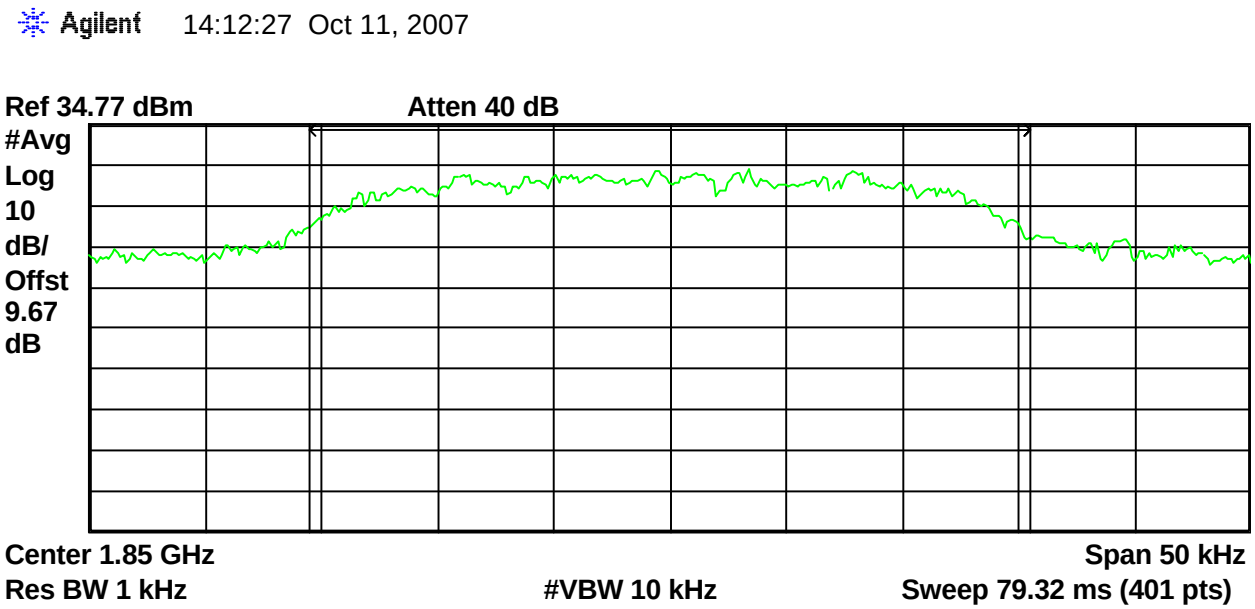


FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 1880.000 MHz		

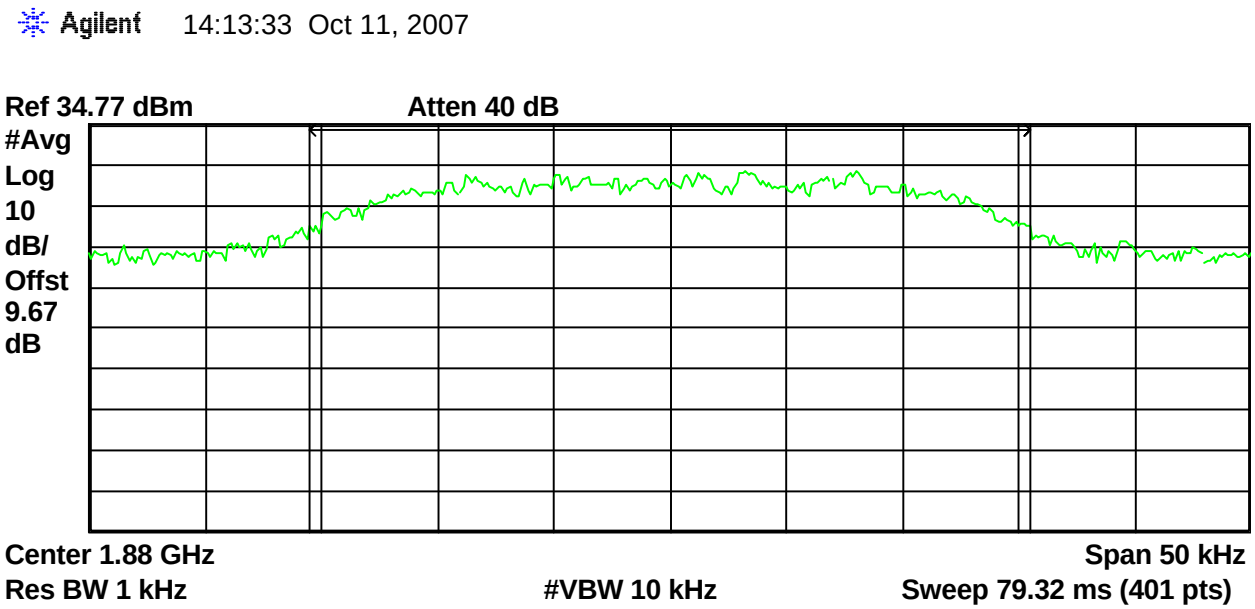


FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 1909.975 MHz		

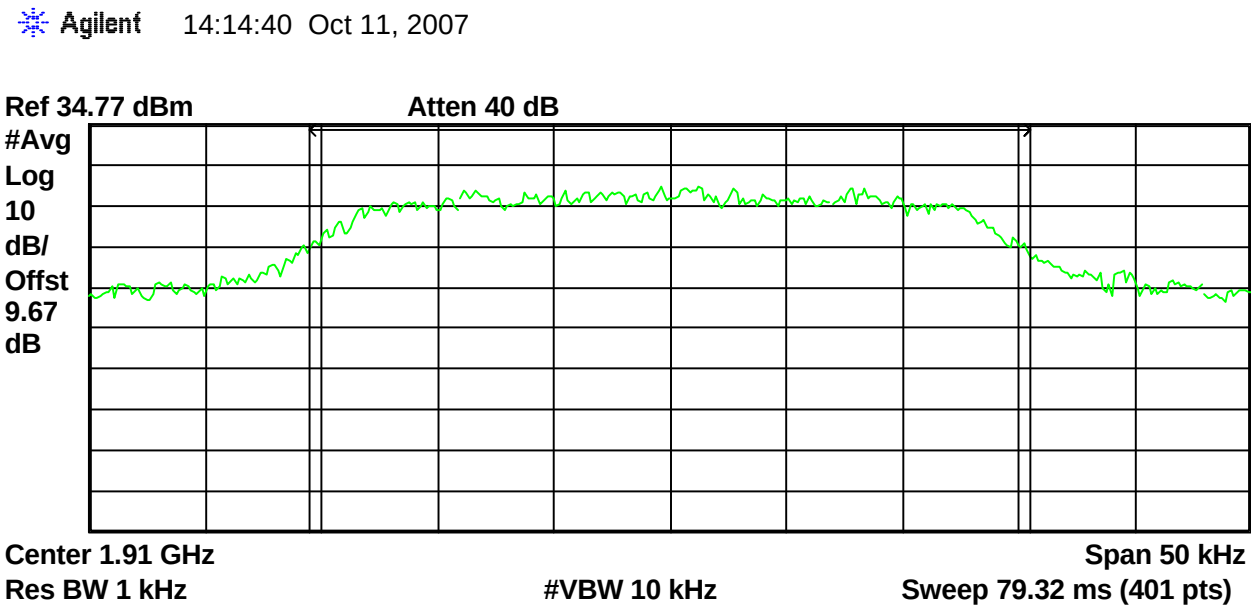
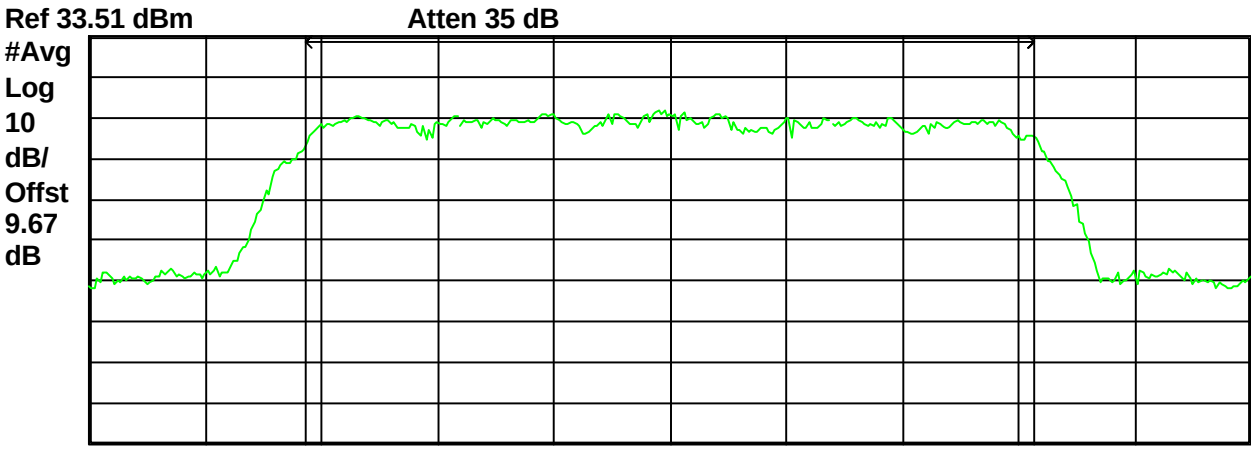


FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink CDMA 1851.000 MHz		

Agilent 12:23:50 Oct 11, 2007



Channel Power

22.33 dBm / 1.2500 MHz

Power Spectral Density

-38.64 dBm/Hz

FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink CDMA 1880 MHz		

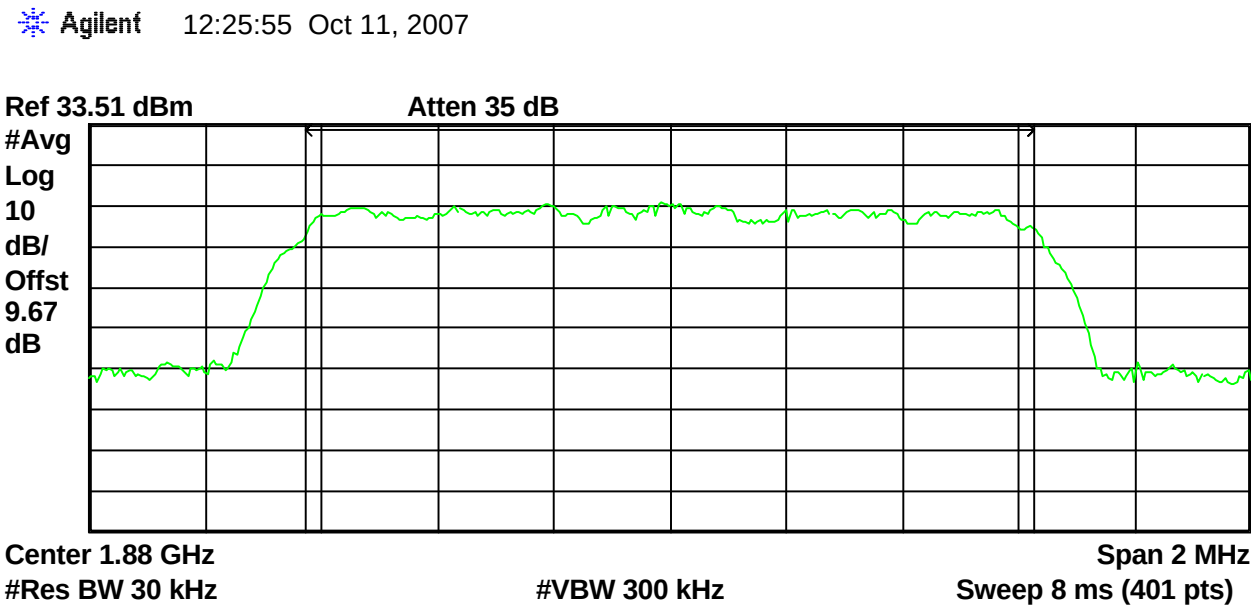


FIGURE 5: OUTPUT POWER PLOTS, UPLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink CDMA 1909.000MHz		

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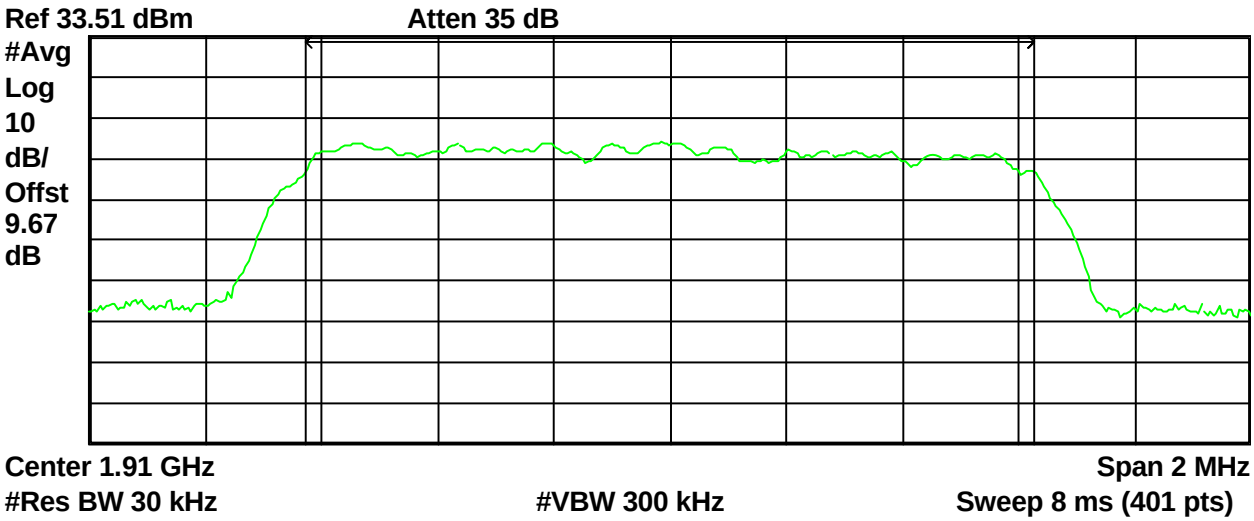


Channel Power

14.84 dBm / 1.2500 MHz

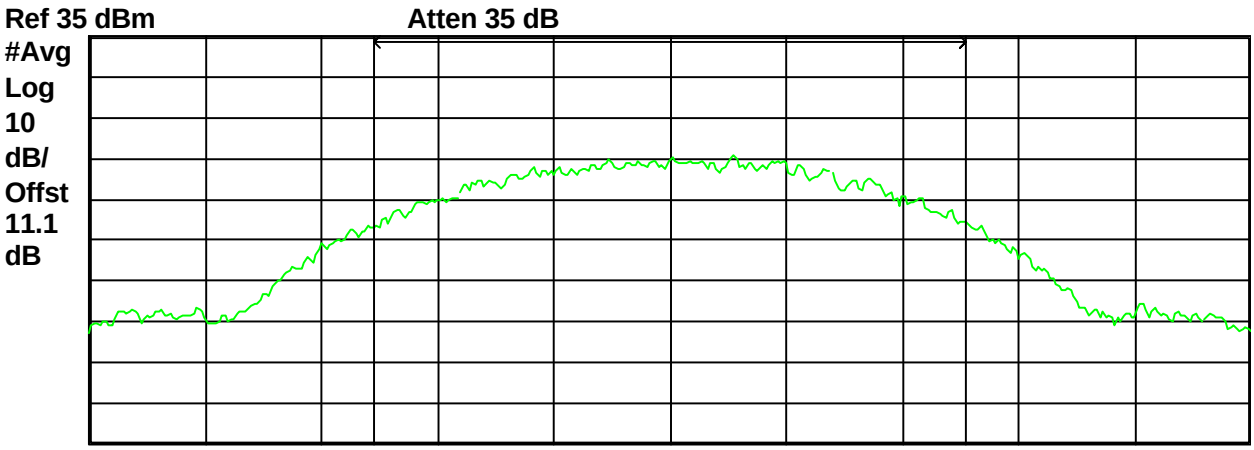
Power Spectral Density

-46.13 dBm/Hz

FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 869.200 MHz		

Agilent 13:35:41 Oct 11, 2007



Channel Power

15.22 dBm / 255.0000 kHz

Power Spectral Density

-38.84 dBm/Hz

FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 18 Dec 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 881.5 MHz		

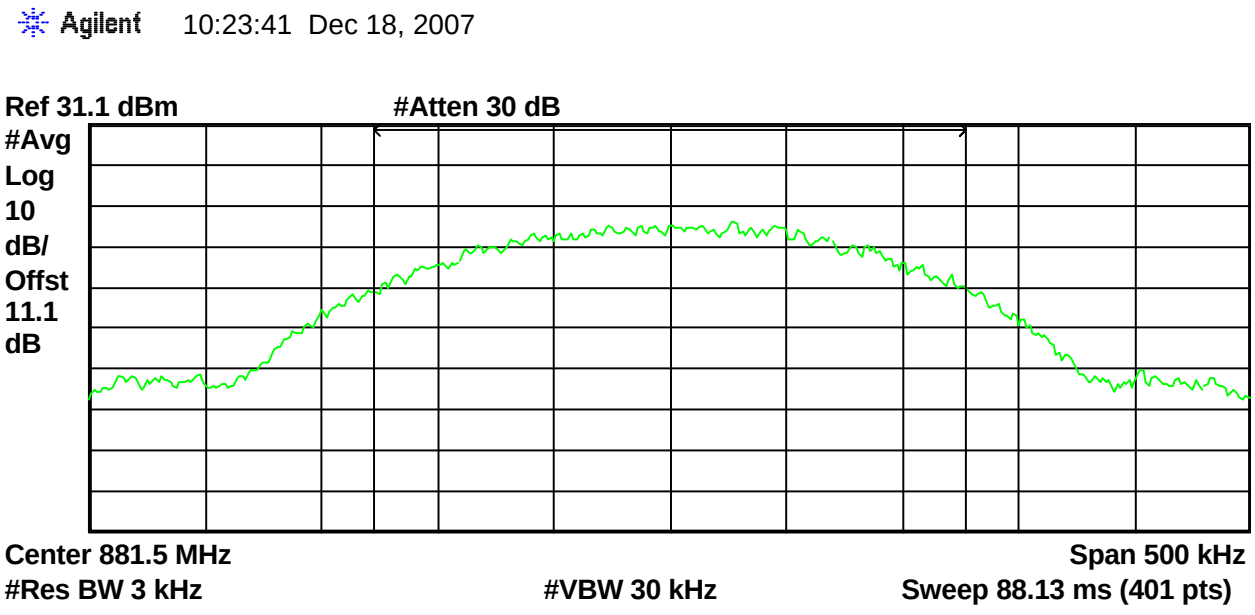
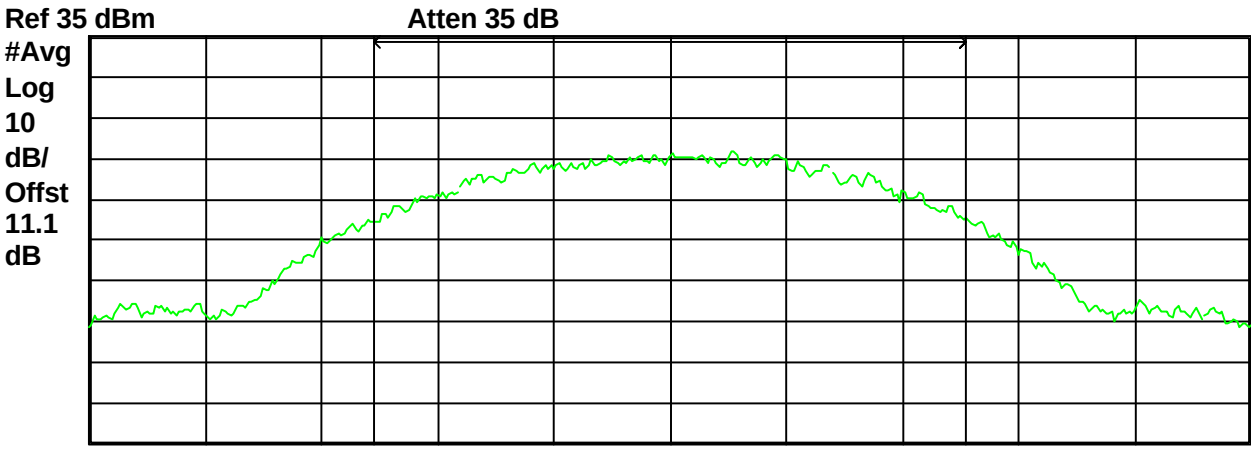


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 893.800 MHz		

Agilent 13:38:56 Oct 11, 2007



Channel Power

16.81 dBm / 255.0000 kHz

Power Spectral Density

-37.26 dBm/Hz

FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1930.200 MHz		

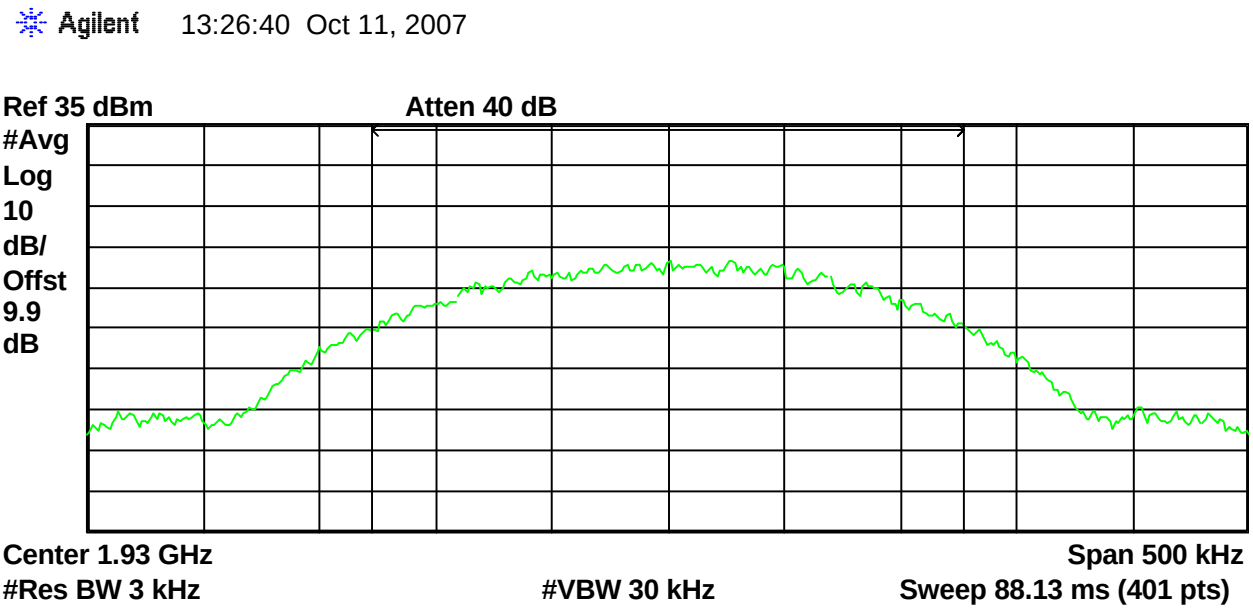


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1960.000 MHz		

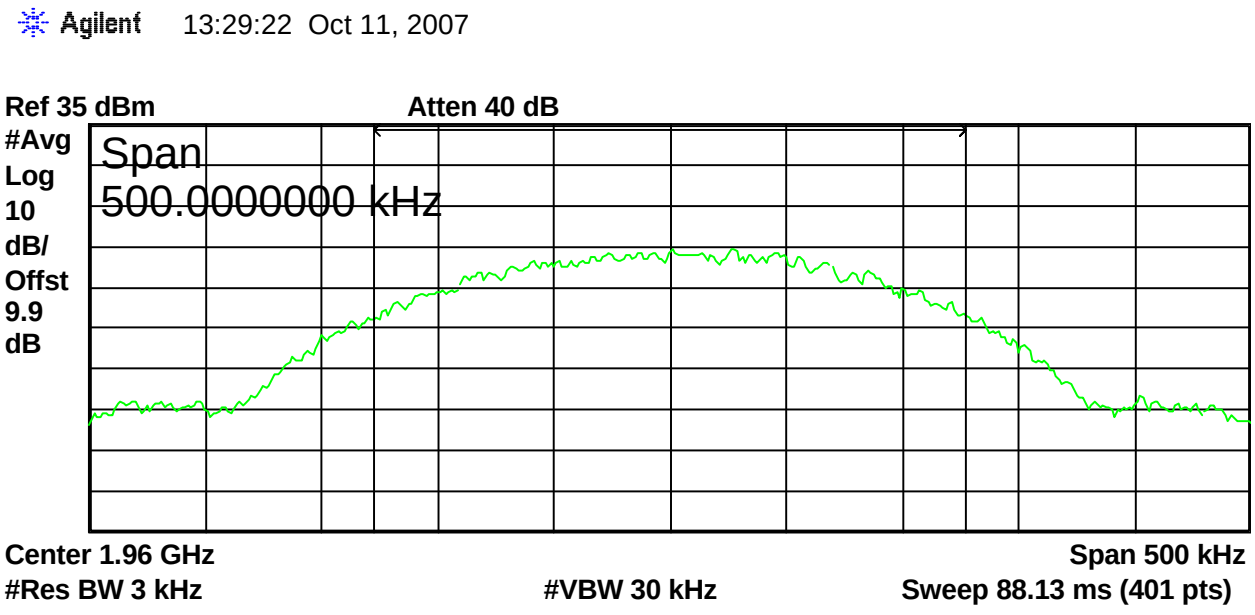


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1989.800 MHz		

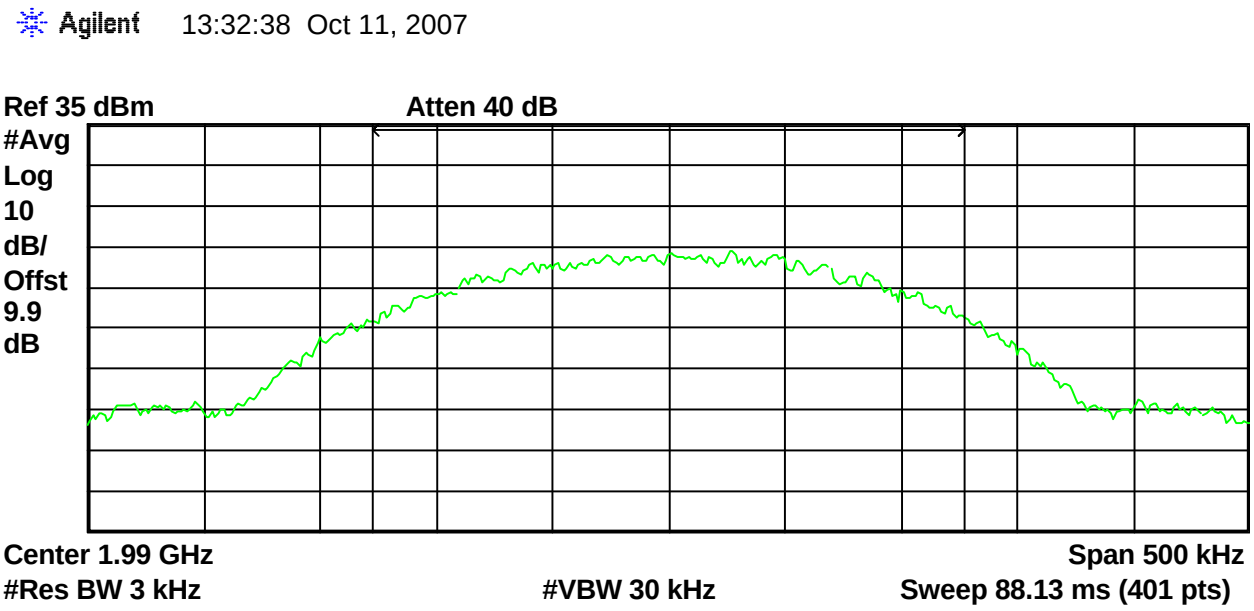


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 869.025 MHz		

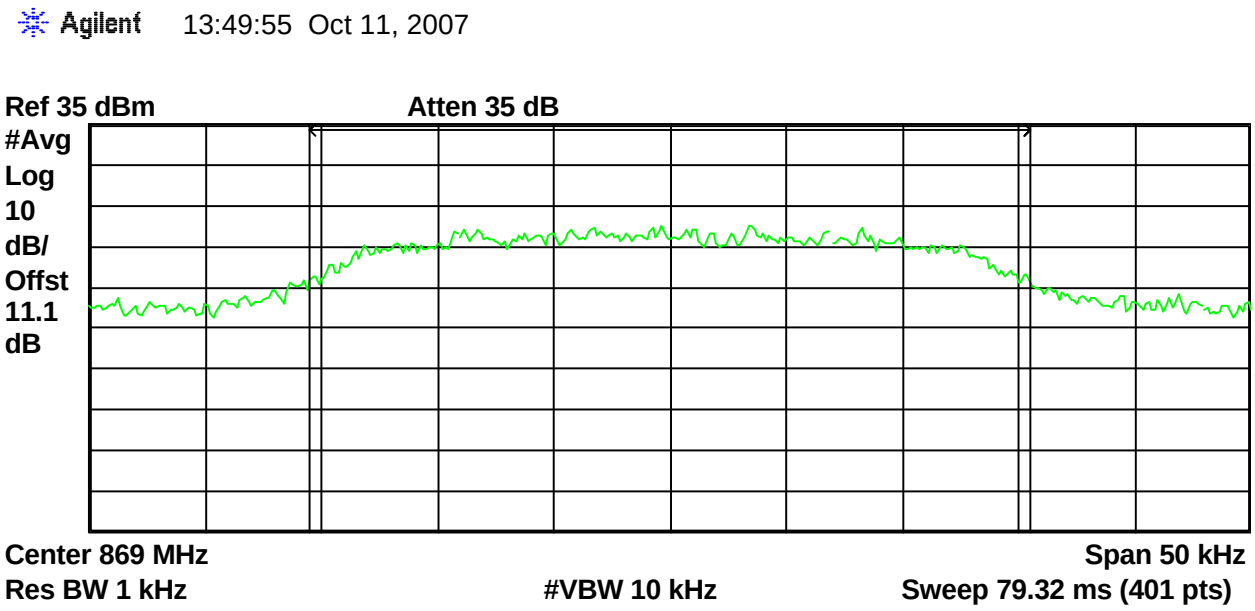


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 881.5 MHz		

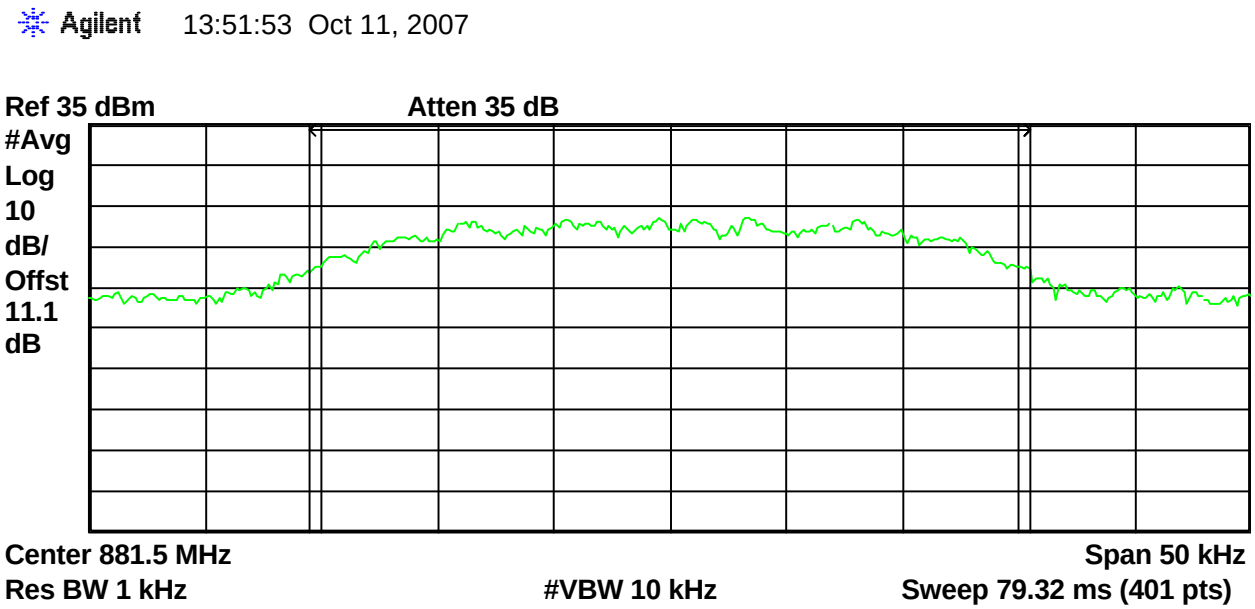


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 893.975 MHz		

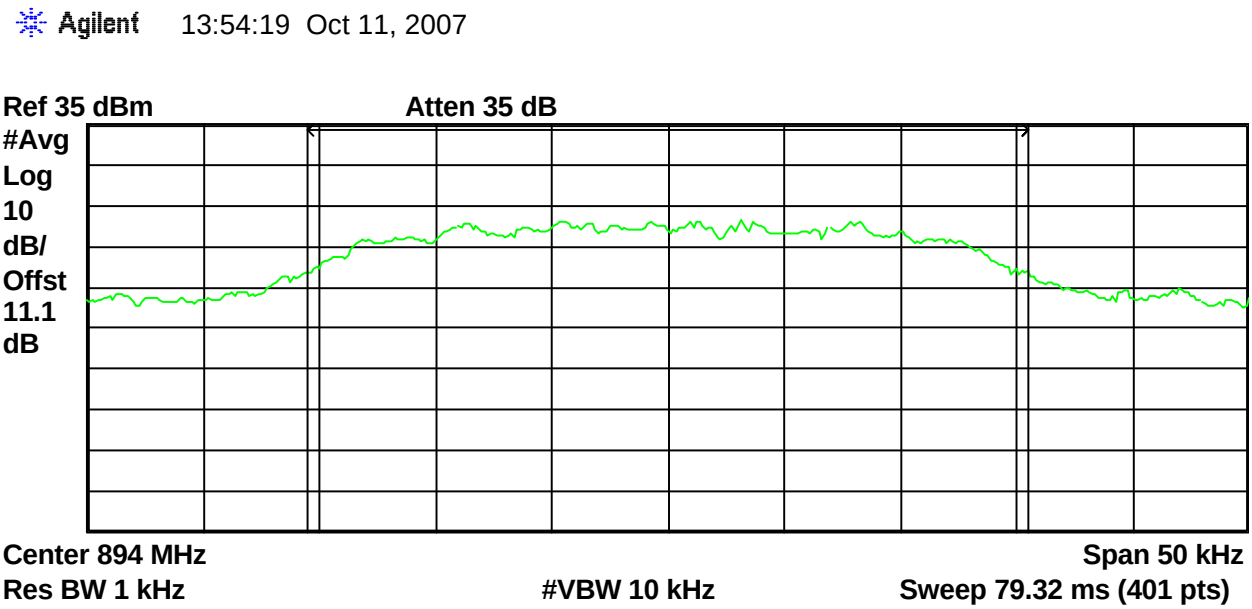


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 1930.025 MHz		

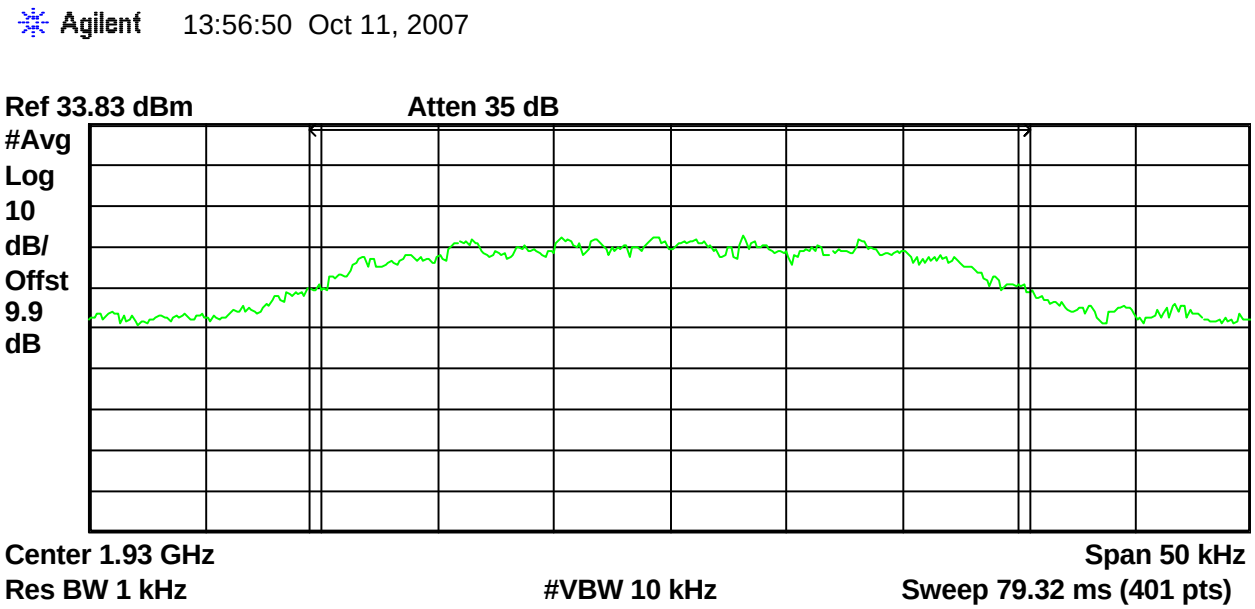


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 1960.000 MHz		

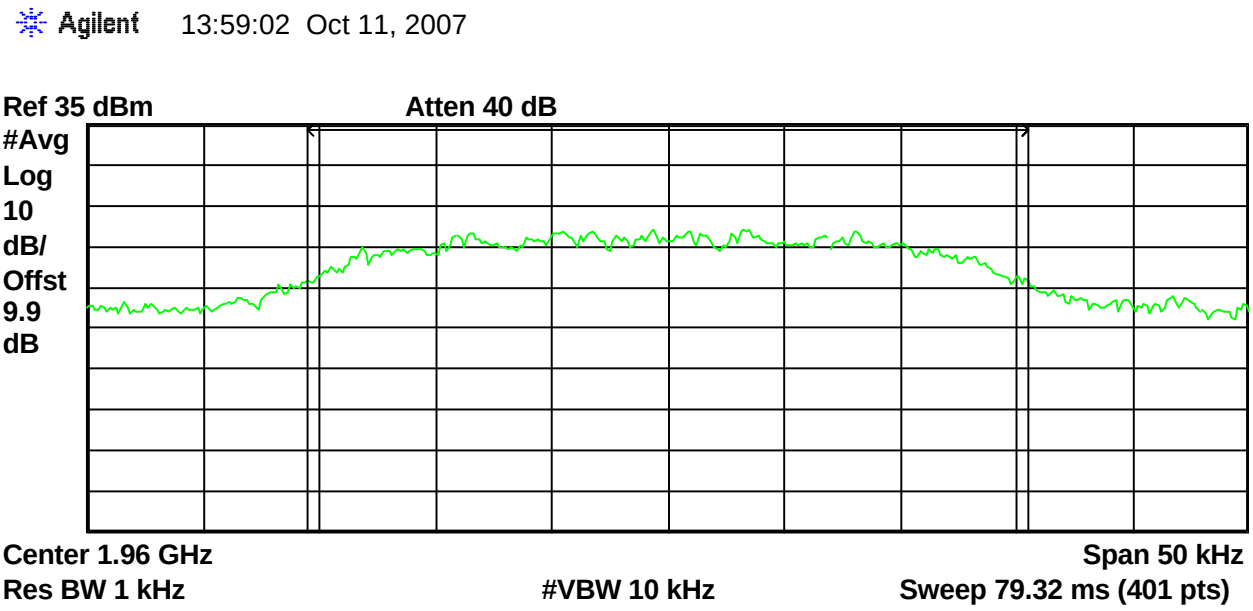


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 1989.975 MHz		

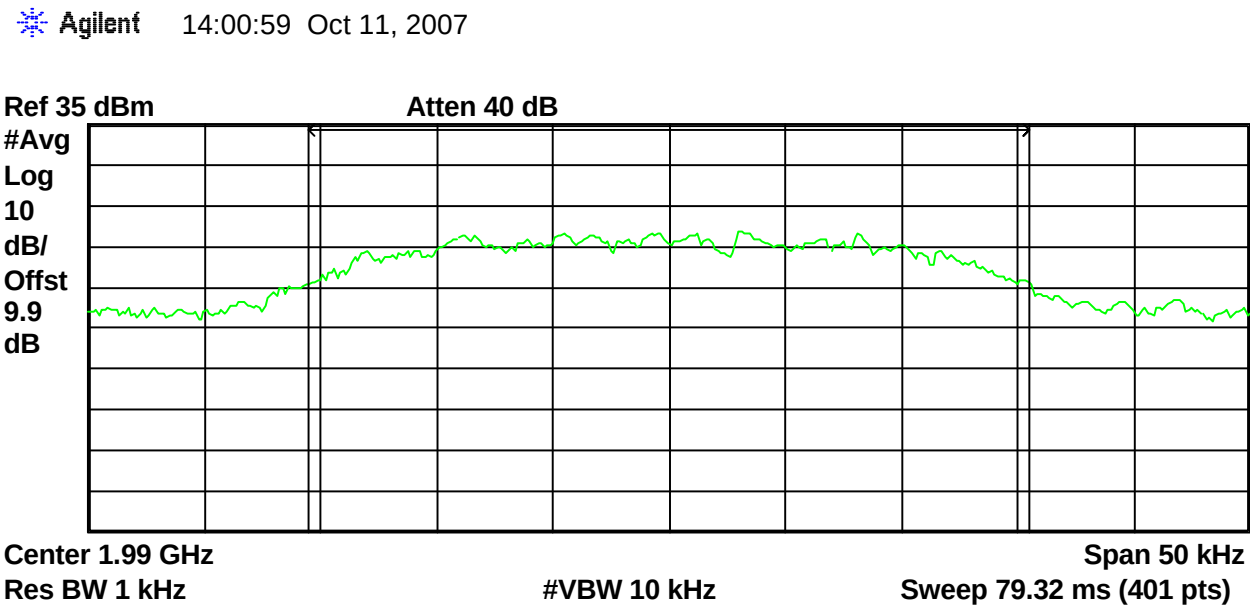


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1931.000 MHz		

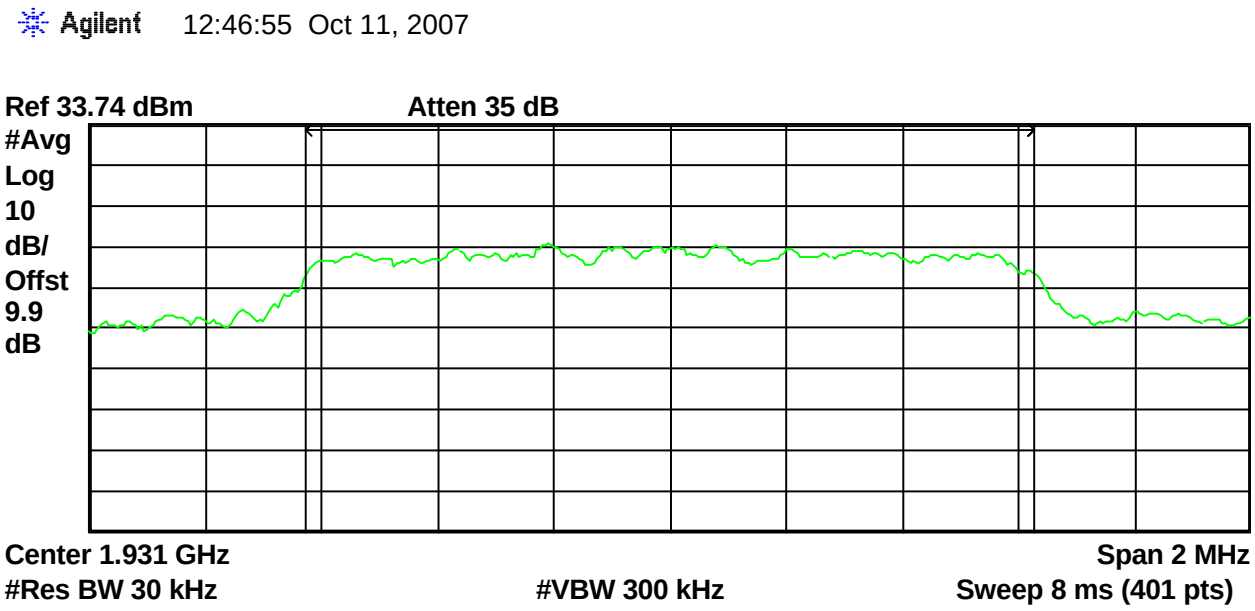


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1960 MHz		

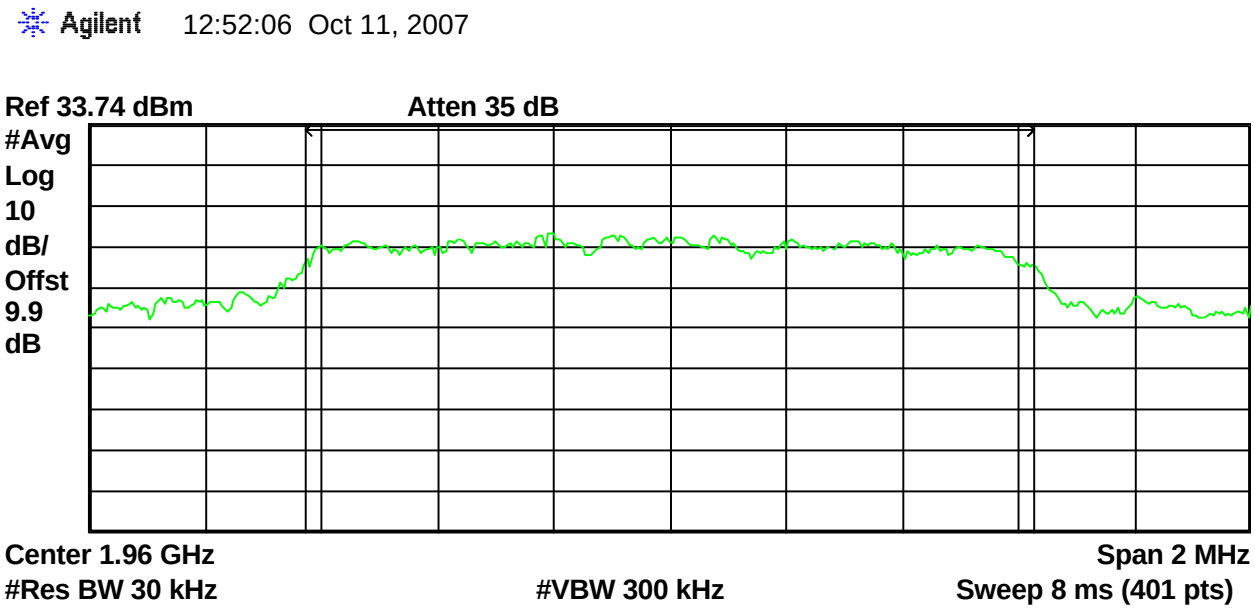
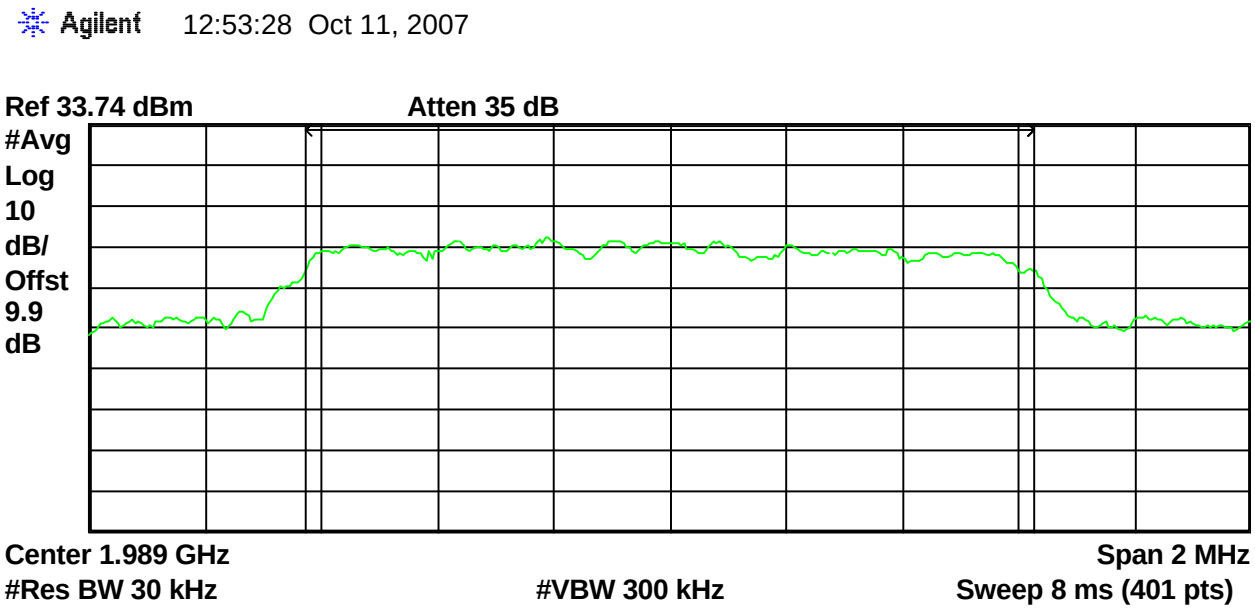


FIGURE 5: OUTPUT POWER PLOTS, DOWNLINK.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Output Power**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1989.000 MHz		



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

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

Test Method: Connect the Equipment per FIGURE 1.

For all measurements the maximum signal was determined by input the signal until the unit would no longer amplify the signal. This signal has been plotted in the section as modulation characteristics as input (EUT removed form circuit) and output (EUT inserted in circuit).

Measurements were made while the driving source generated the following:

TDMA Signal
GSM Signal (AMPS)
CDMA Signal

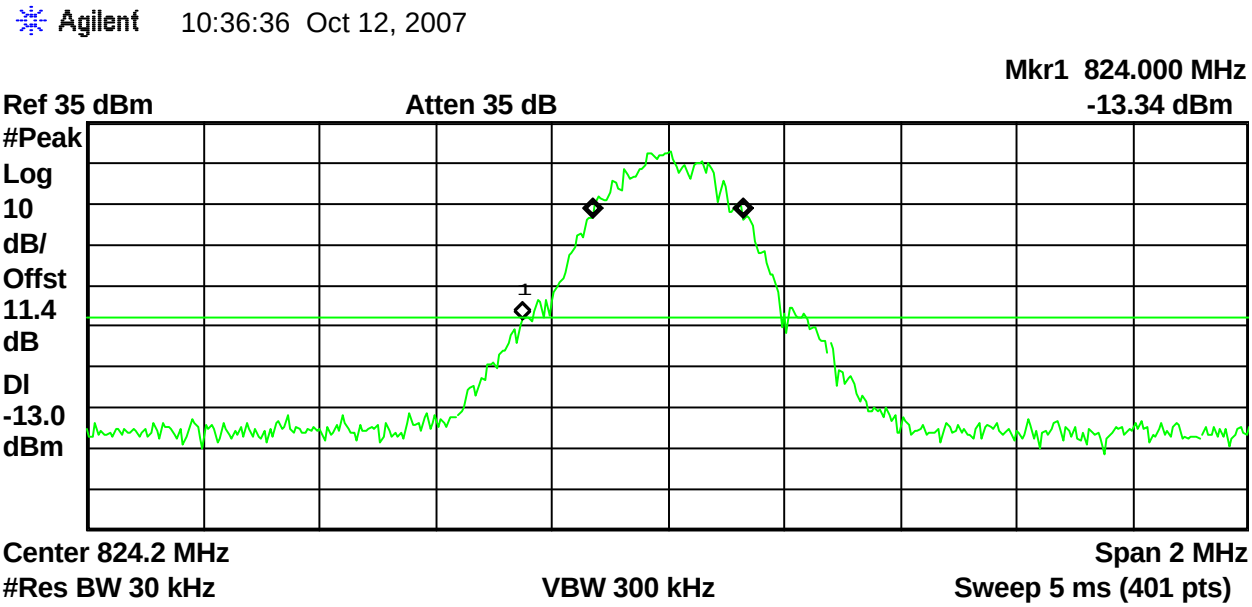
Test Results: See Plots

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

Modulation characteristic plots are shown in this section.

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 824.200 MHz		



Occupied Bandwidth
262.9154 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 231.524 Hz
x dB Bandwidth 339.047 kHz

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 824.200 MHz- Input / Output		

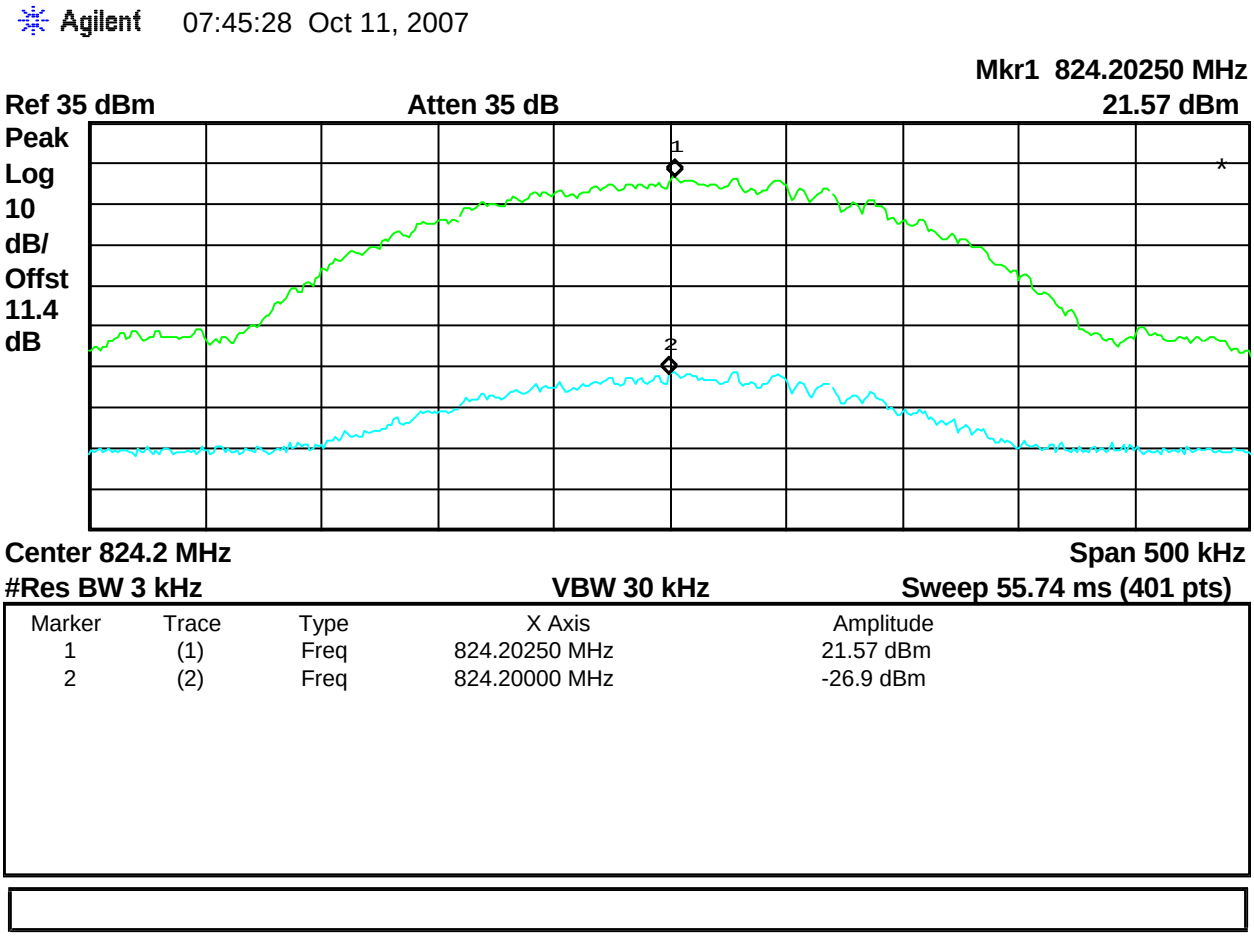


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 836.500 MHz		

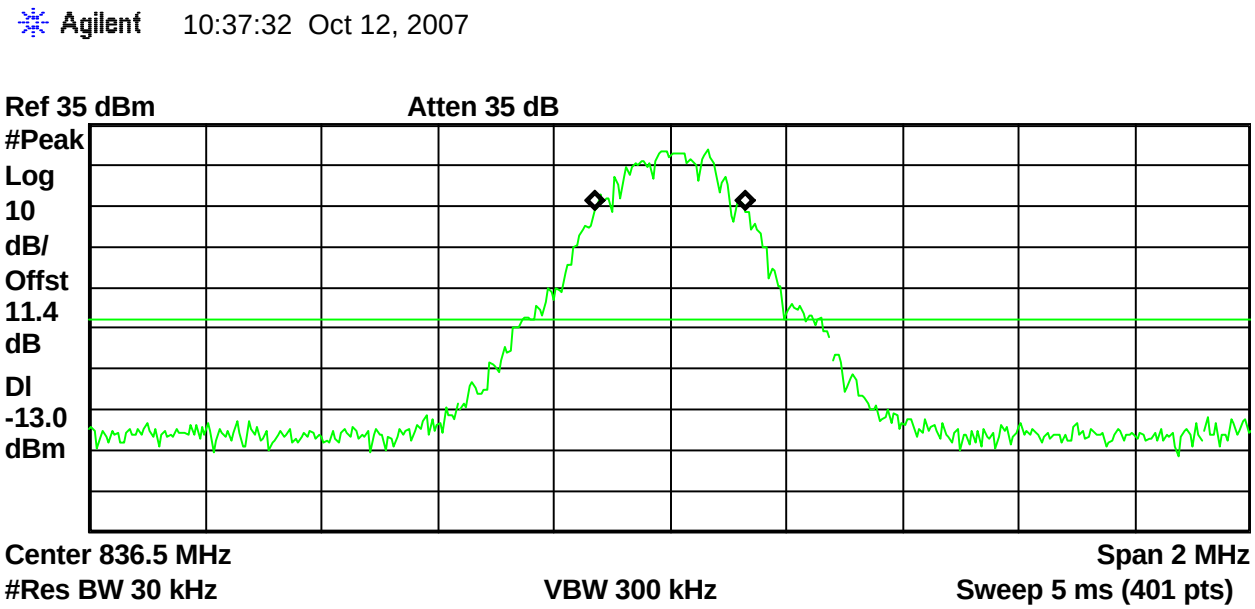


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 836.500 MHz – Input / Output		

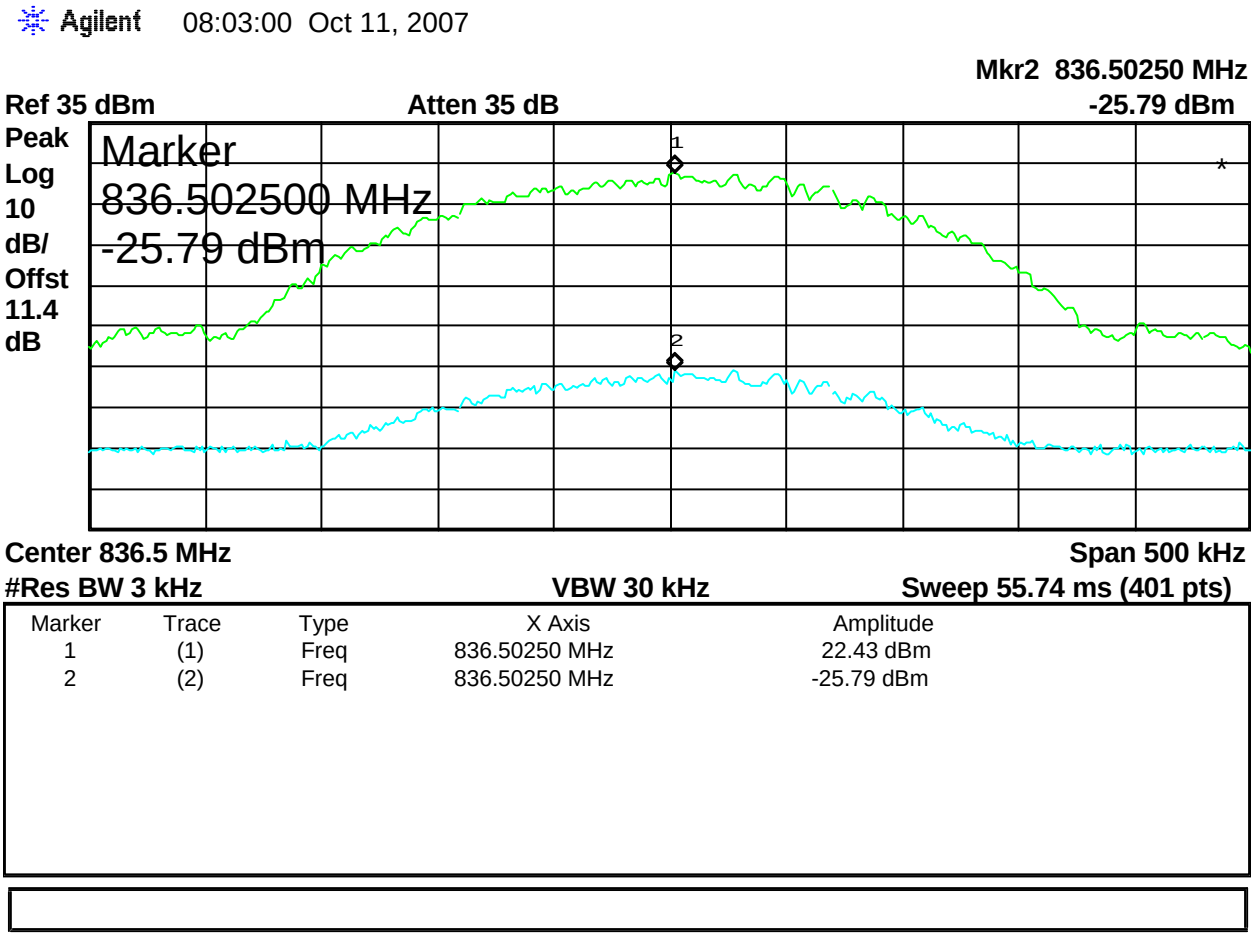
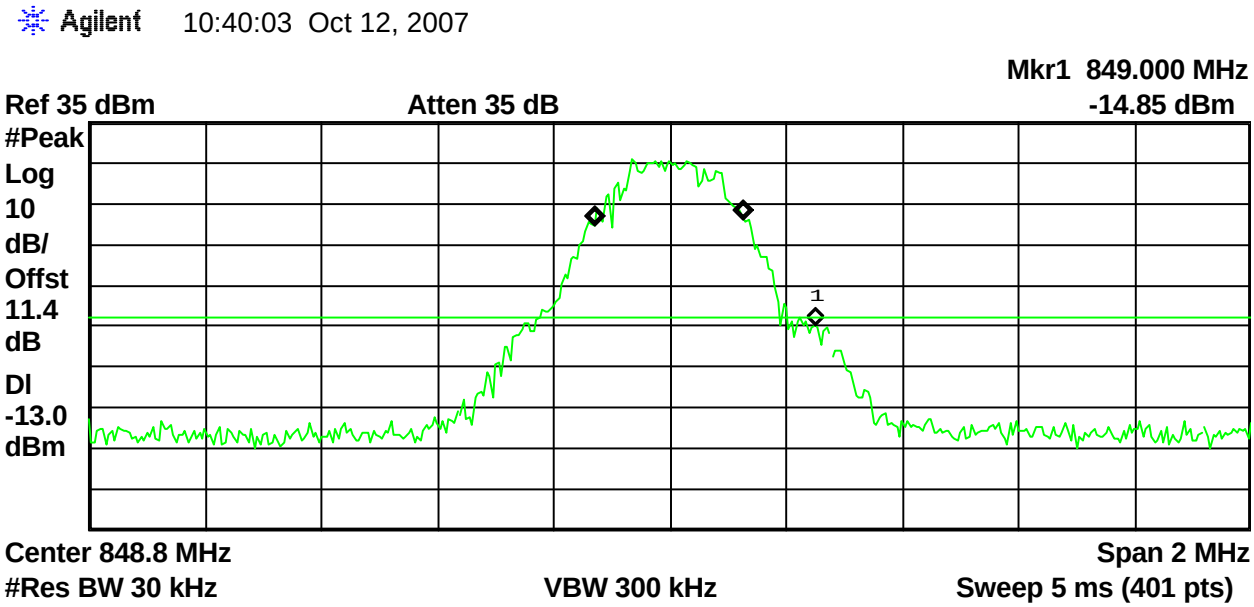


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 848.800 MHz		



Occupied Bandwidth
258.7939 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -2.127 kHz
x dB Bandwidth 341.450 kHz

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 848.800 MHz- Input / Output		

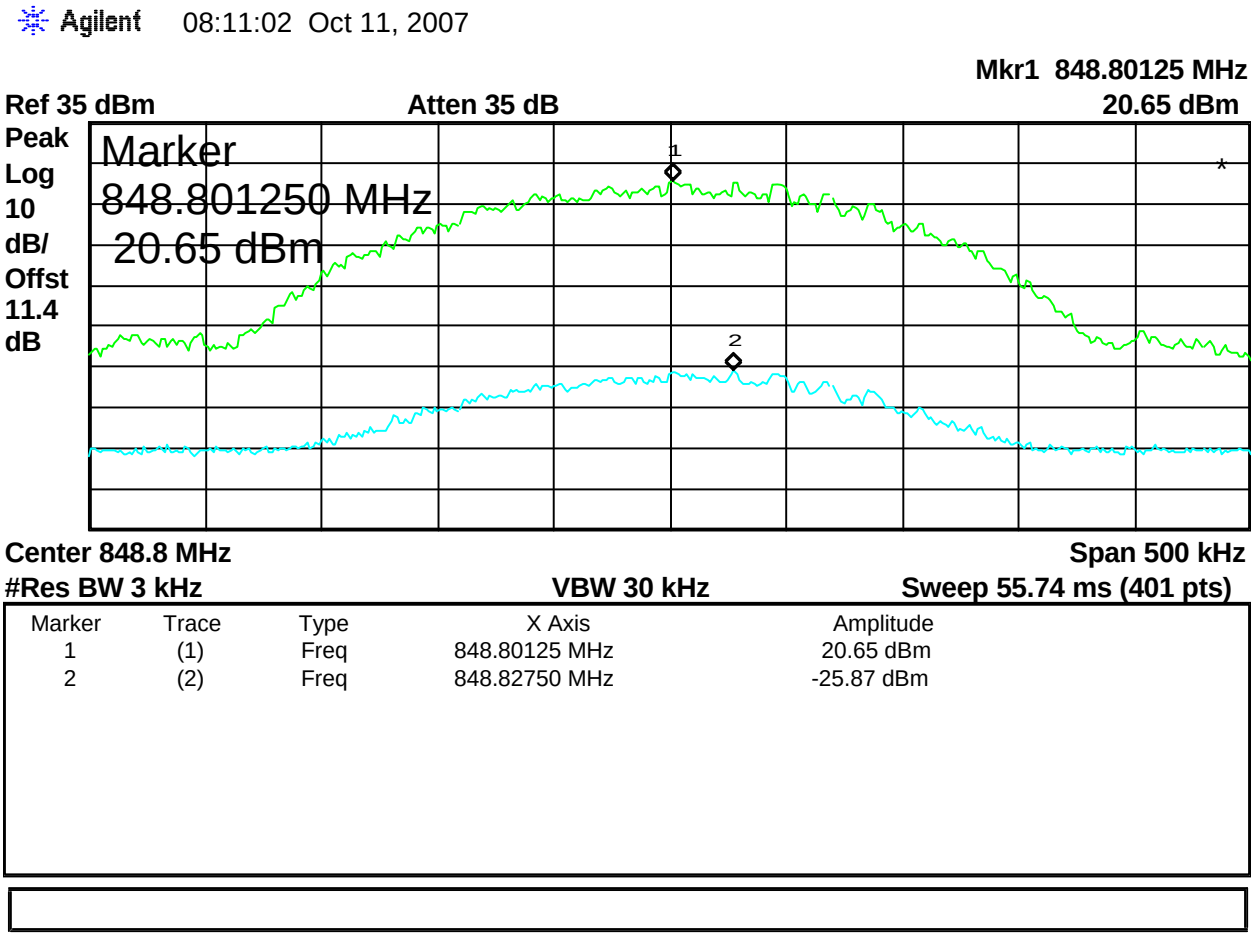
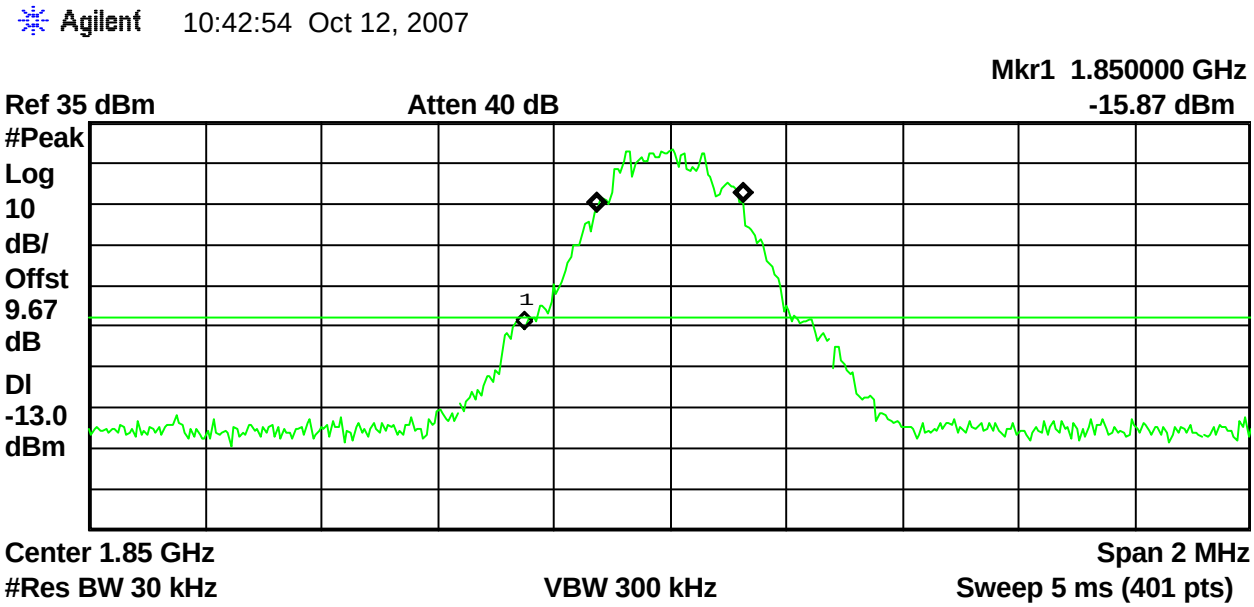


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1850.200 MHz		



Occupied Bandwidth
250.2233 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.658 kHz
x dB Bandwidth 333.715 kHz

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1850.200 MHz – Input / Output		

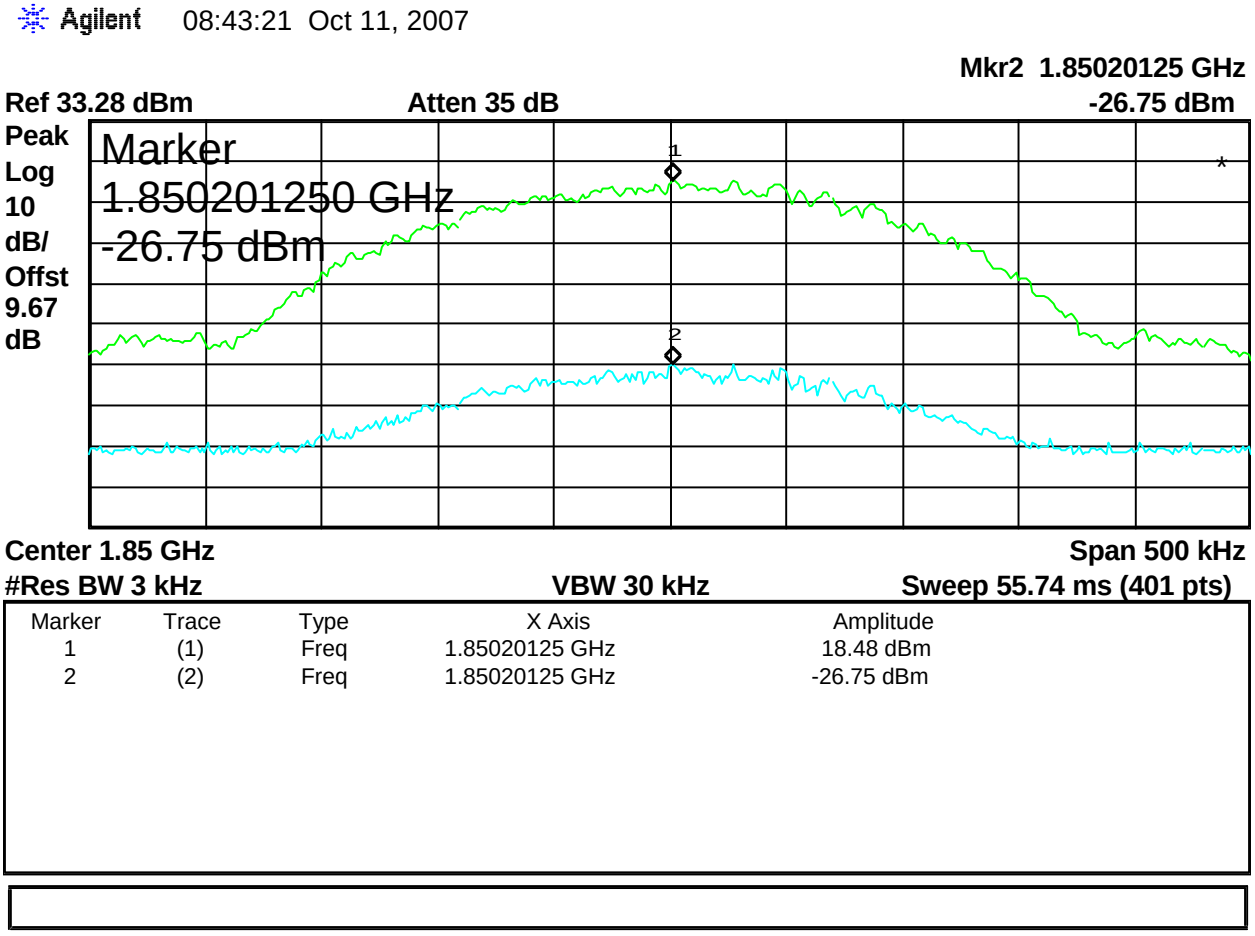


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1880 MHz		

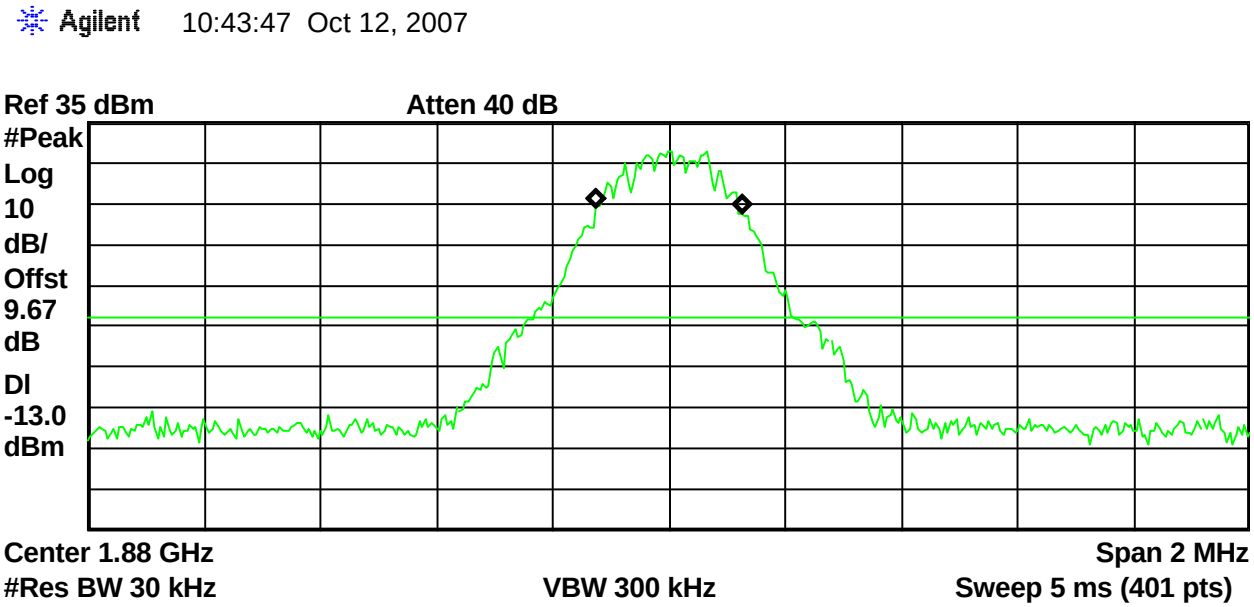


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1880 MHz – Input / Output		

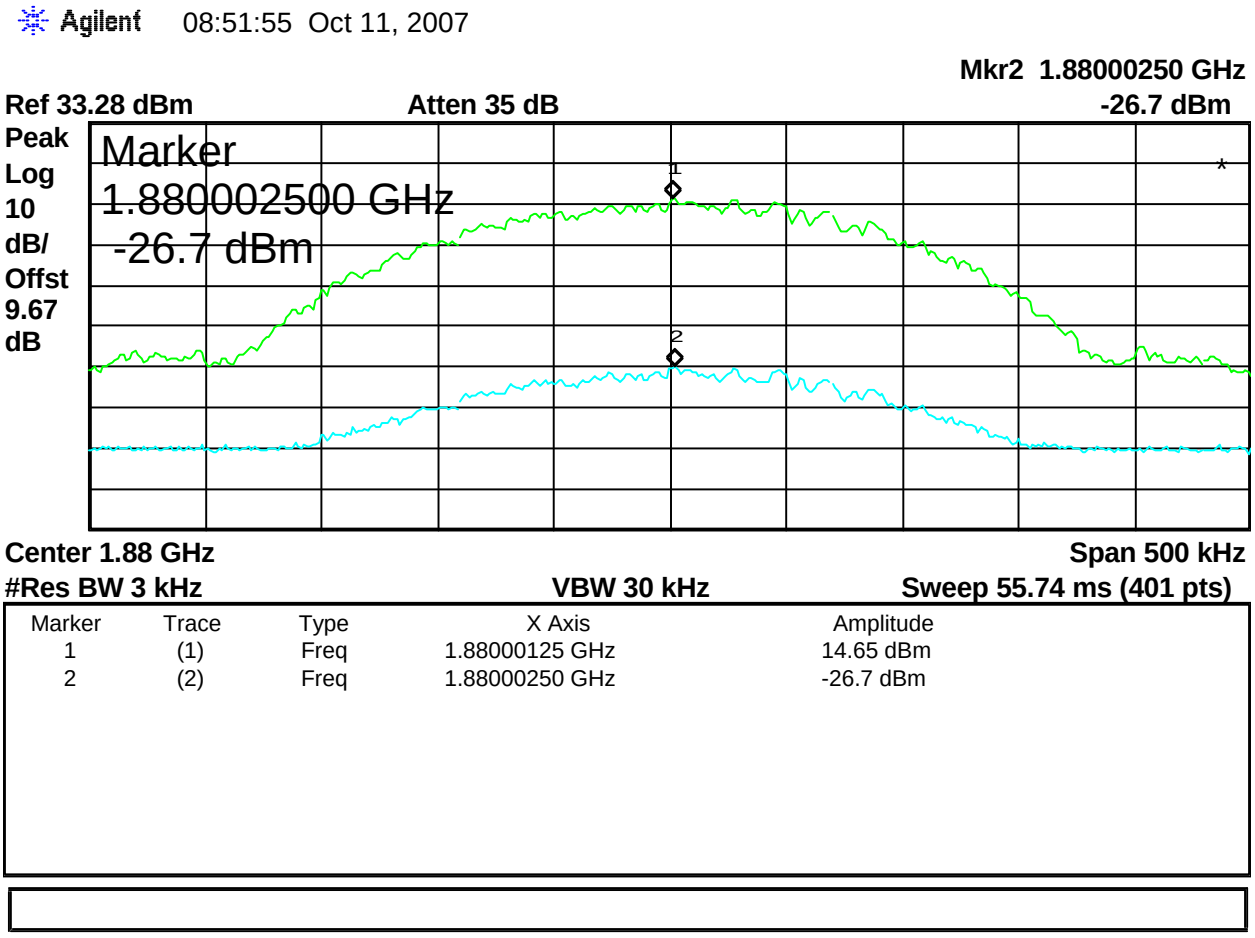
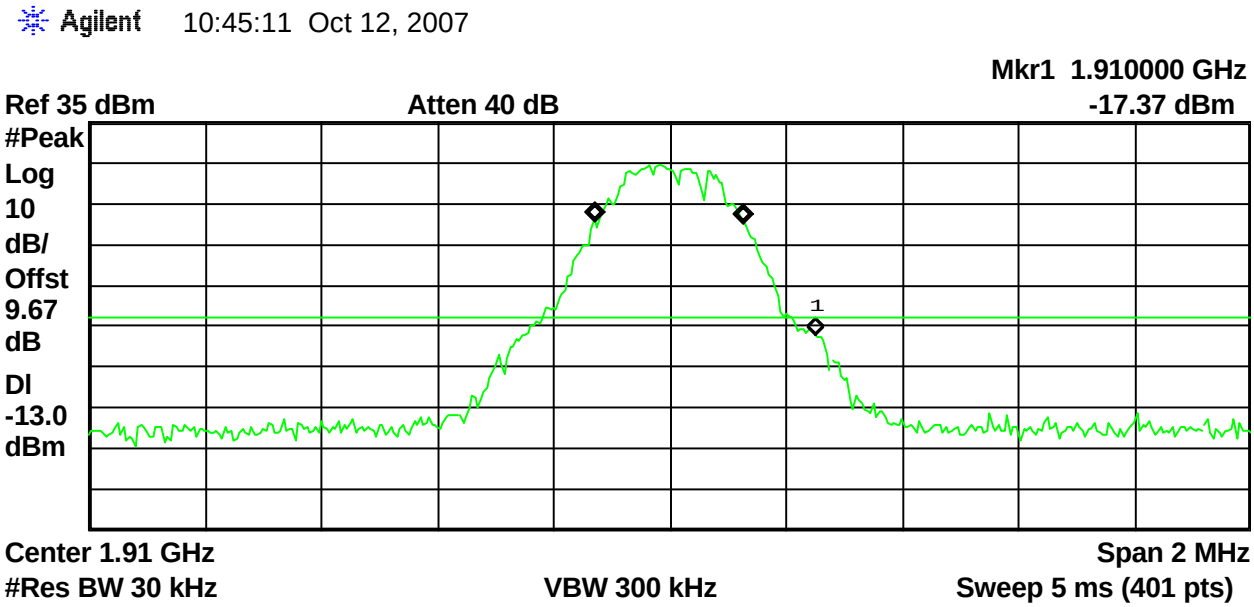


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1909.800 MHz		



Occupied Bandwidth
254.5666 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -974.774 Hz
x dB Bandwidth 336.538 kHz

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1909.800 MHz – Input / Output		

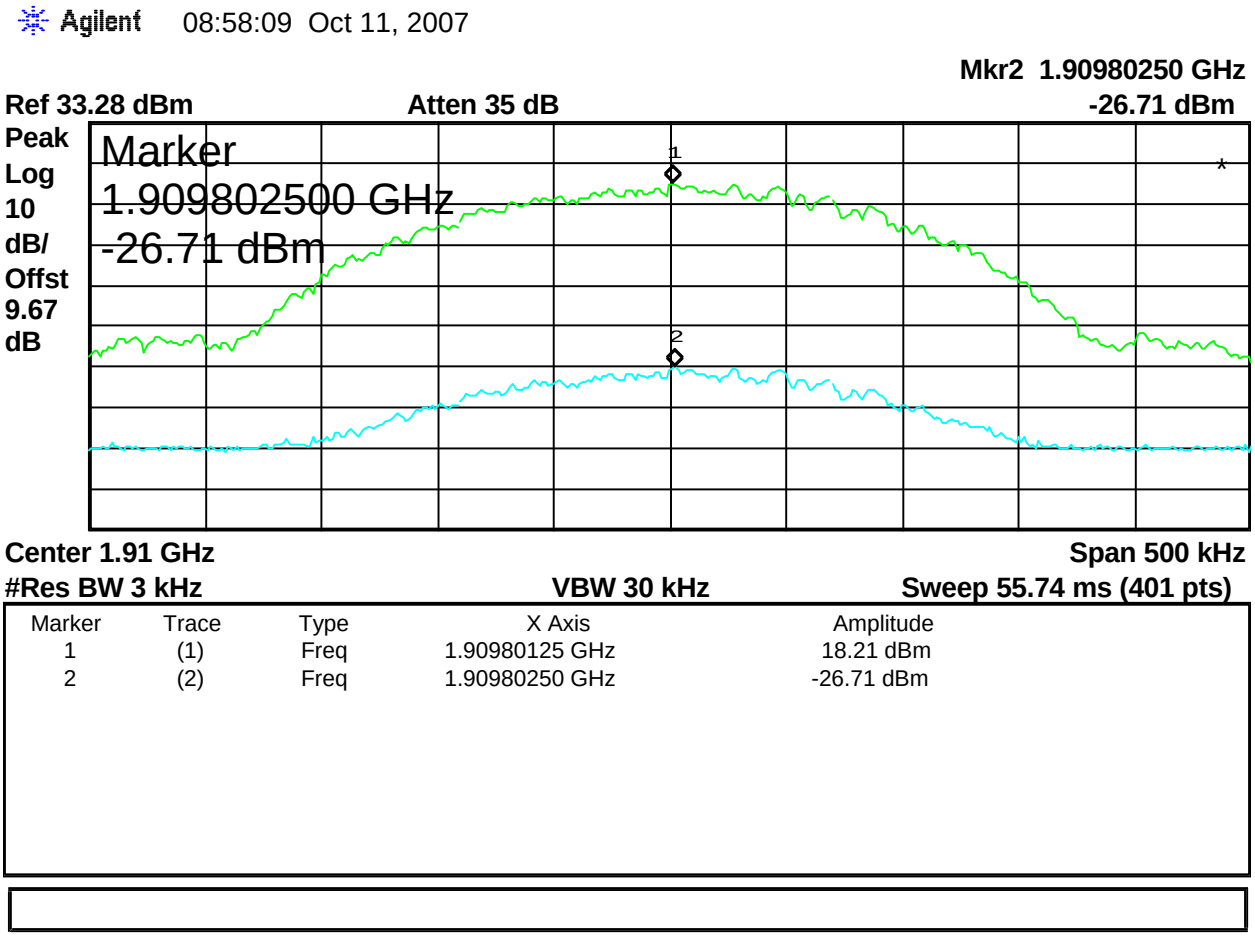


Figure 6: Occupied Bandwidth

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 824.025 MHz		

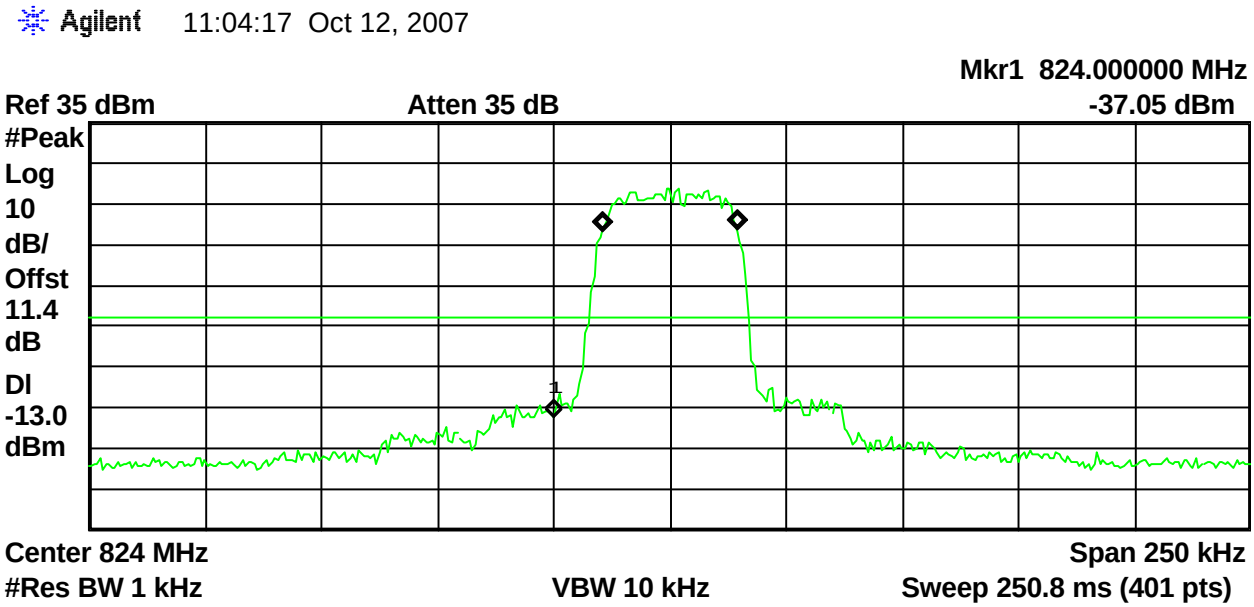
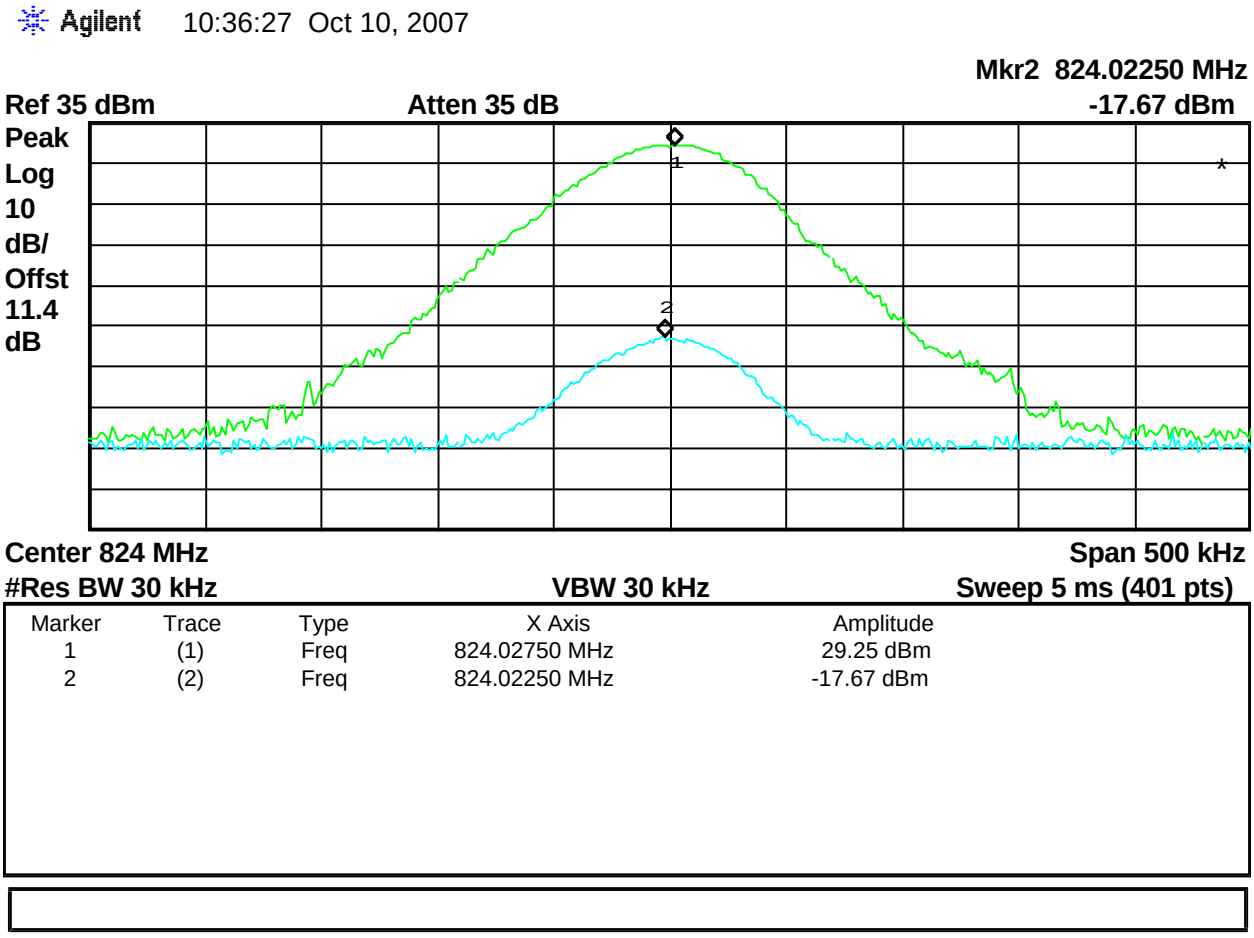


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 824.025 MHz – Input / Output		



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	824.02750 MHz	29.25 dBm
2	(2)	Freq	824.02250 MHz	-17.67 dBm

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 836.5 MHz		

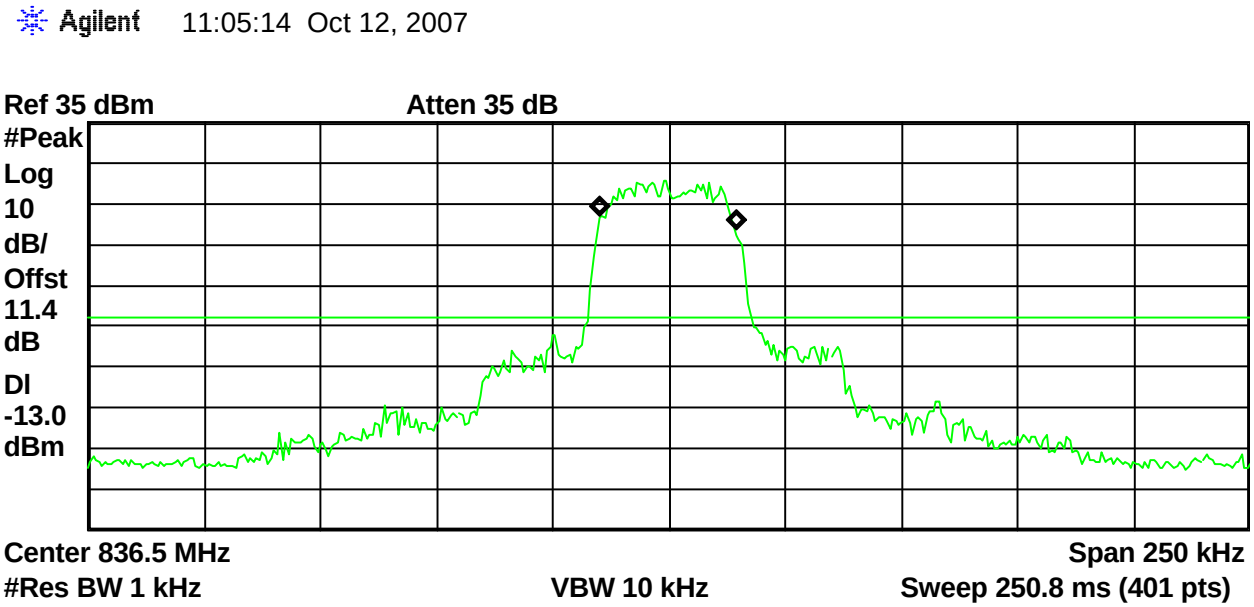


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 836.5 MHz – Input / Output		

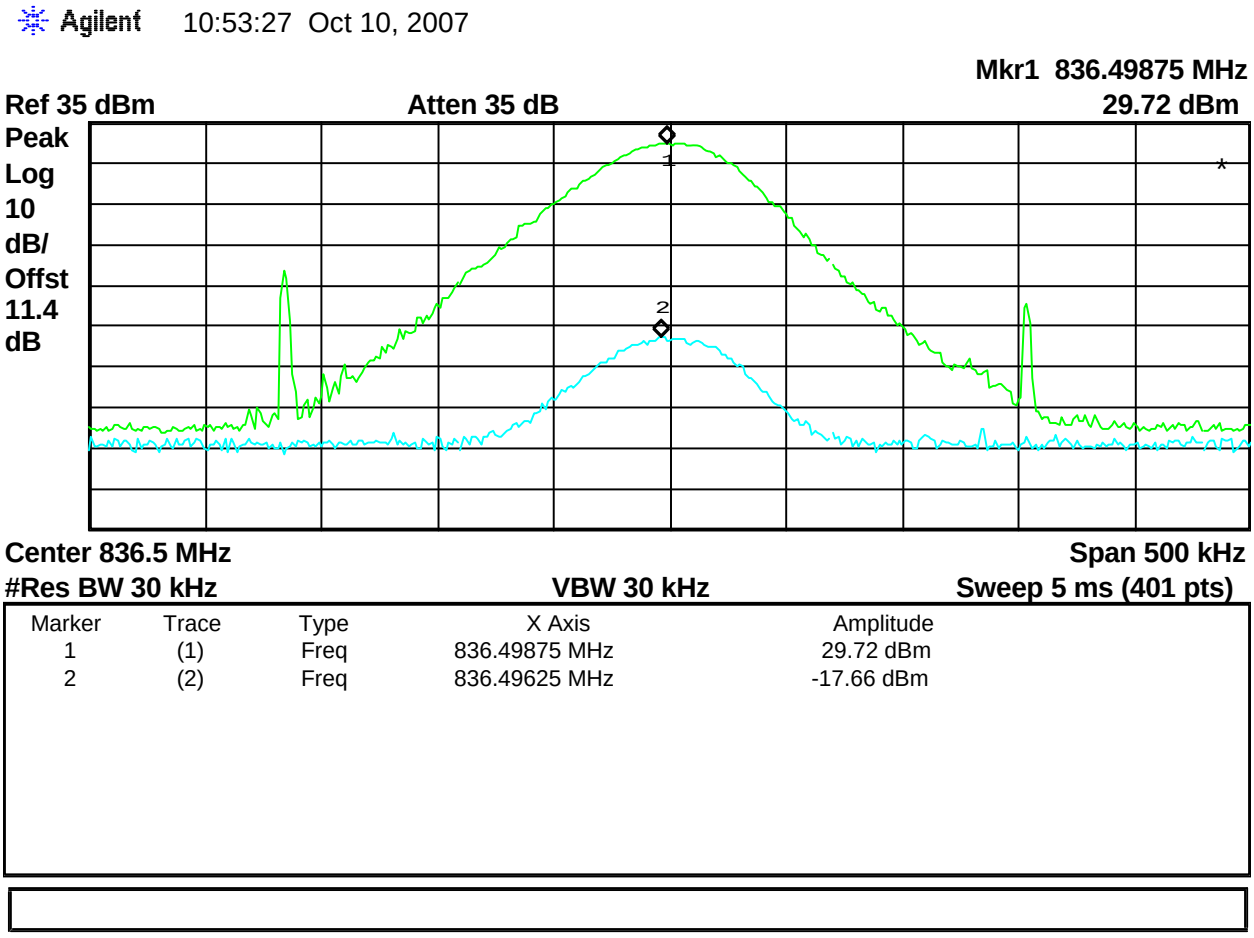


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 848.975 MHz		

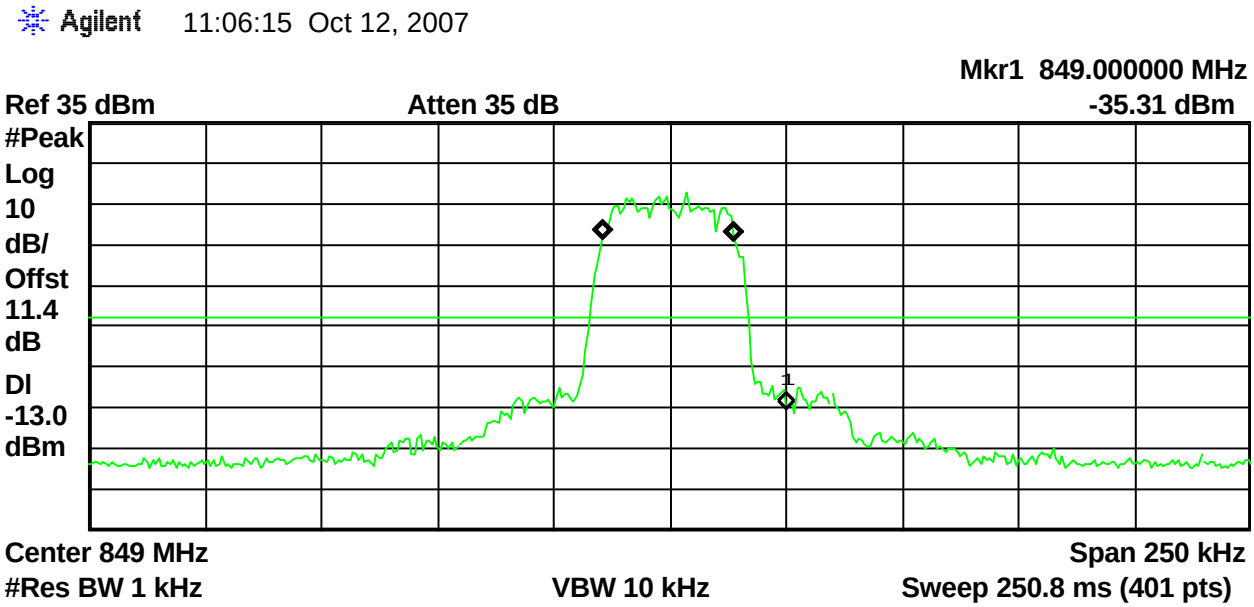


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 848.975 MHz – Input / Output		

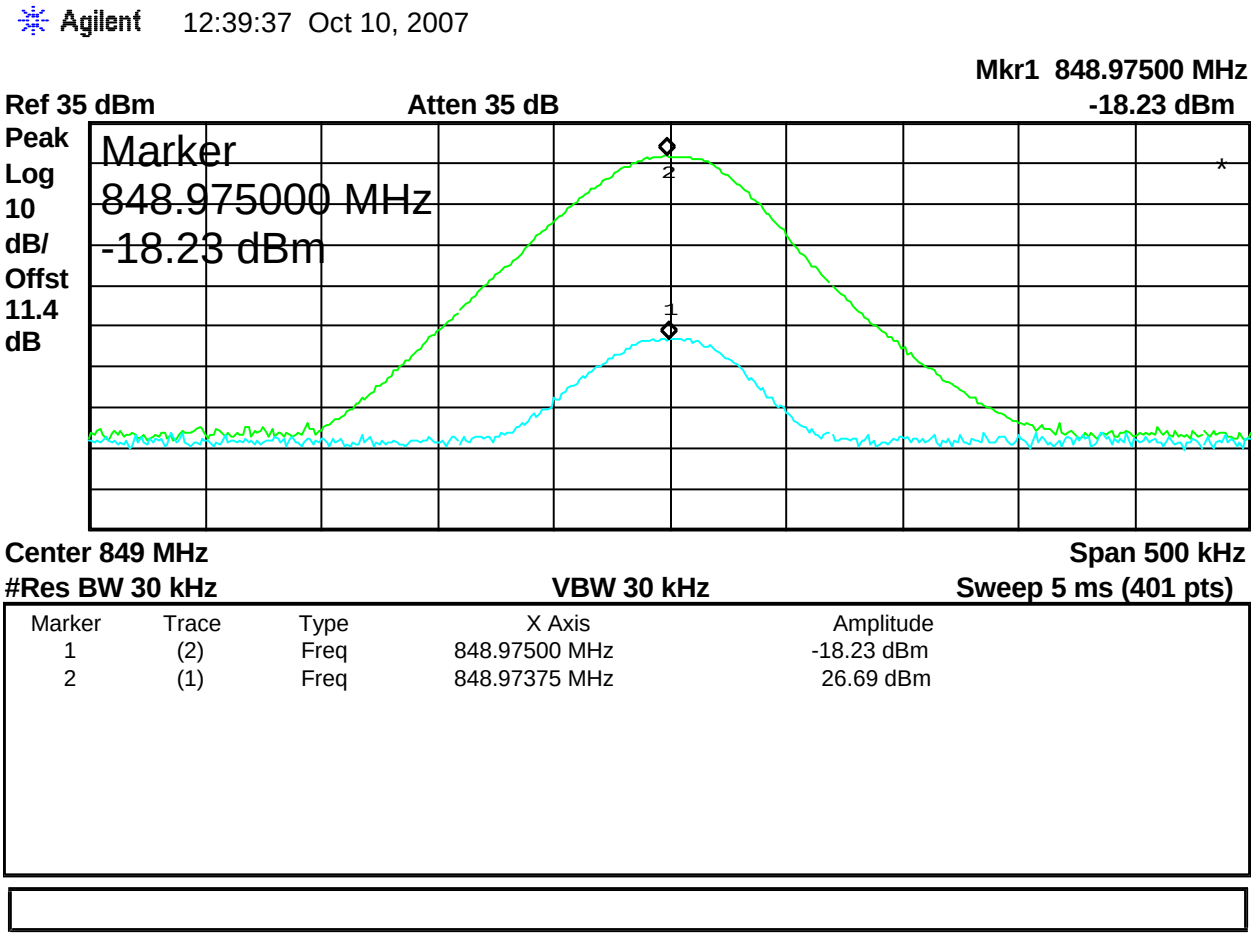


Figure 6: Occupied Bandwidth

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 1850.025 MHz		

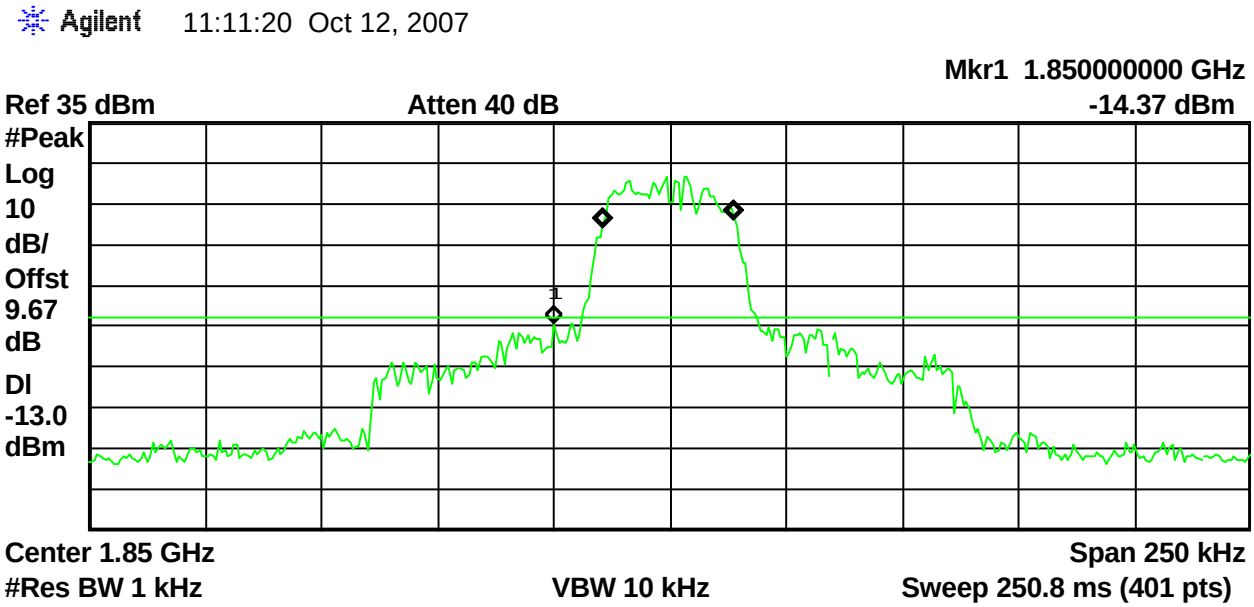


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 1850.025 MHz – Input / Output		

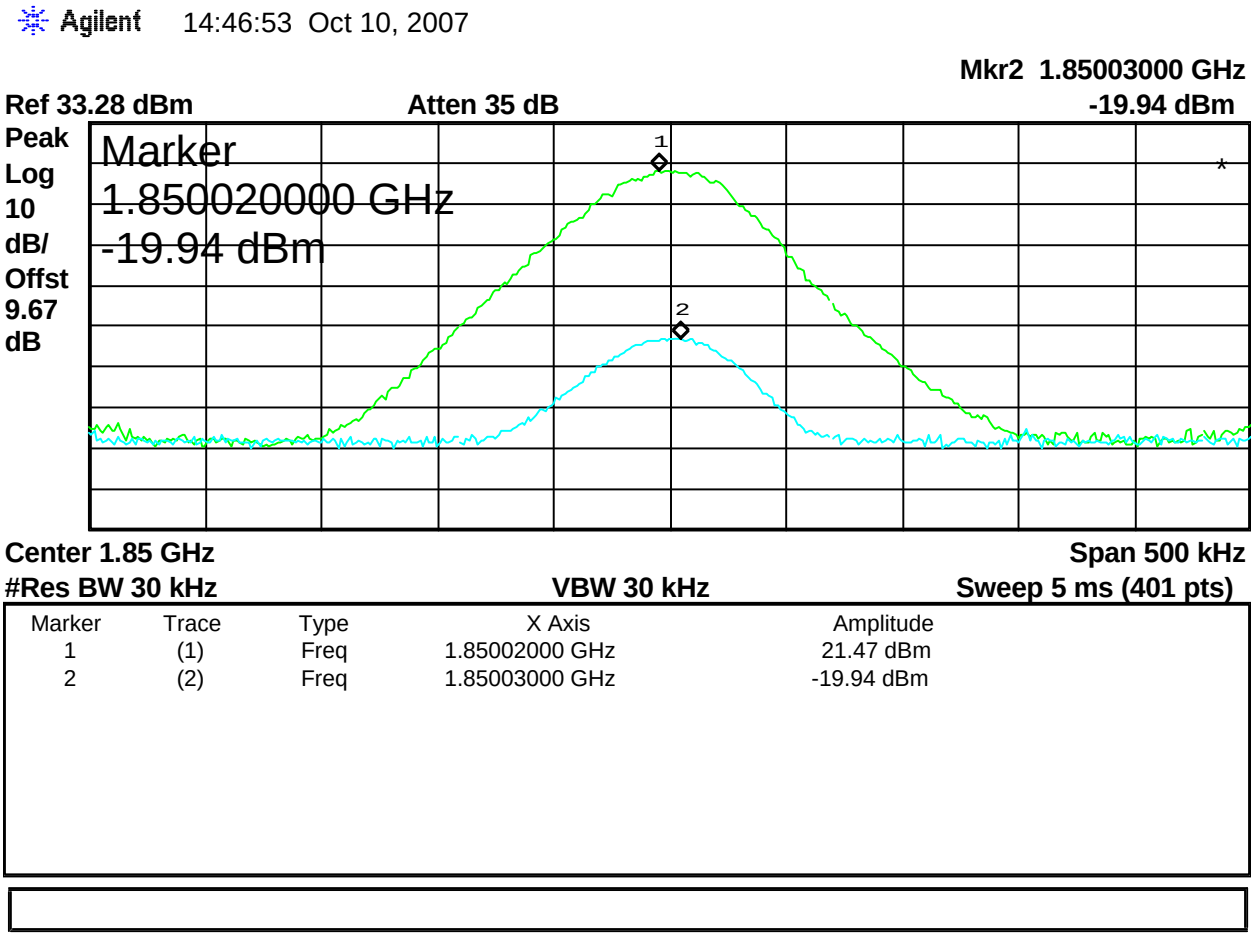


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 1880 MHz		

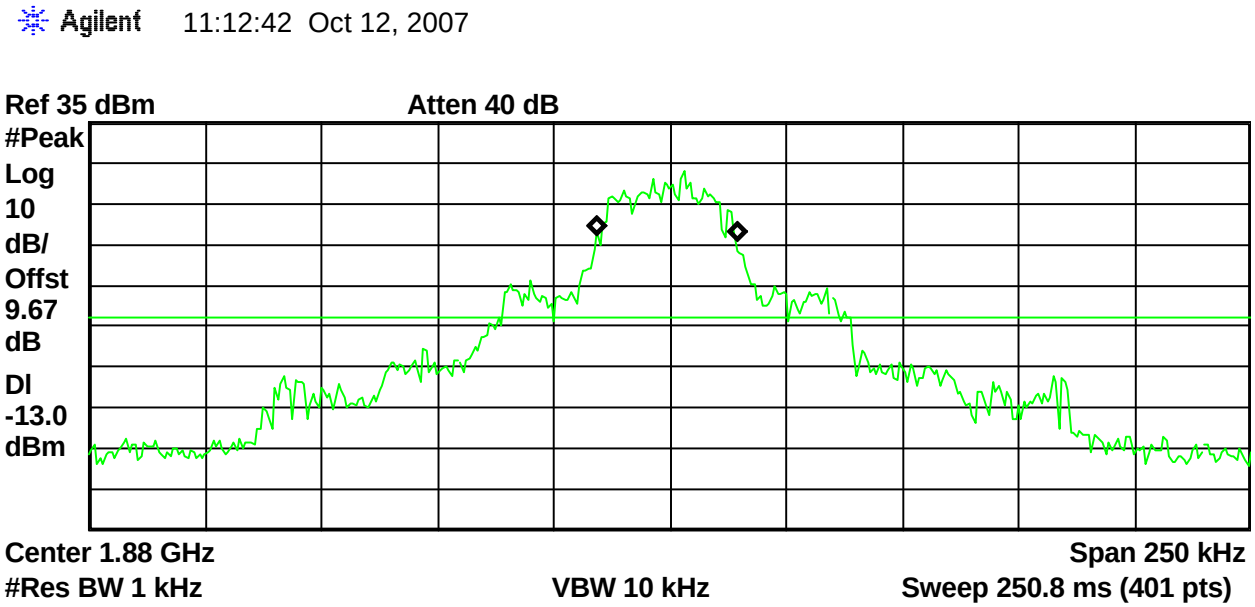


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 1880 MHz – Input / Output		

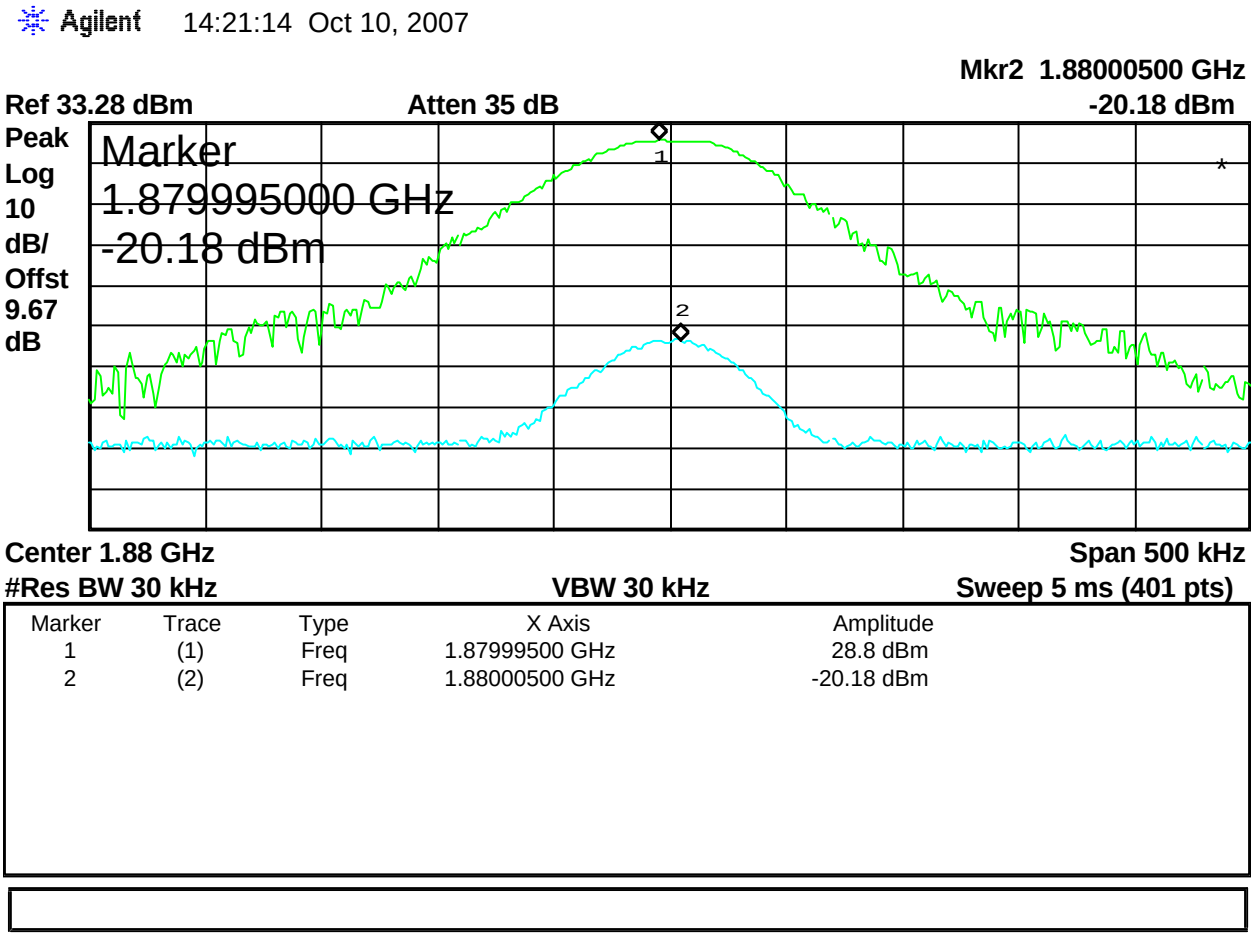


Figure 6: Occupied Bandwidth

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 1909.975 MHz		

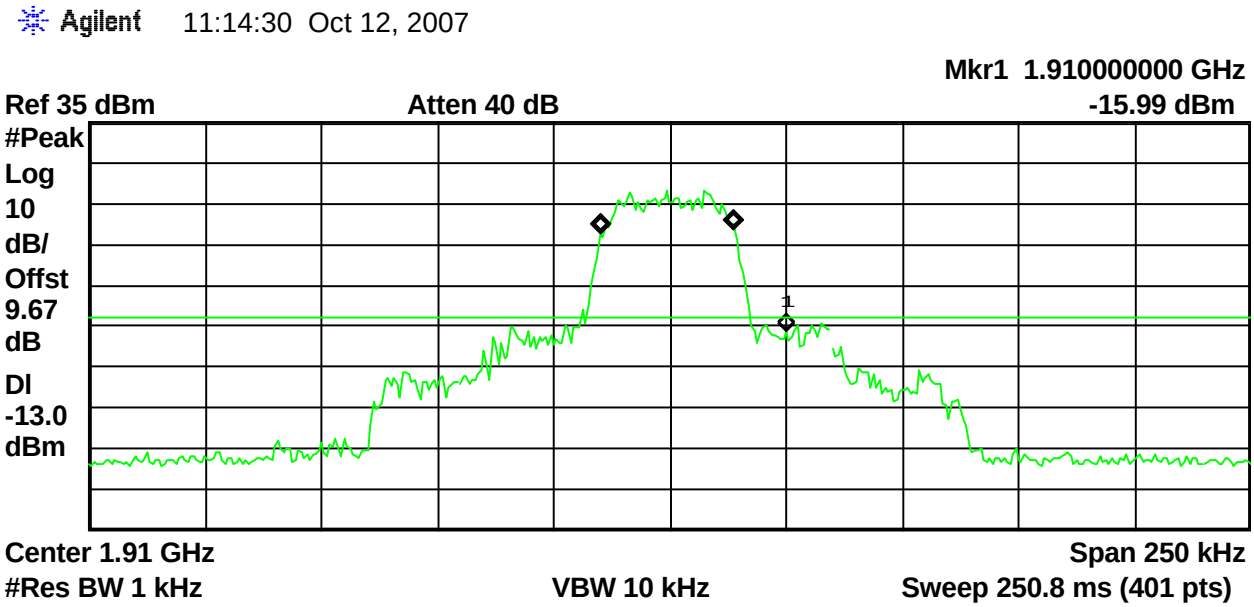


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 1909.975 MHz – Input / Output		

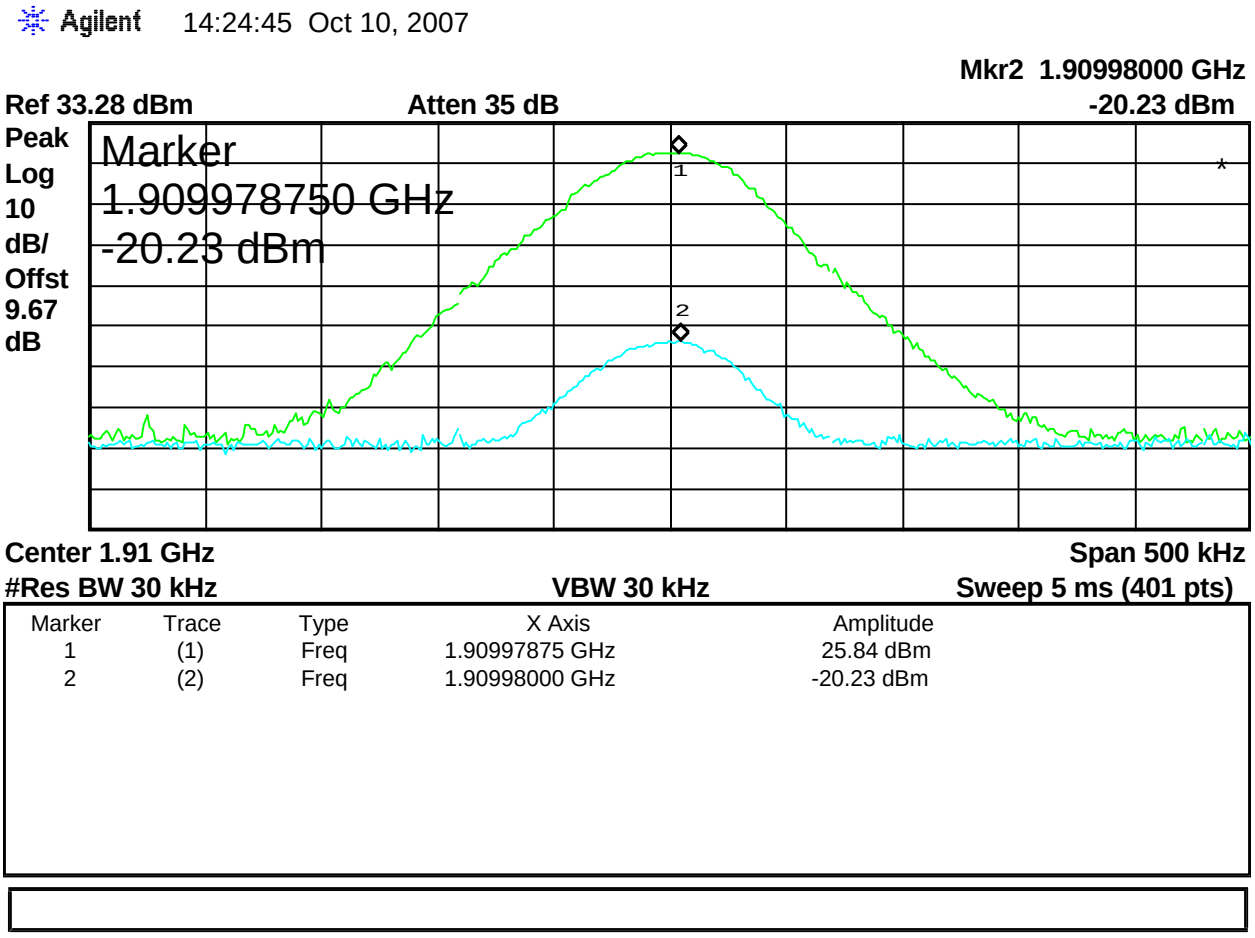
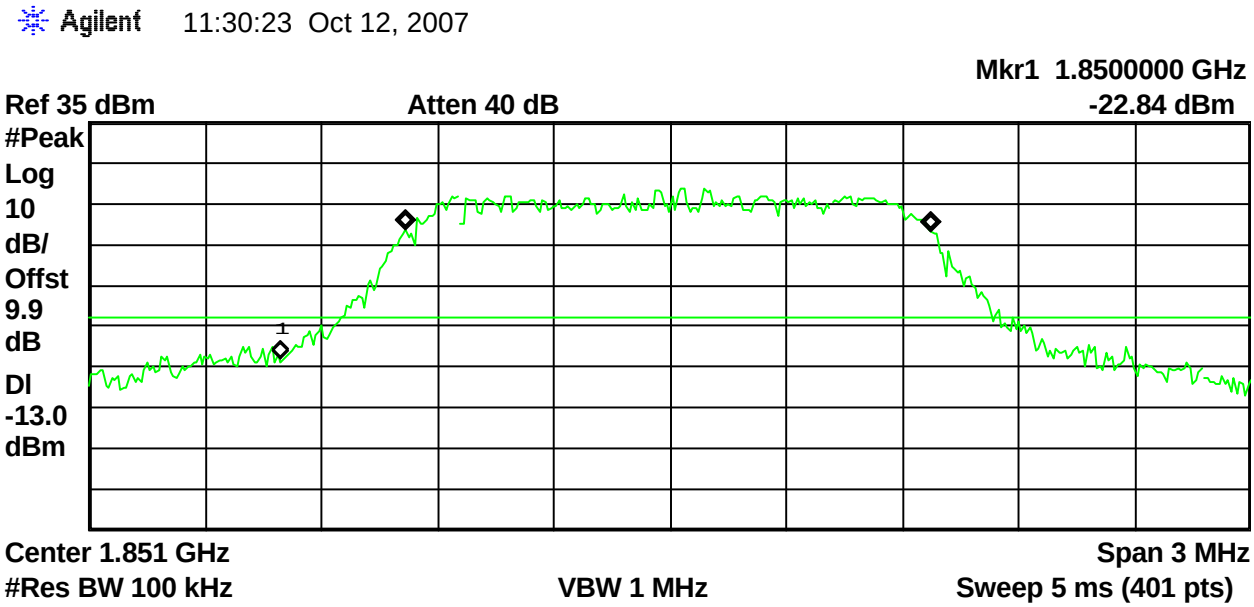


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink CDMA 1851 MHz		



Occupied Bandwidth
1.3553 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error	-4.322 kHz
x dB Bandwidth	1.591 MHz

FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink CDMA 1851 MHz – Input / Output		

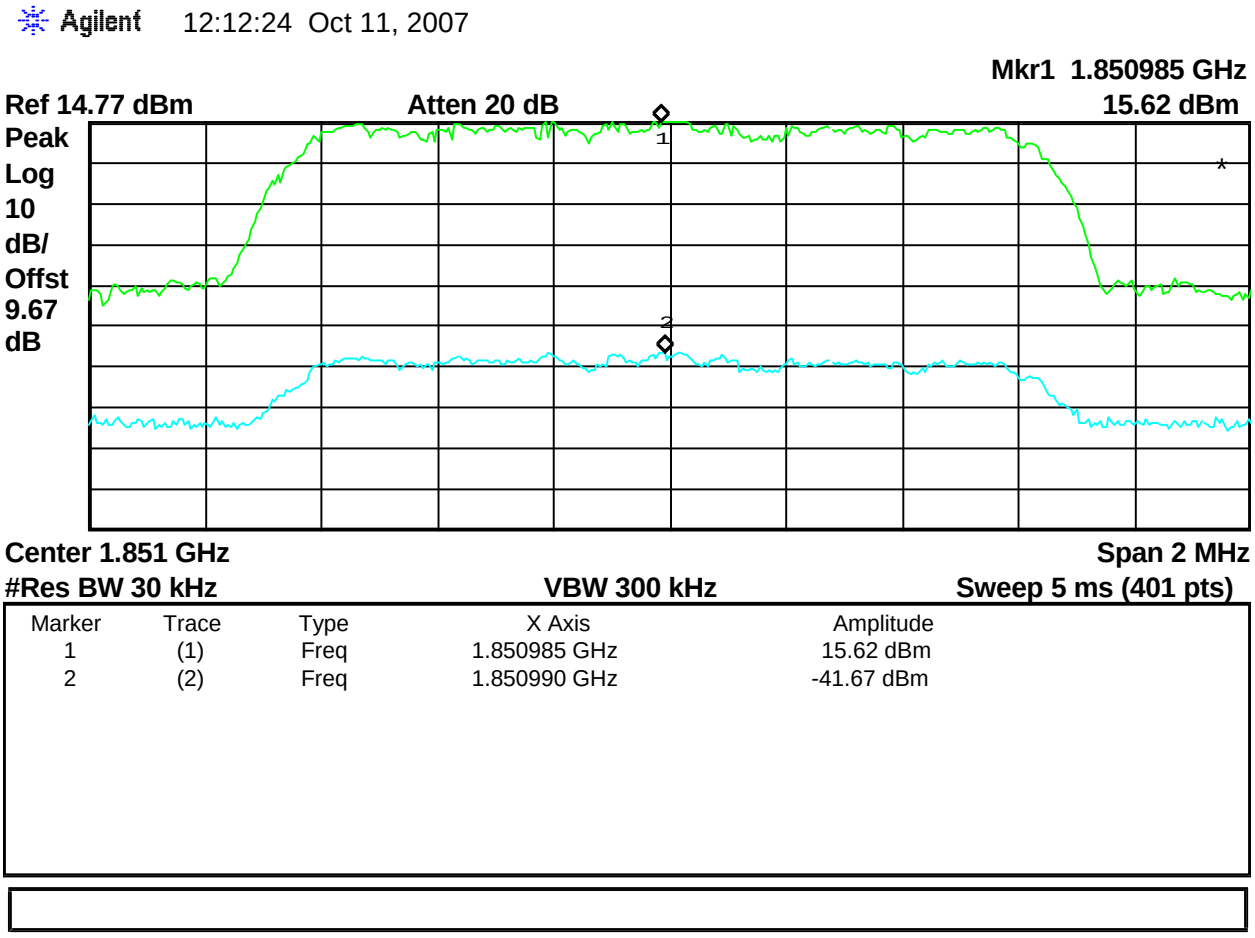


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink CDMA 1880 MHz		

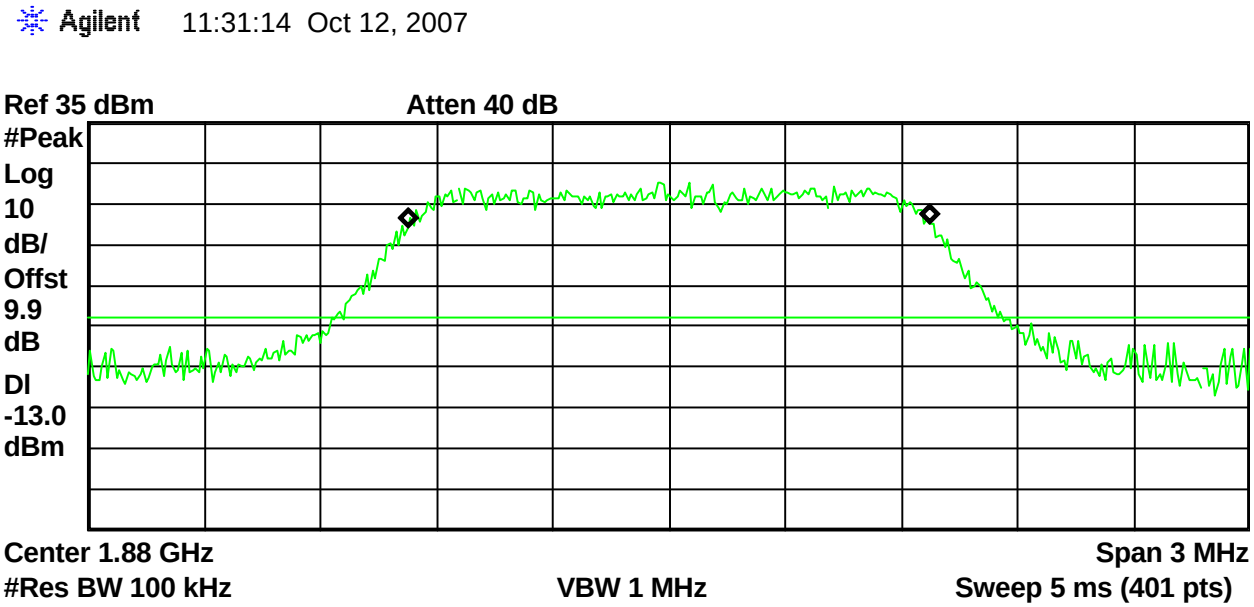


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink CDMA 1880 MHz – Input / Output		

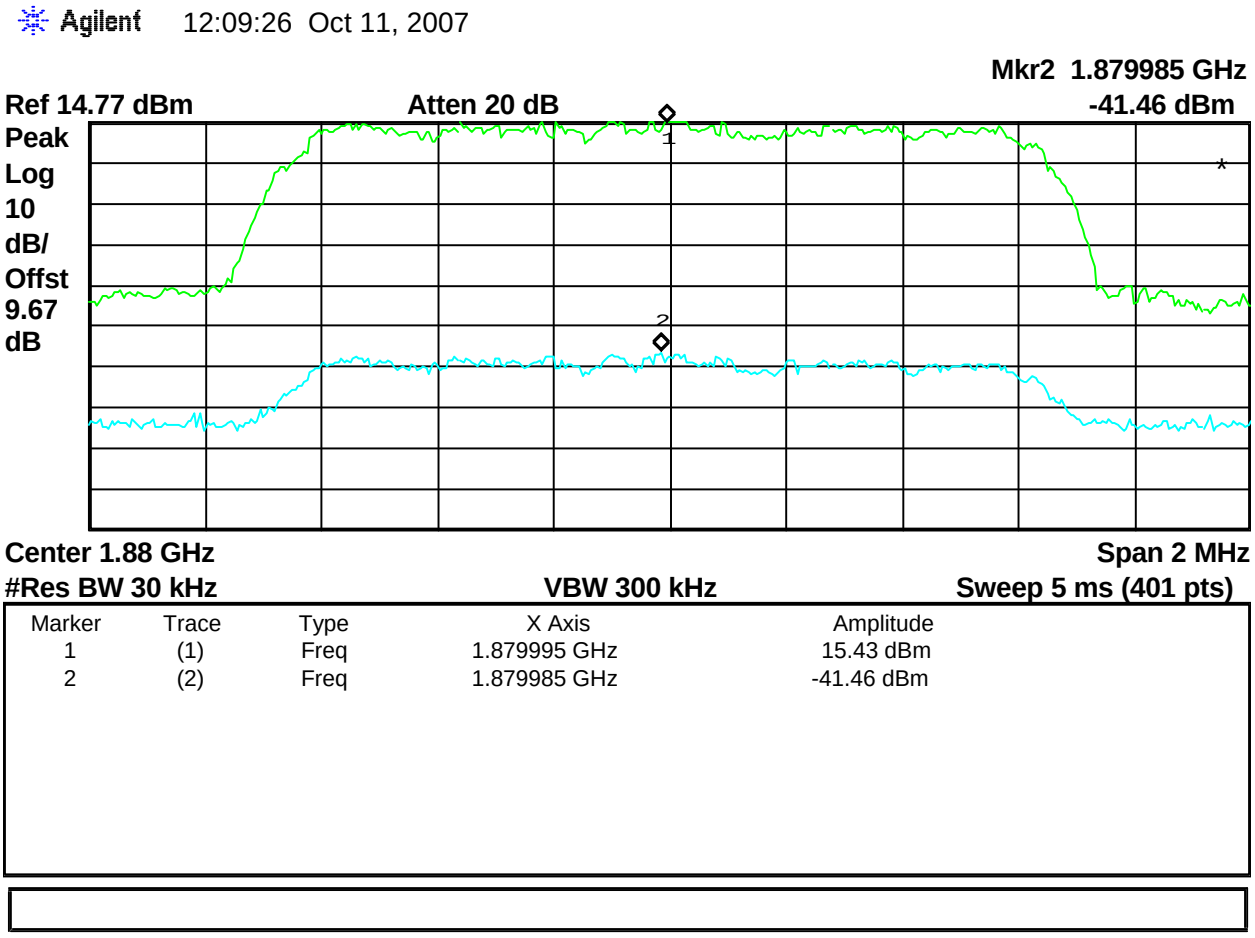
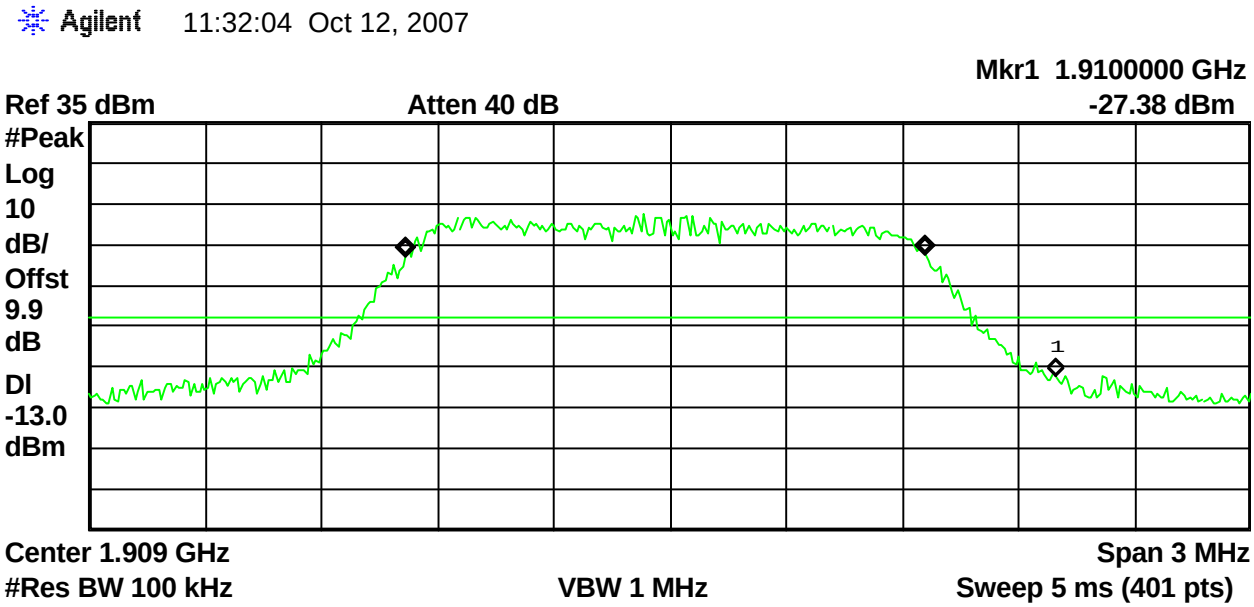


Figure 6: Occupied Bandwidth

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink CDMA 1909 MHz		



Occupied Bandwidth
1.3434 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -9.571 kHz
x dB Bandwidth 1.601 MHz

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink CDMA 1909 MHz – Input / Output		

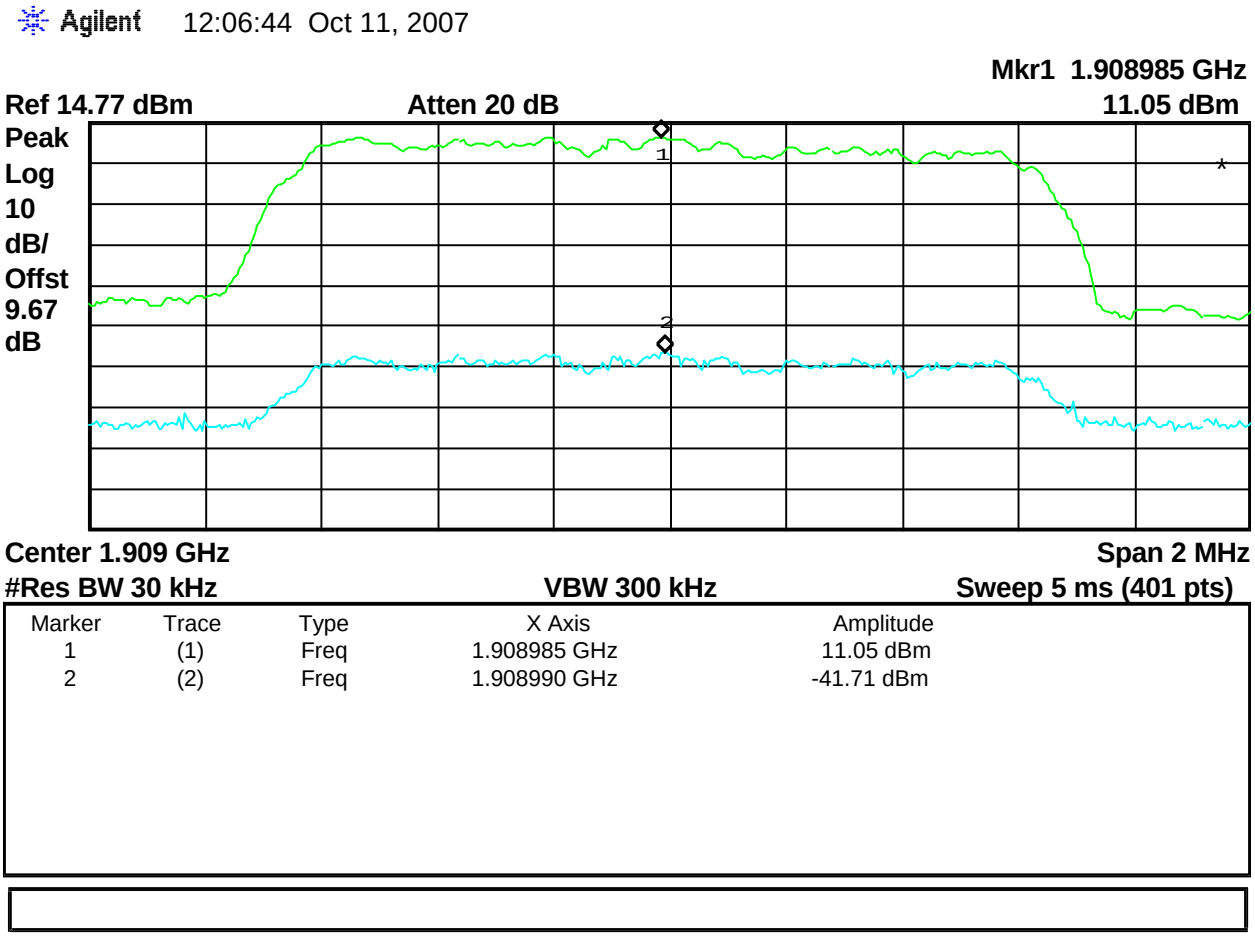
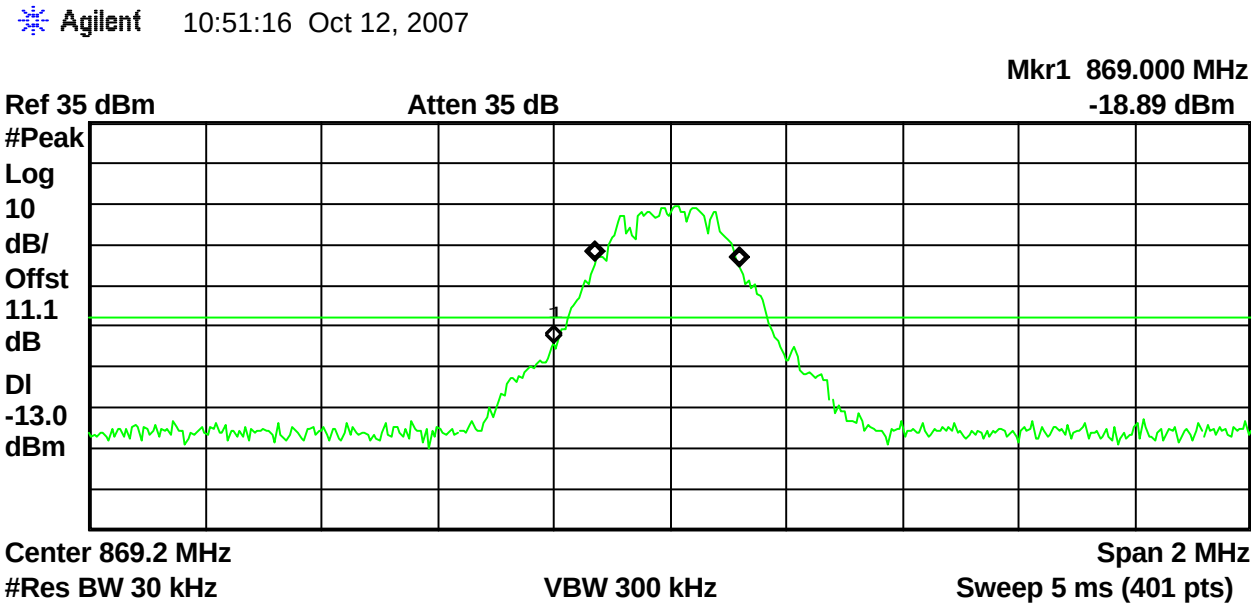


Figure 6: Occupied Bandwidth

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 869.200 MHz		



Occupied Bandwidth
246.7766 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -4.349 kHz
x dB Bandwidth 335.921 kHz

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 869.2000 MHz – Input / Output		

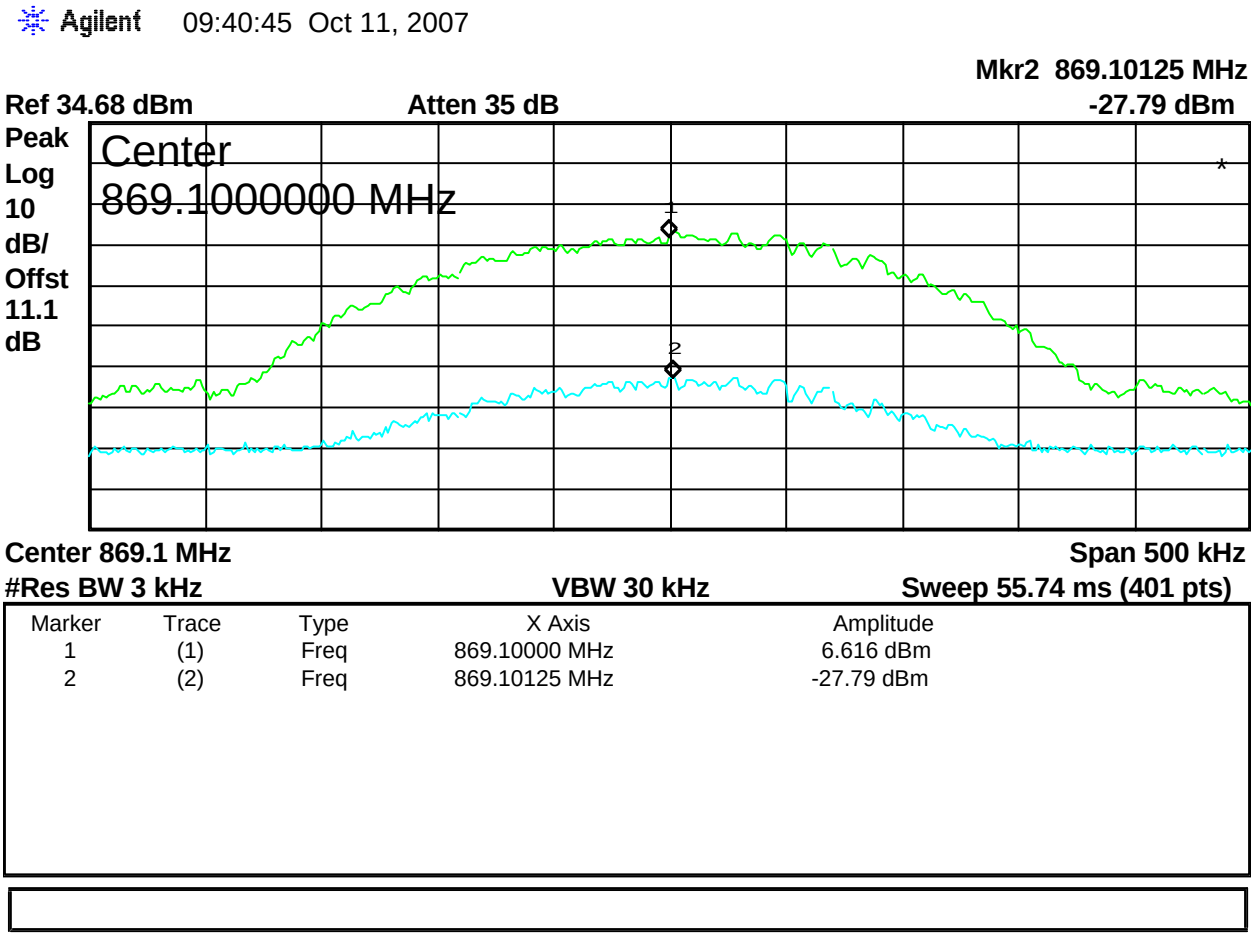


Figure 6: Occupied Bandwidth

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 881.500 MHz		

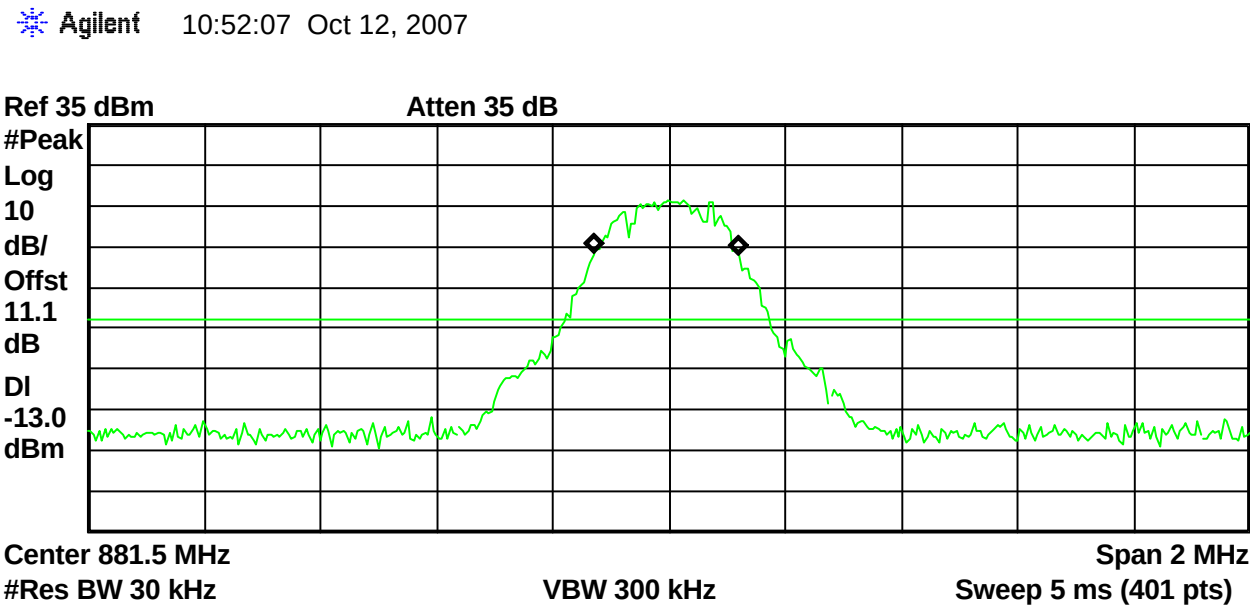


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 881.500 MHz – Input / Output		

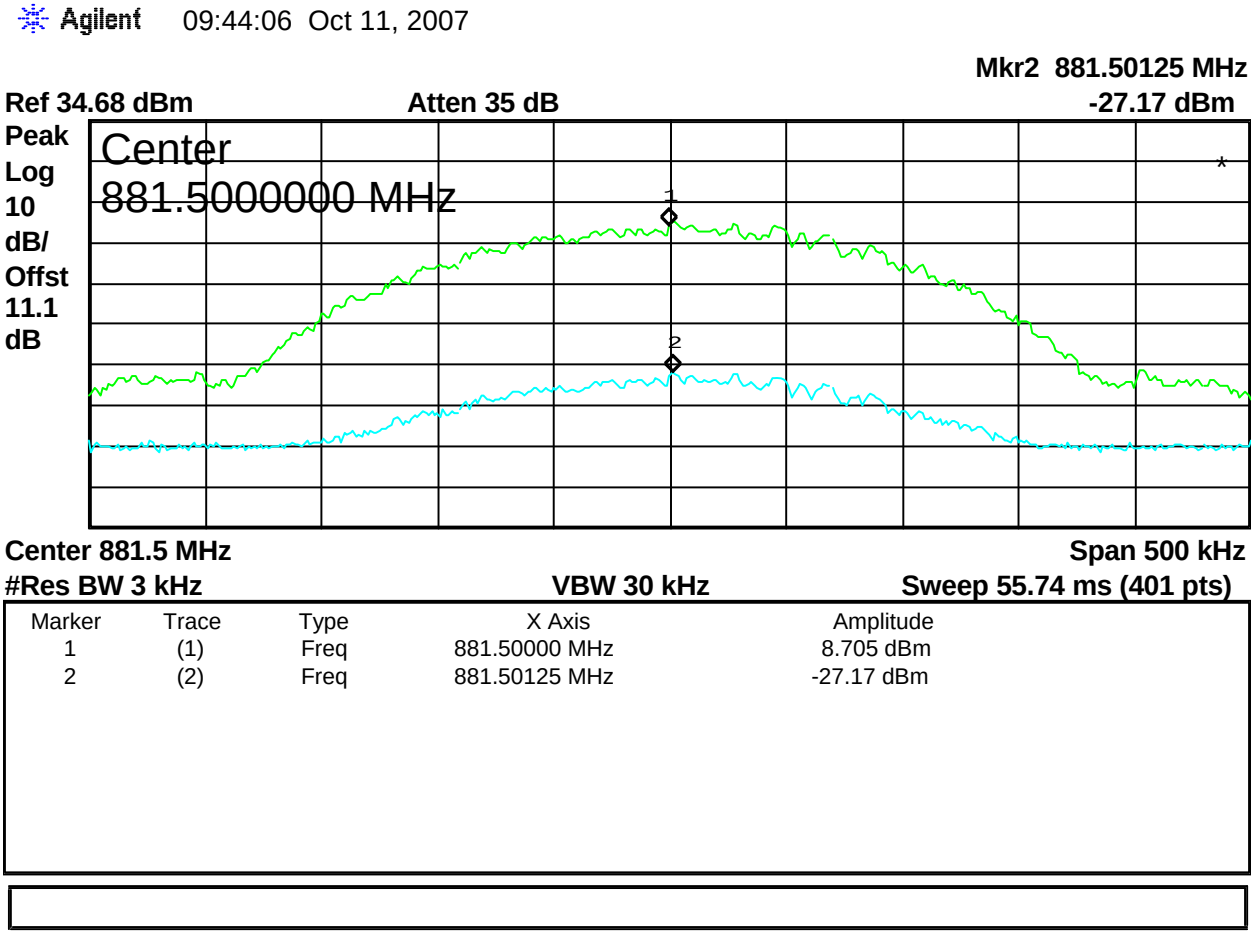
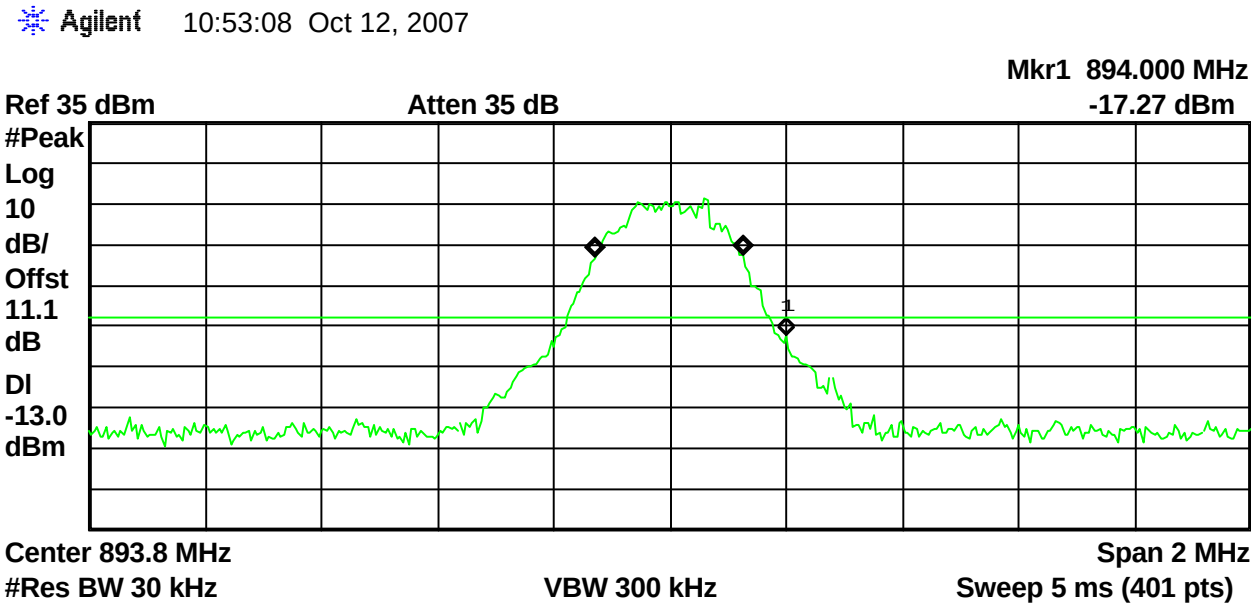


Figure 6: Occupied Bandwidth

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 893.800 MHz		



Occupied Bandwidth
251.9401 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -2.522 kHz
x dB Bandwidth 326.969 kHz

FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 893.800 MHz – Input / Output		

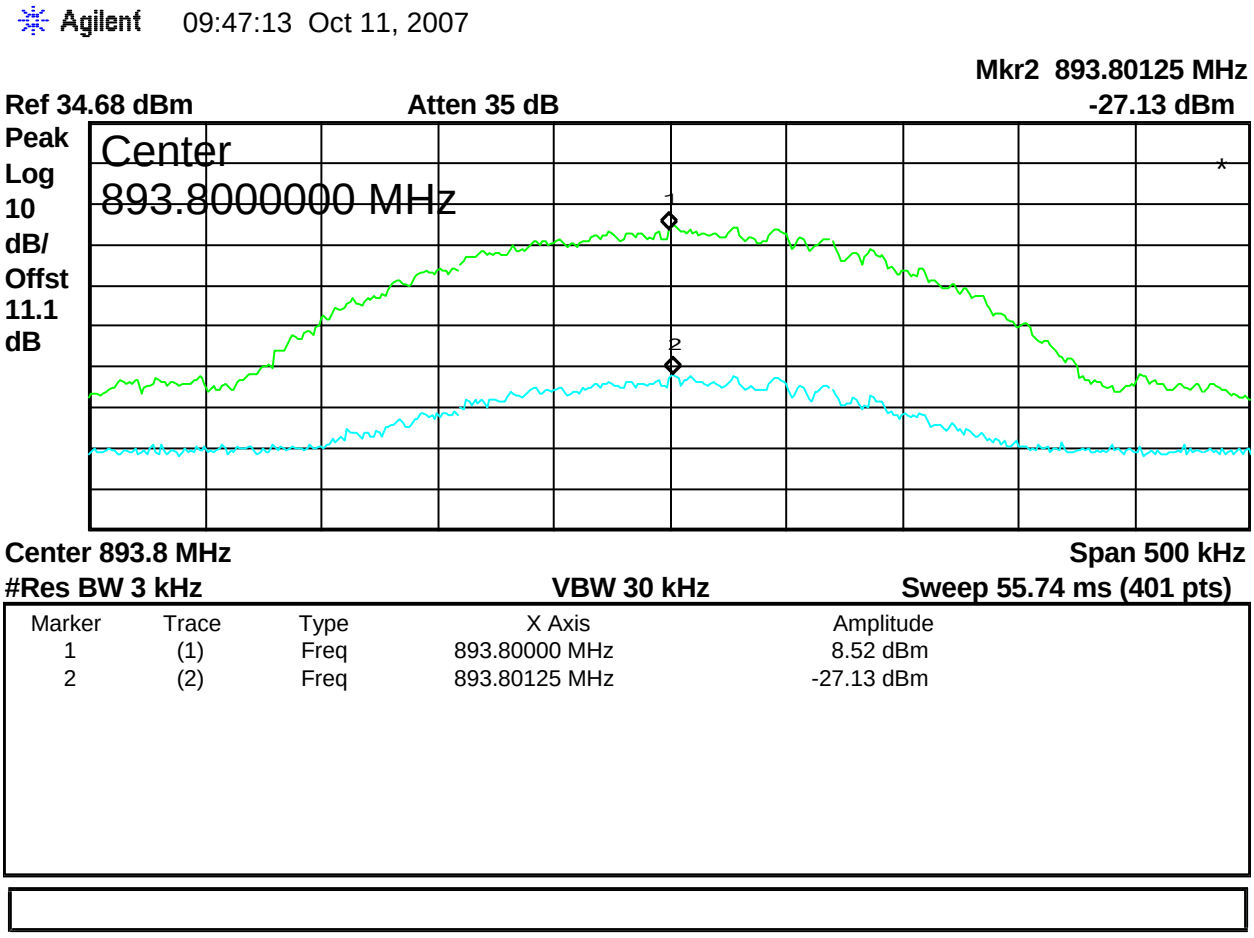
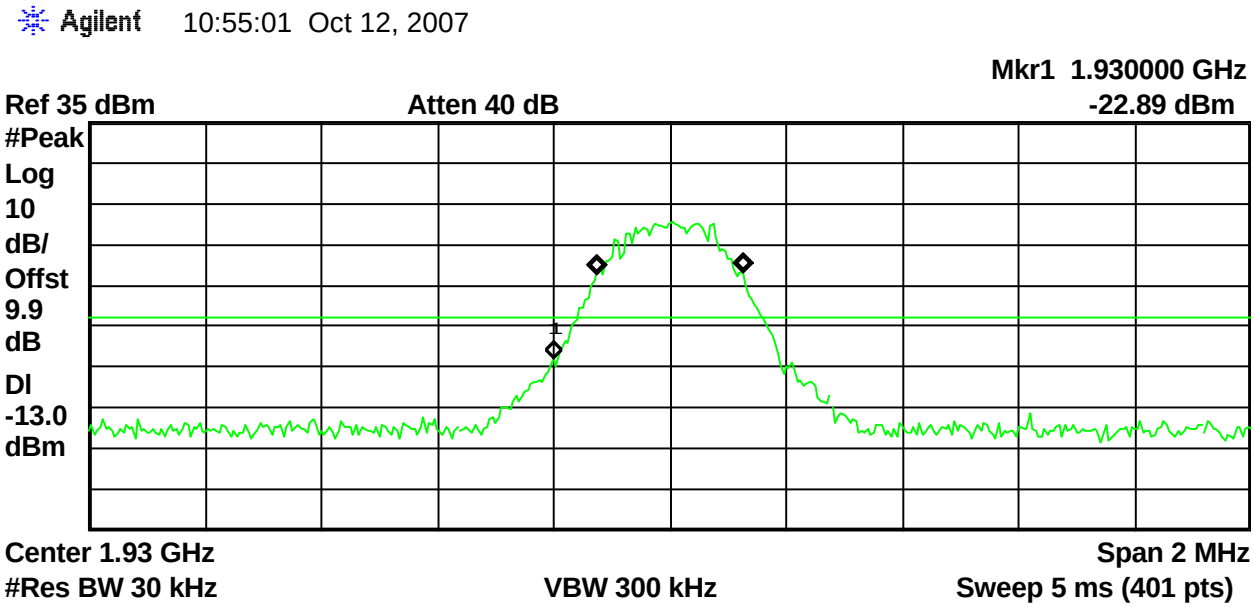


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1930.200 MHz		



Occupied Bandwidth
251.6481 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -1.218 kHz
x dB Bandwidth 340.271 kHz

FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1930.200 MHz – Input / Output		

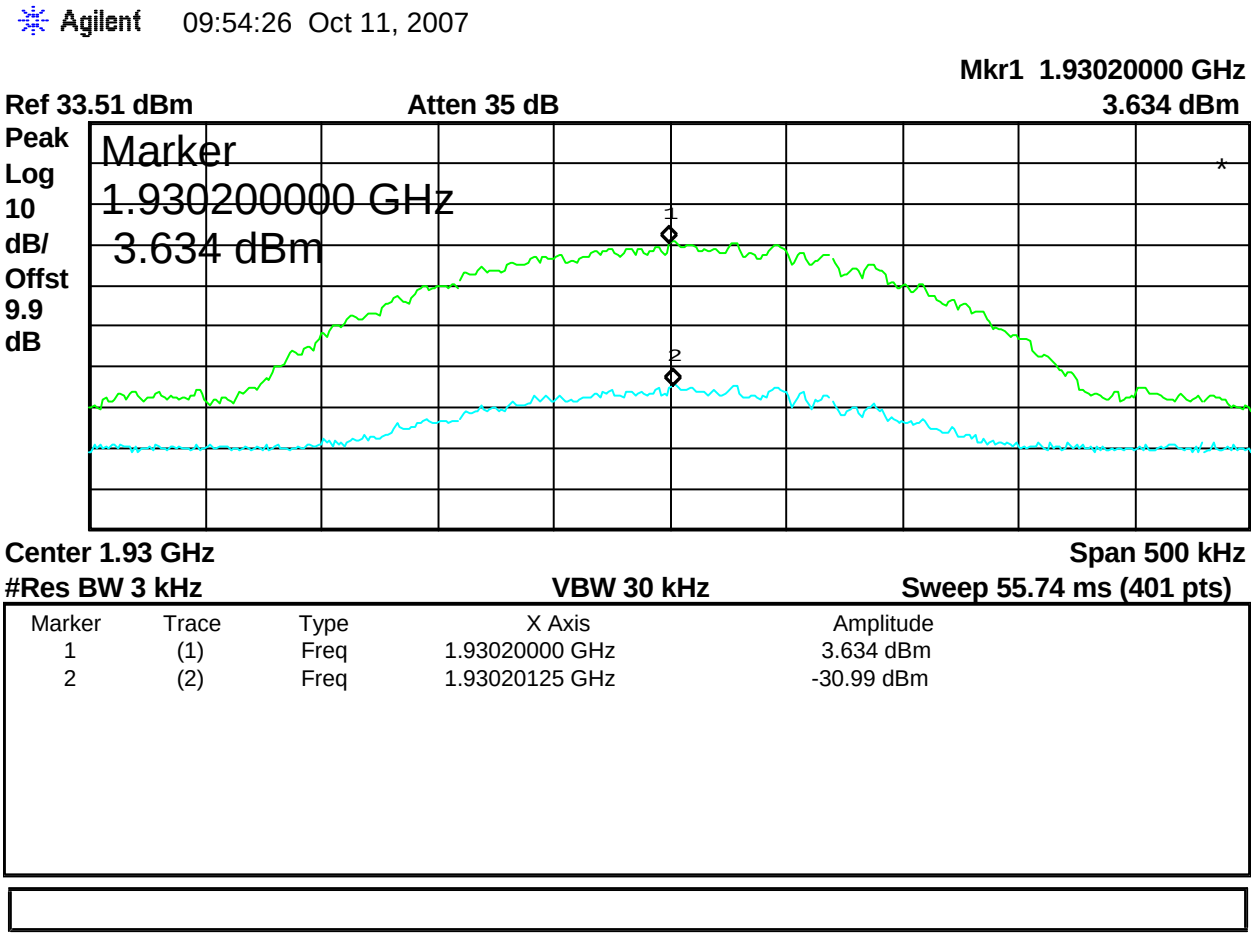


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1960 MHz		

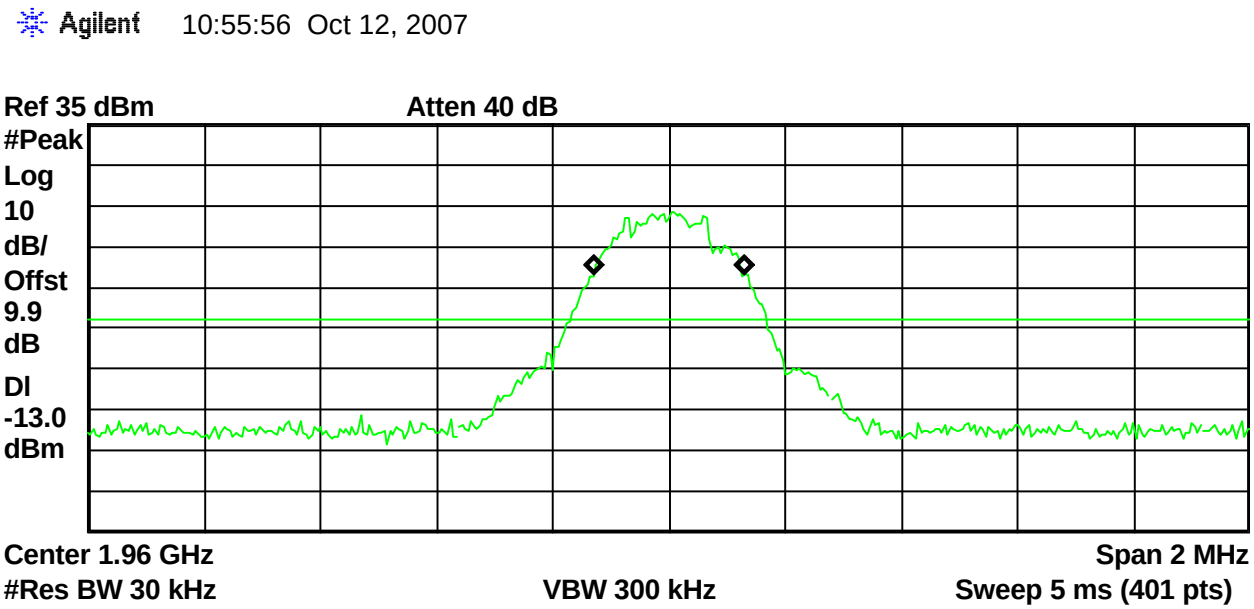


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1960 MHz – Input / Output		

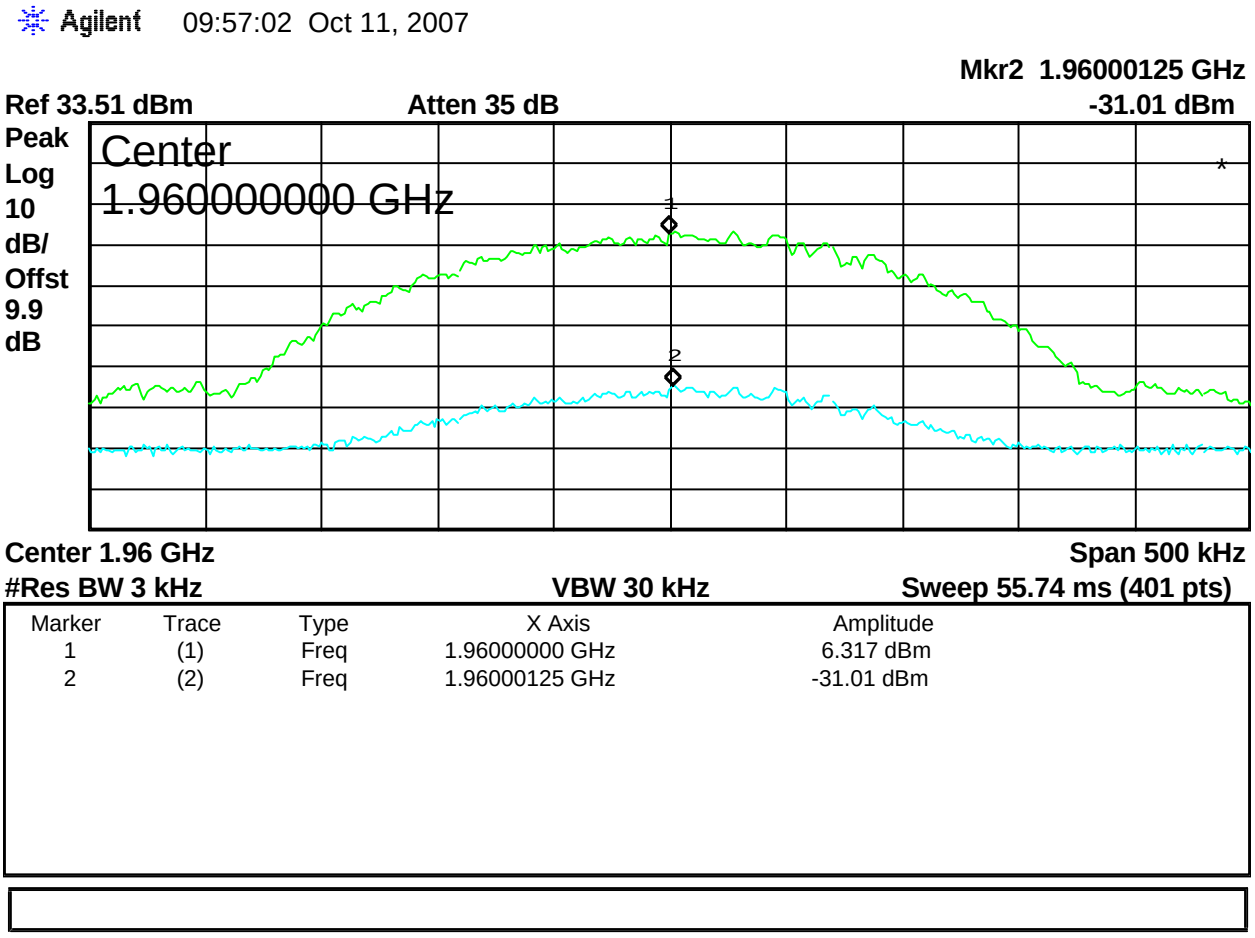
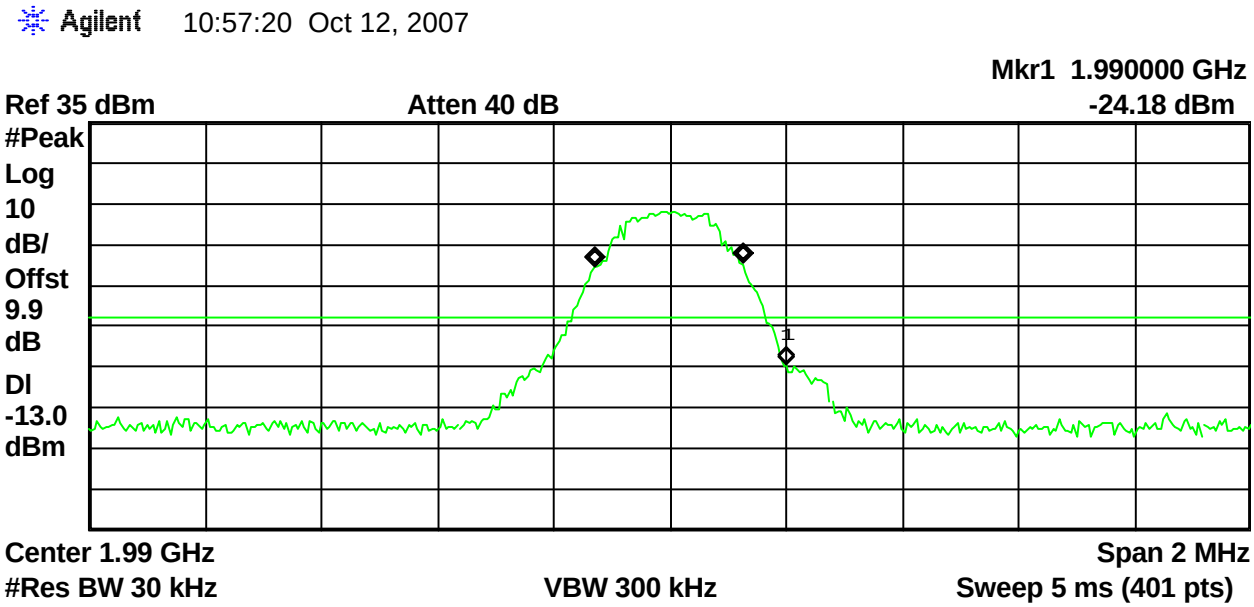


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1989.800 MHz		



Occupied Bandwidth
253.3050 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error	-2.085 kHz
x dB Bandwidth	332.656 kHz

FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1989.800 MHz – Input / Output		

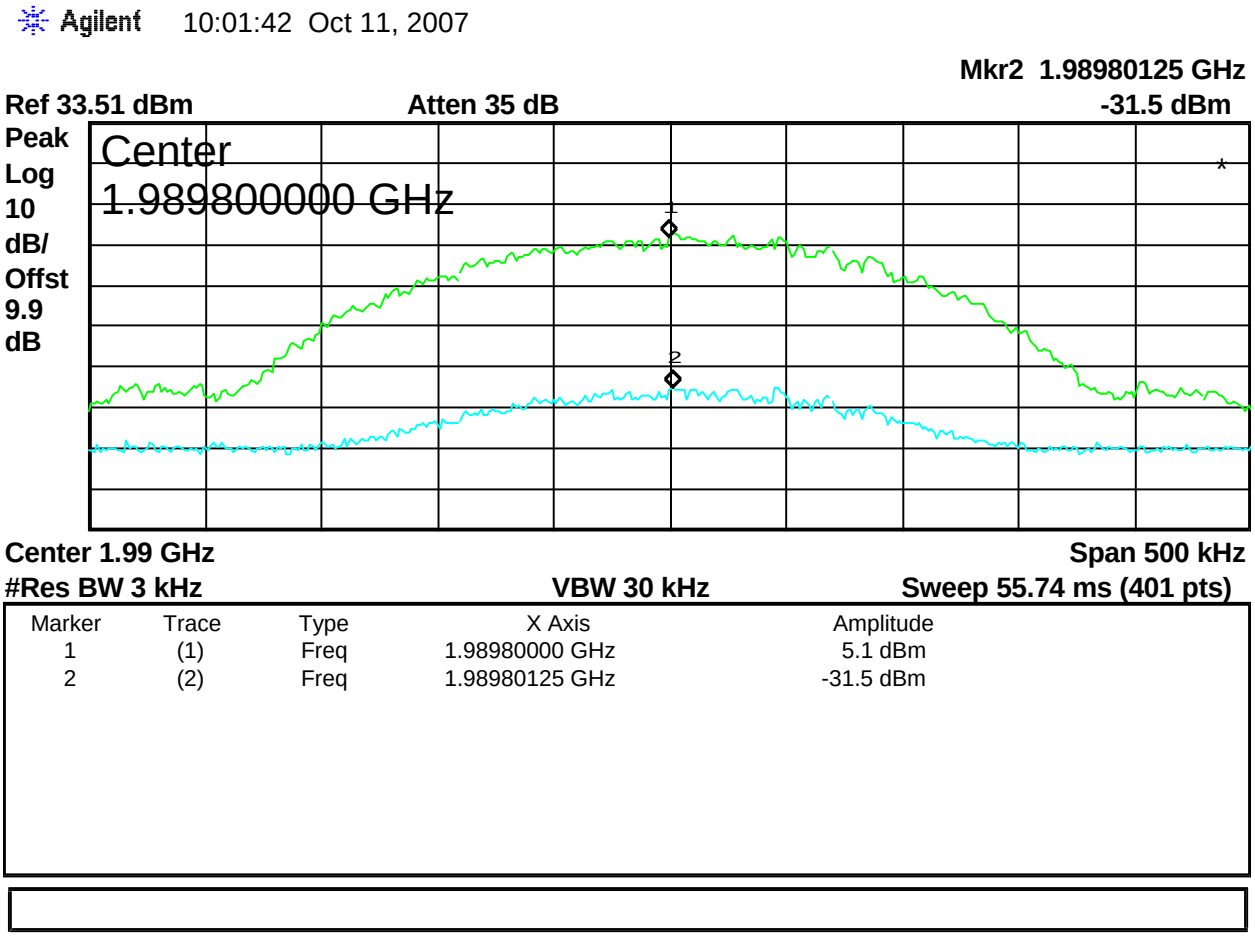
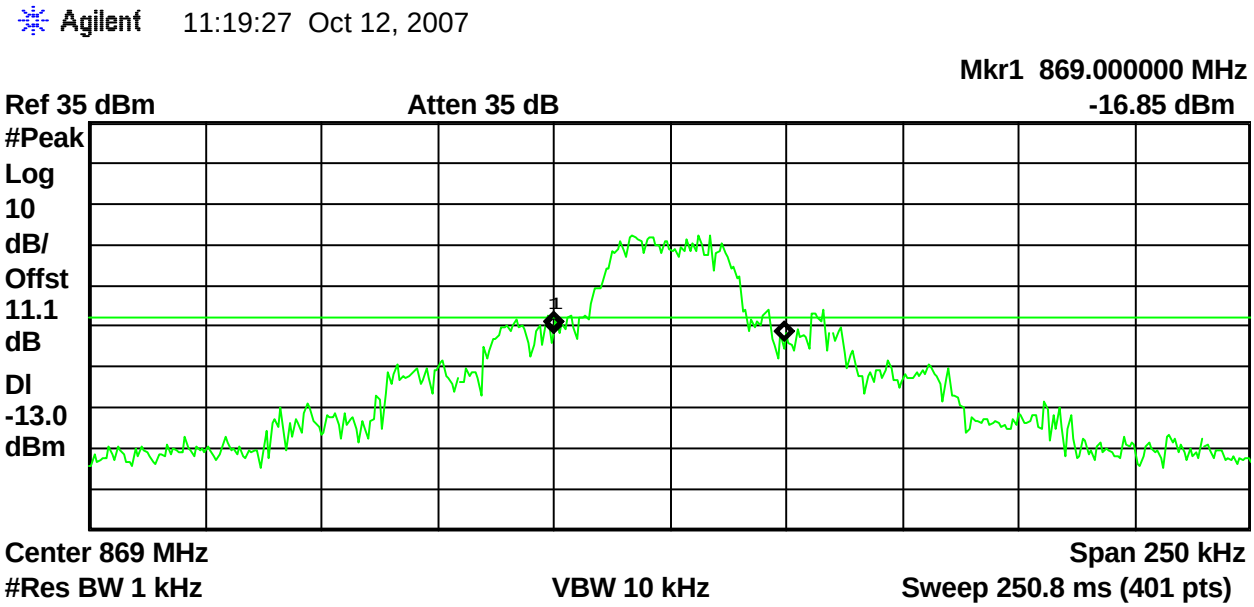


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 869.025 MHz		



Occupied Bandwidth
49.5736 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -143.476 Hz
x dB Bandwidth 75.572 kHz

FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 869.025 MHz – Input / Output		

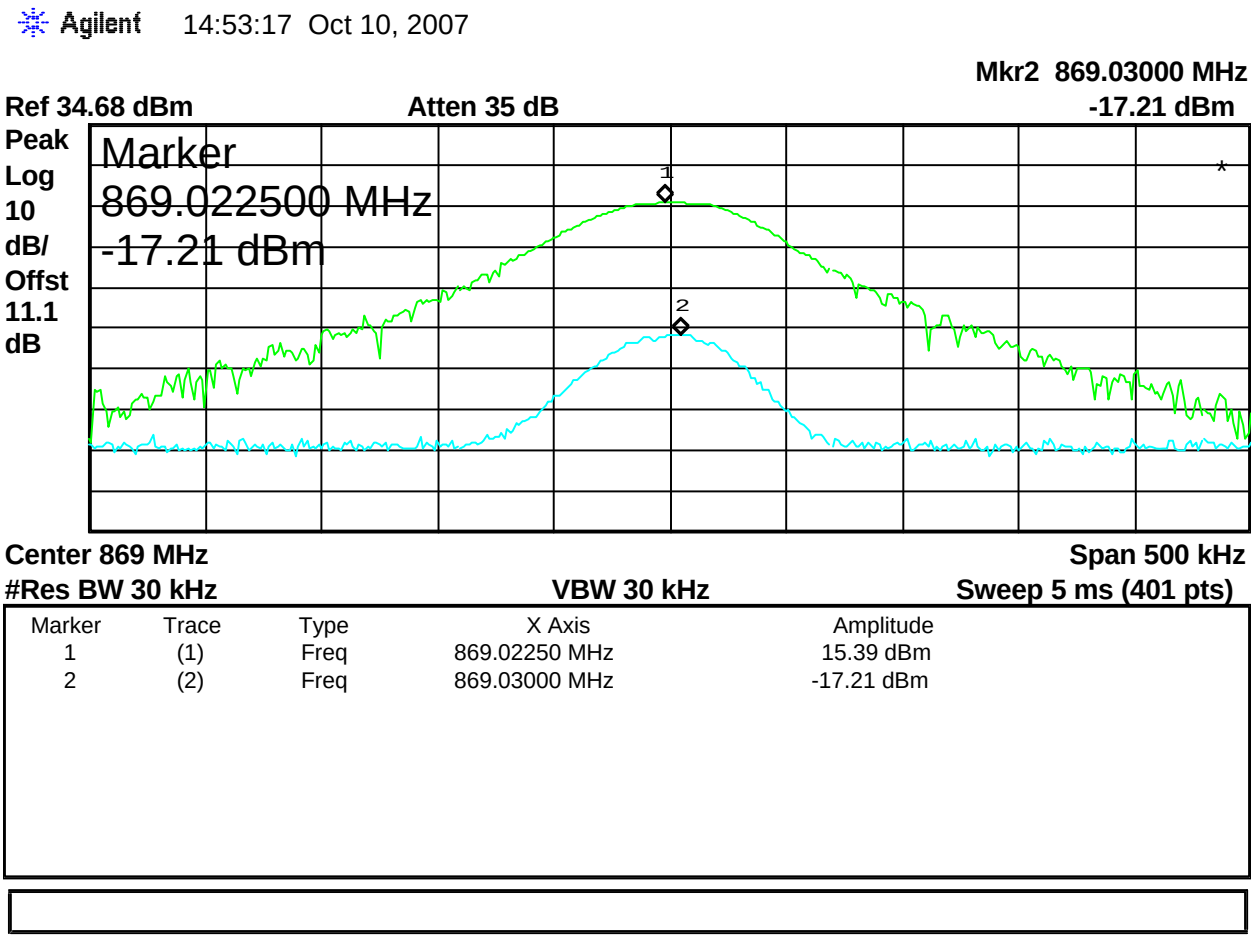


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 881.5 MHz		

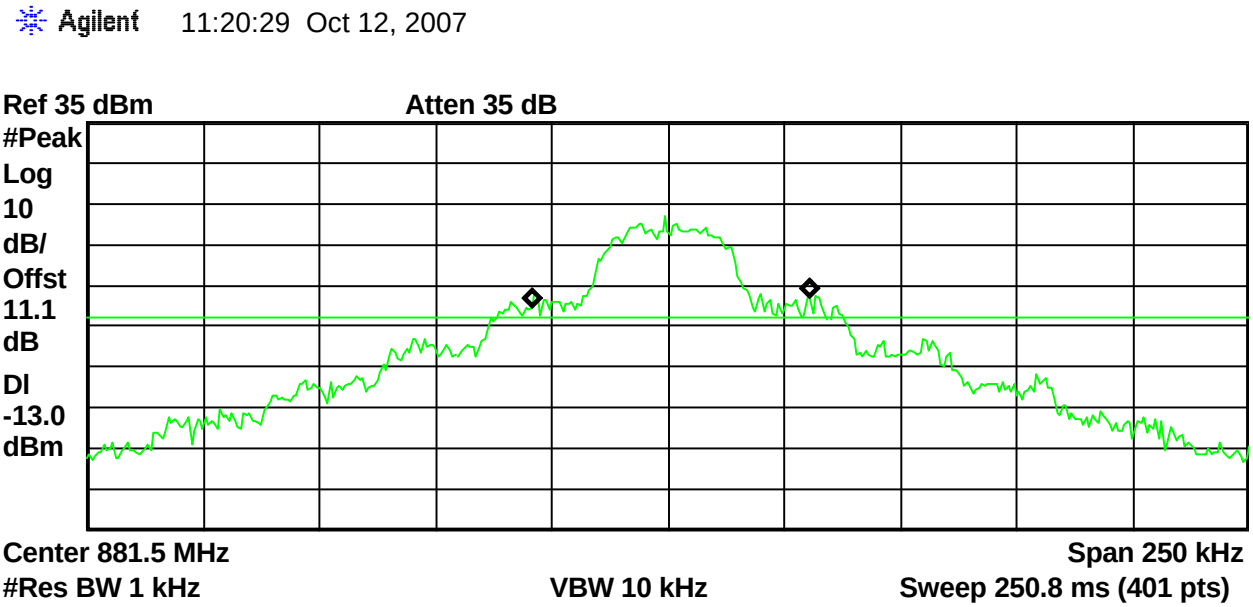


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 881.5 MHz – Input / Output		

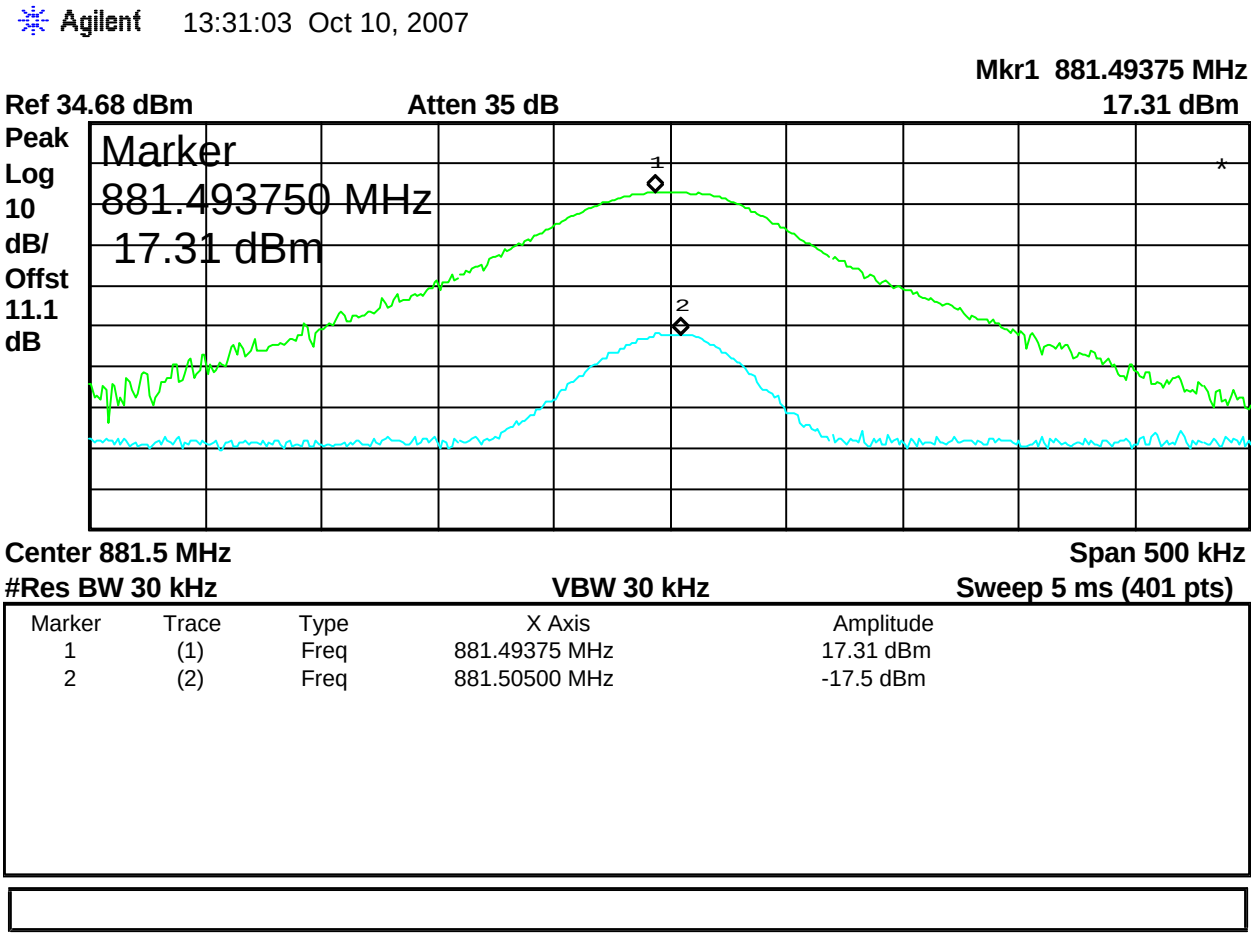


Figure 6: Occupied Bandwidth

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 893.975 MHz		

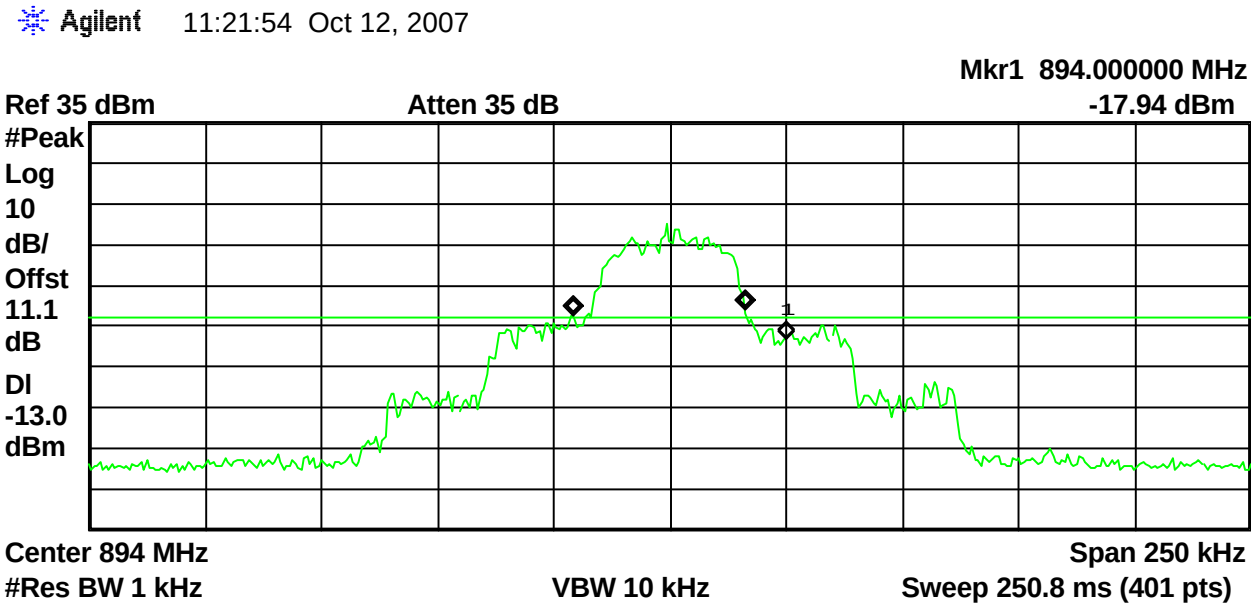


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 893.975 MHz – Input / Output		

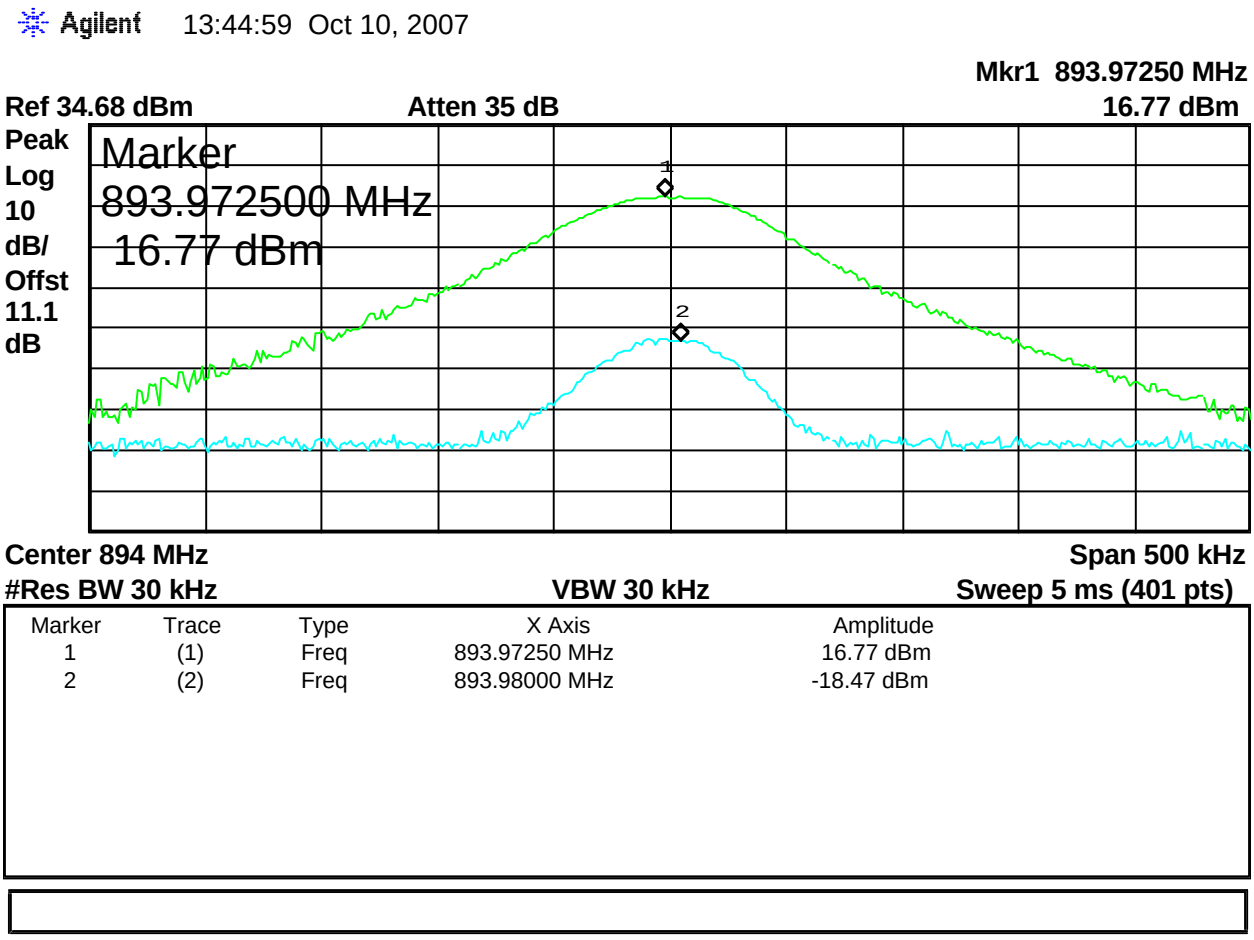
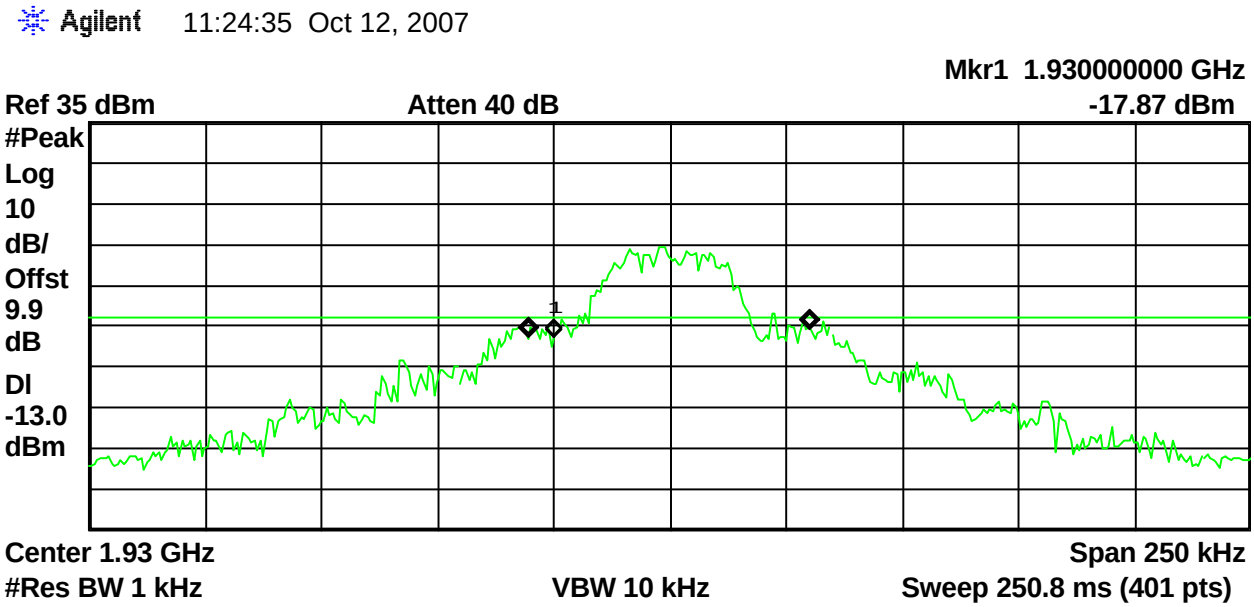


Figure 6: Occupied Bandwidth

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 1930.025 MHz		



Occupied Bandwidth
60.9910 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -186.368 Hz
x dB Bandwidth 78.553 kHz

FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 1930.025 MHz – Input / Output		

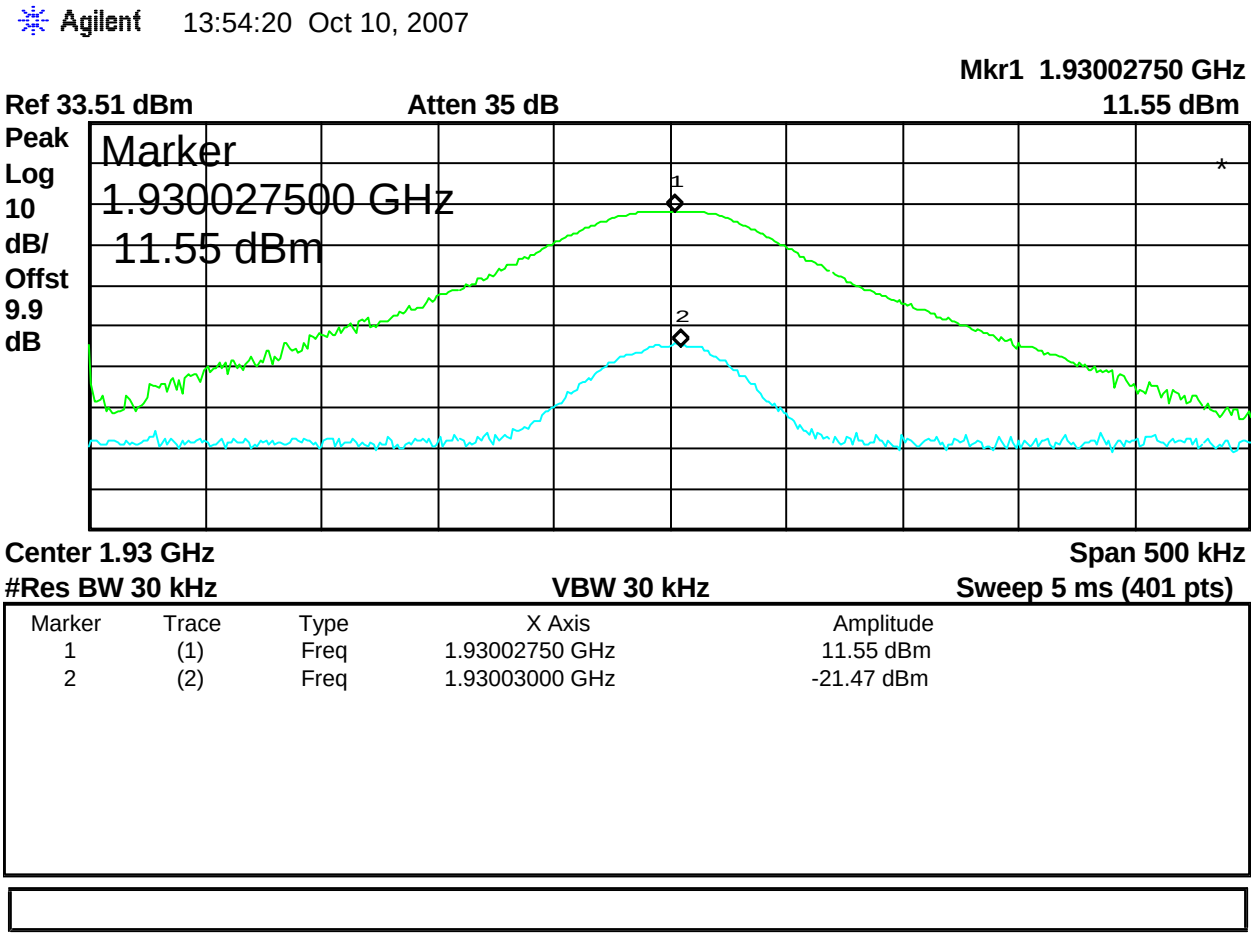


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 1960 MHz		

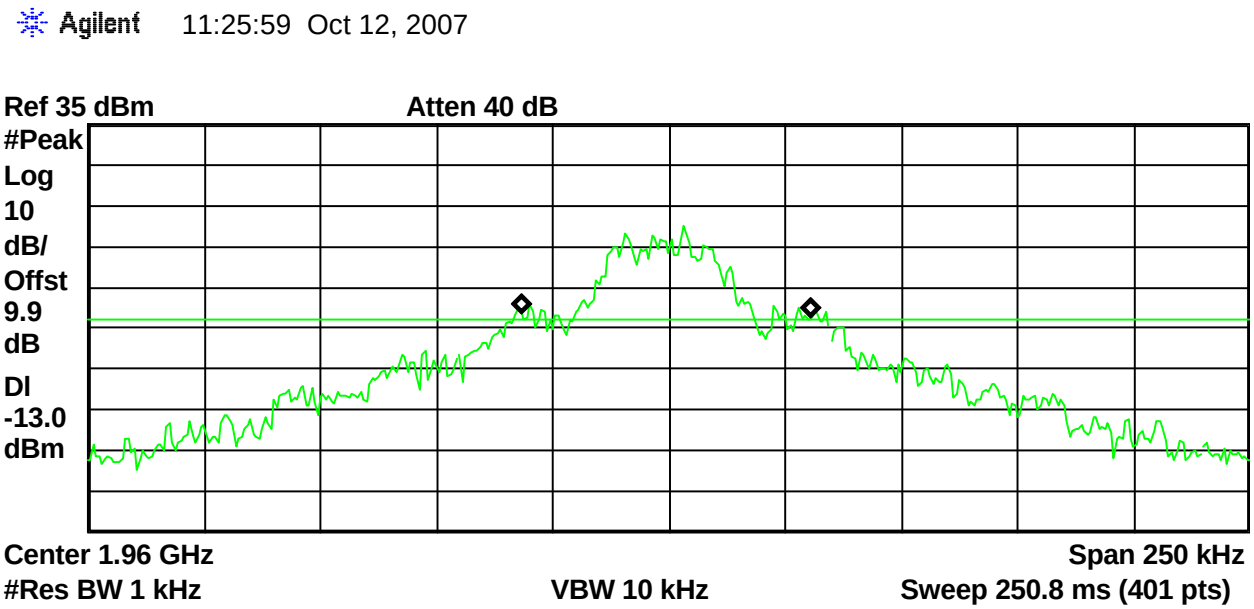


FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 1960 MHz – Input / Output		

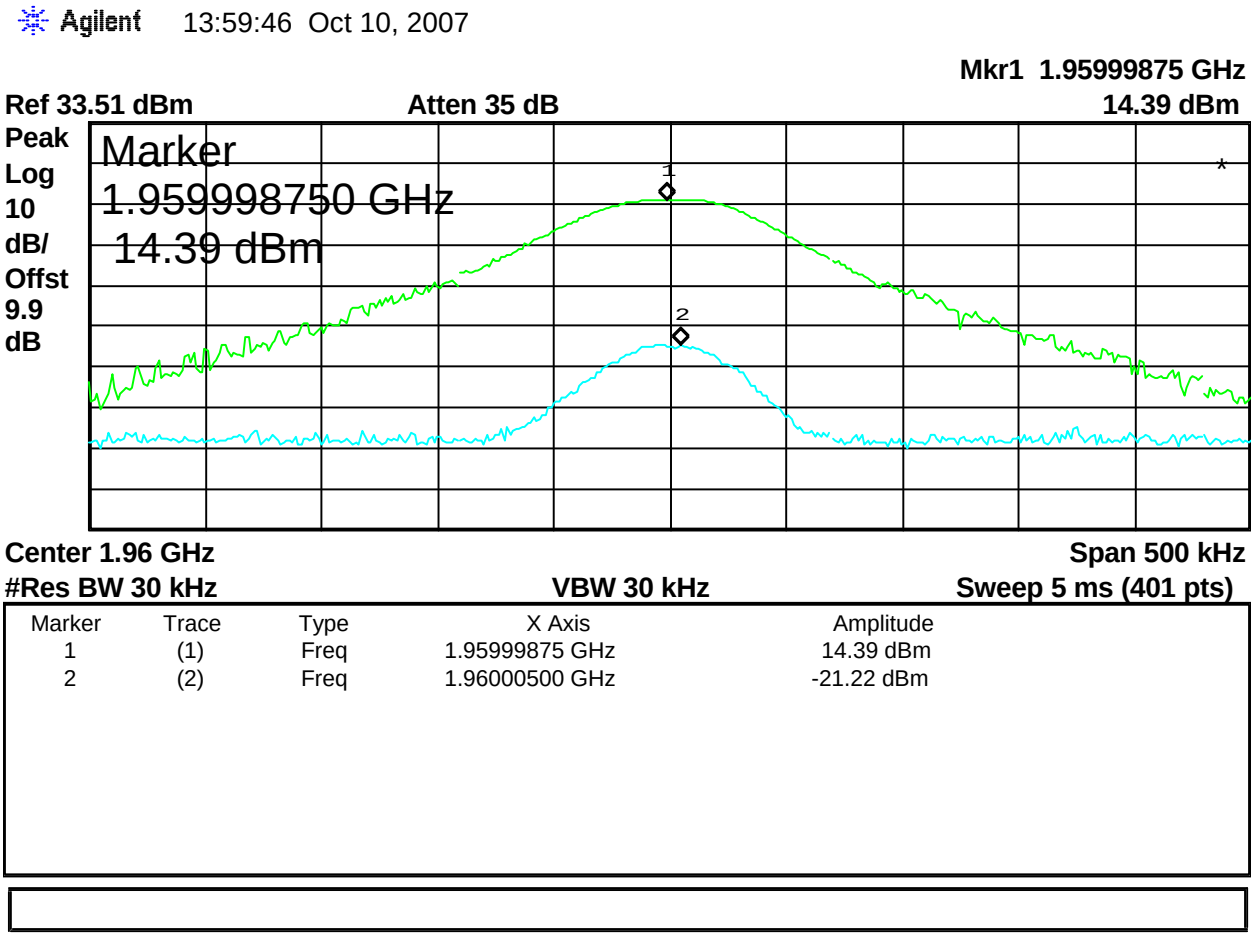
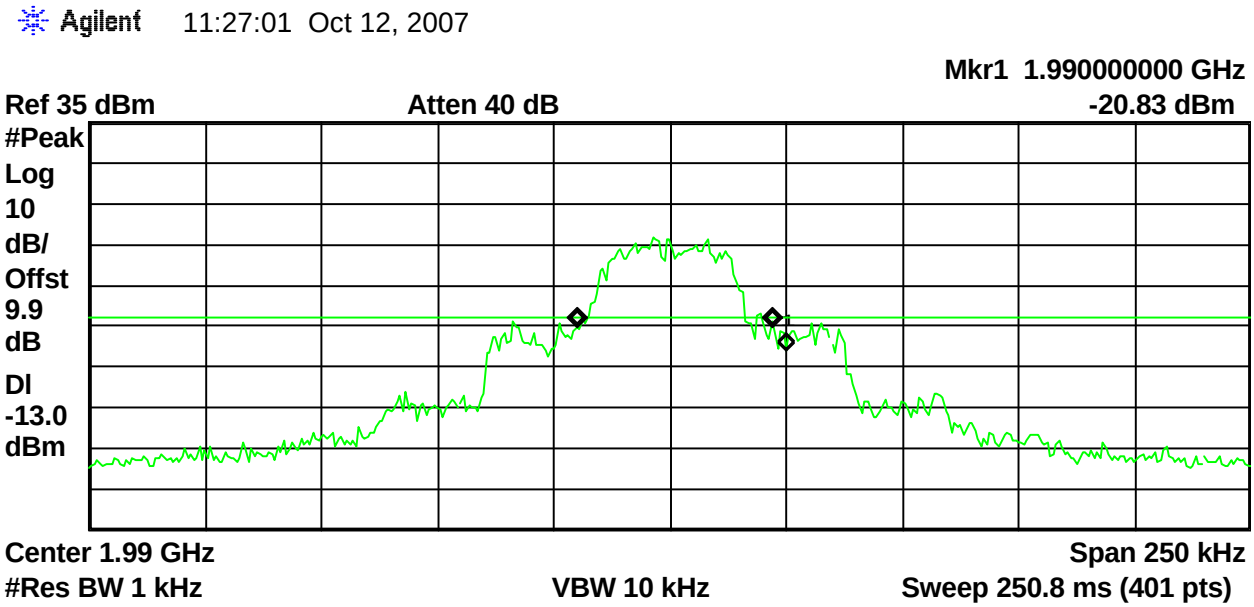


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 1989.975 MHz		



Occupied Bandwidth
41.6417 kHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 899.980 Hz
x dB Bandwidth 75.996 kHz

FIGURE 6: OCCUPIED BANDWIDTH

DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 10 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 1989.975 MHz – Input / Output		

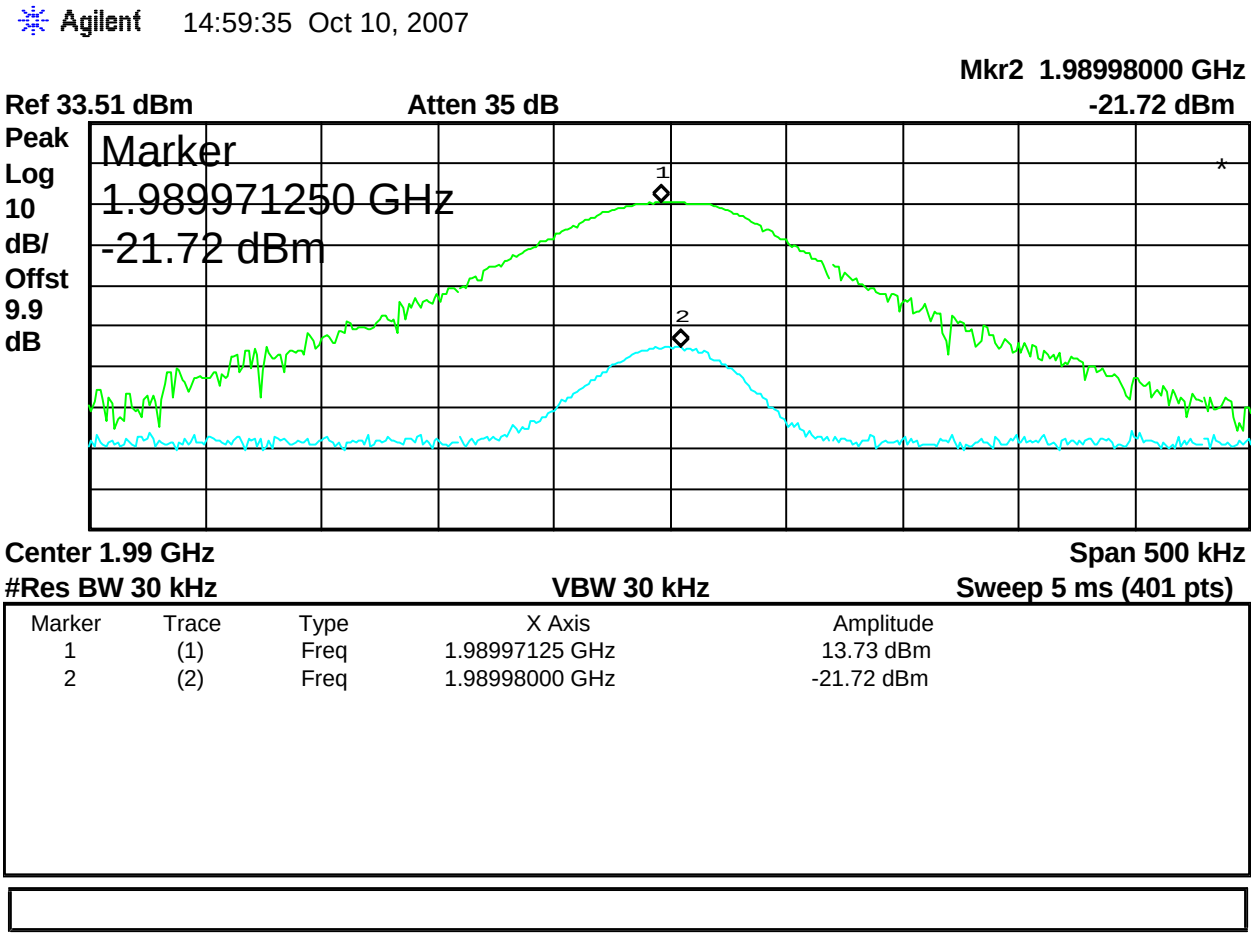


Figure 6: Occupied Bandwidth

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1931 MHz		

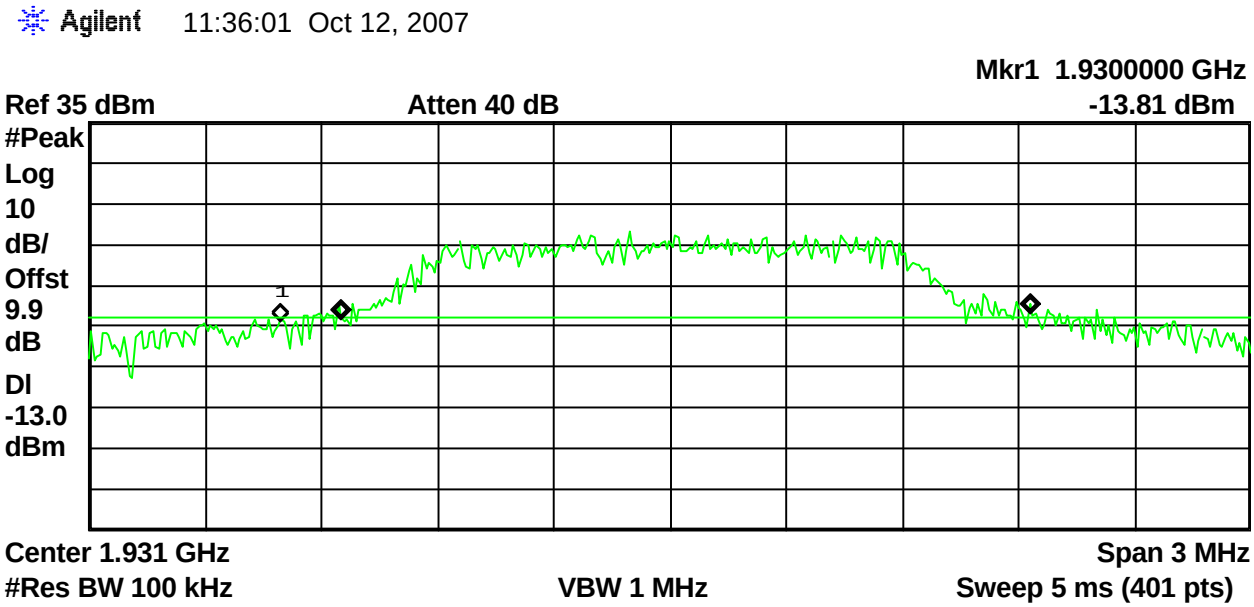


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1931 MHz – Input / Output		

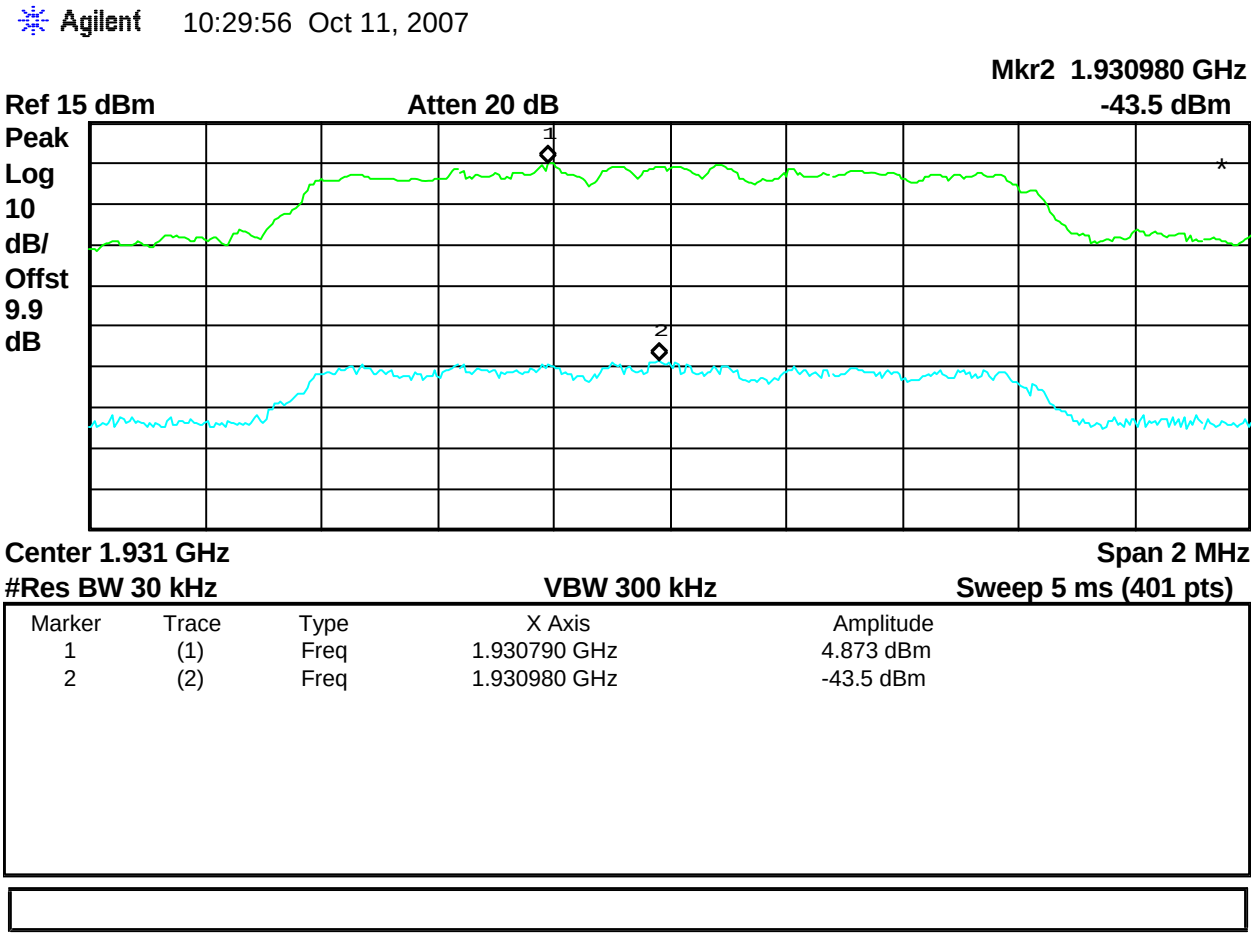


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1960 MHz		

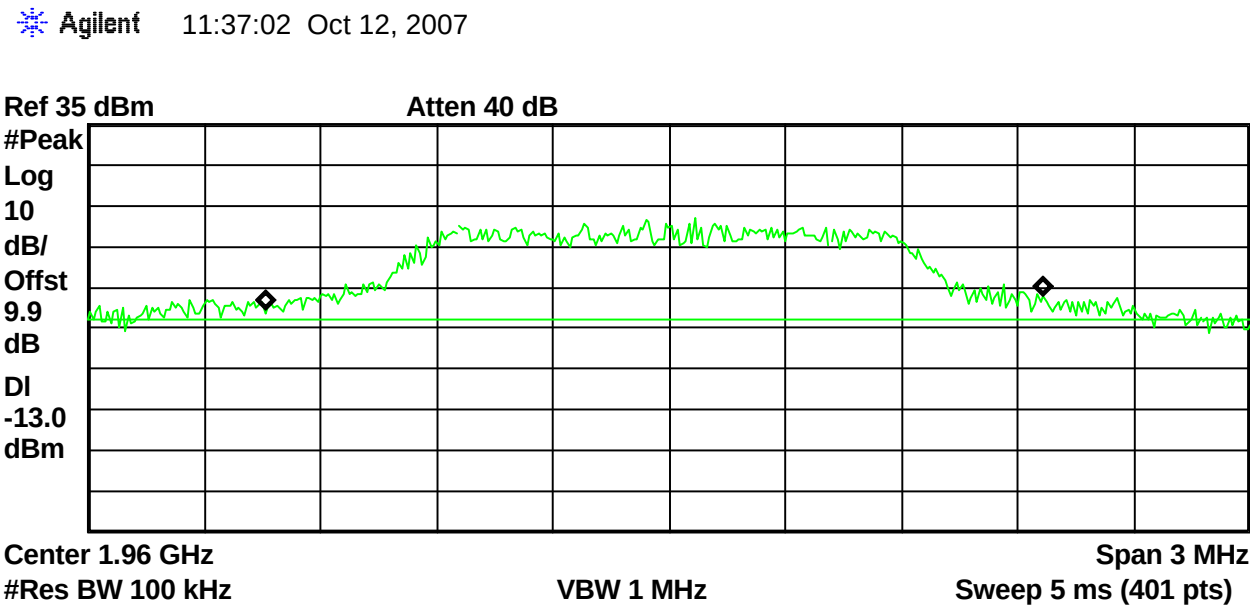


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1960 MHz – Input / Output		

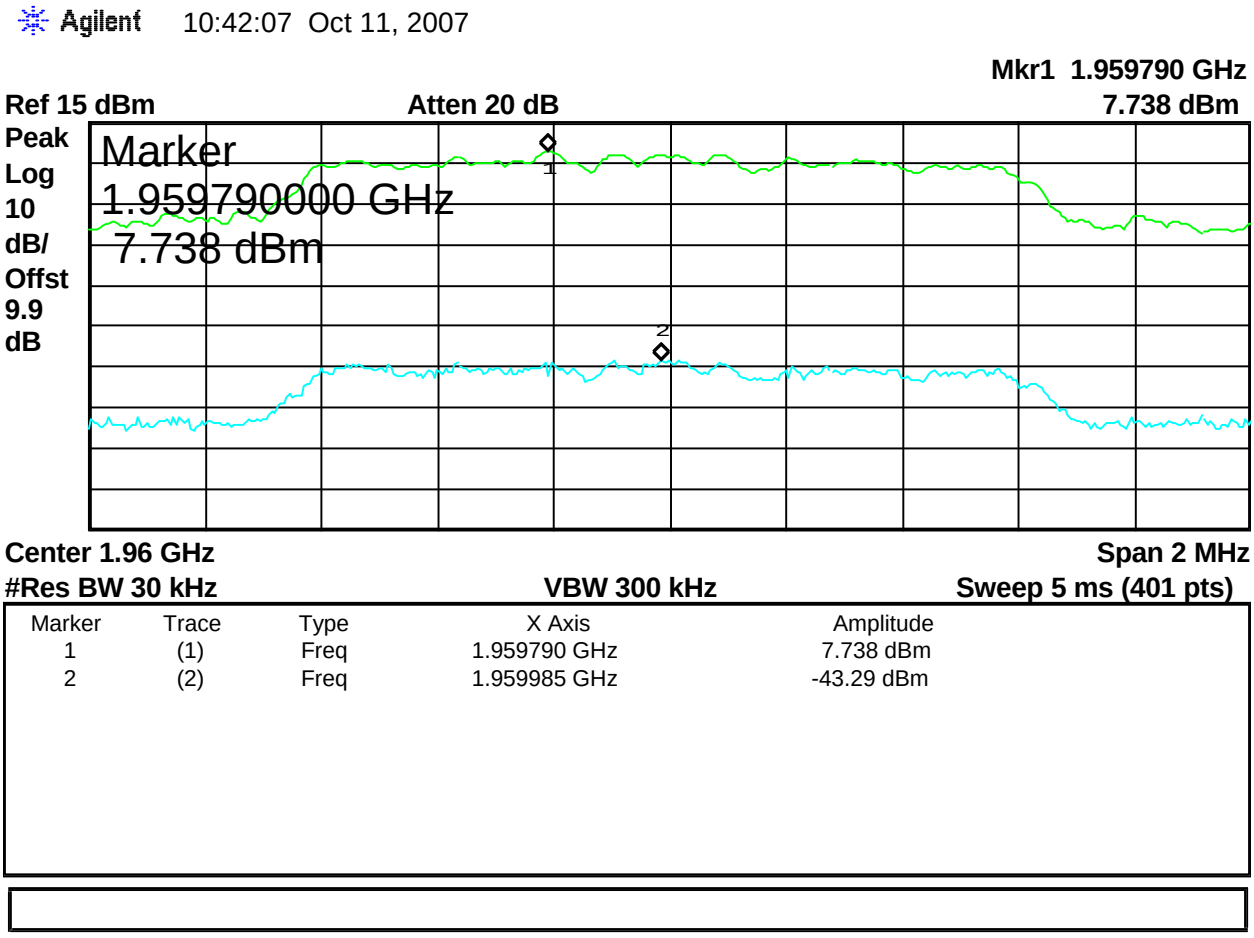
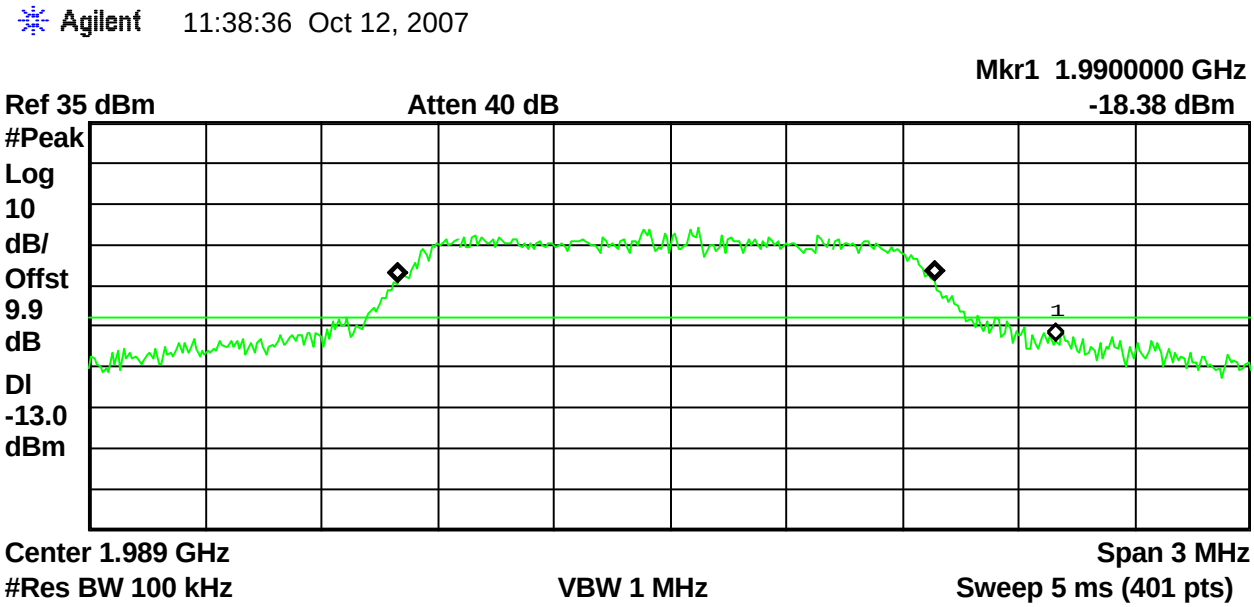


FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Occupied Bandwidth**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1989 MHz		



Occupied Bandwidth
1.3851 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -11.521 kHz
x dB Bandwidth 1.969 MHz

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Modulation Characteristics**	
DNB Job Number:	86010	Date: 11 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1989 MHz – Input / Output		

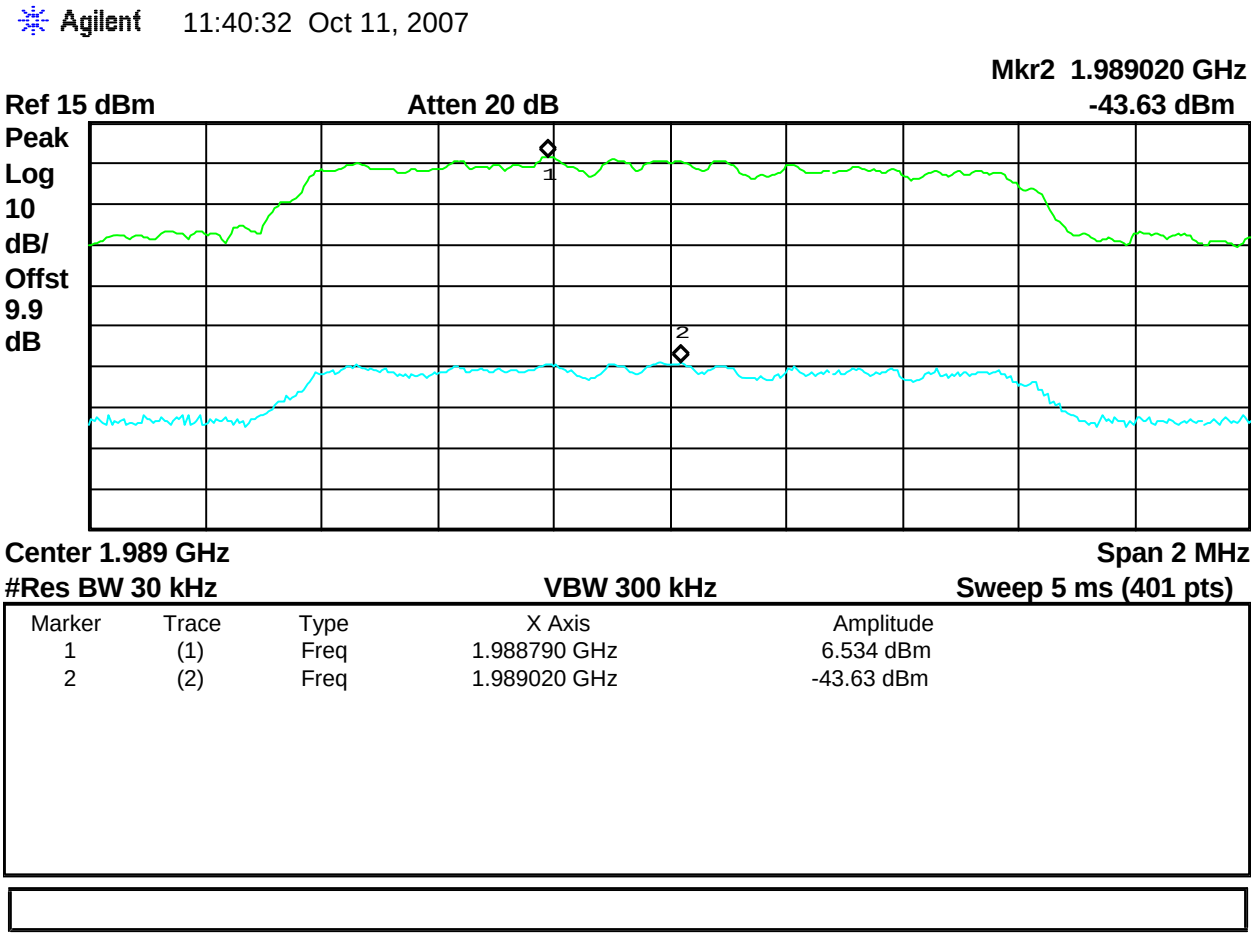
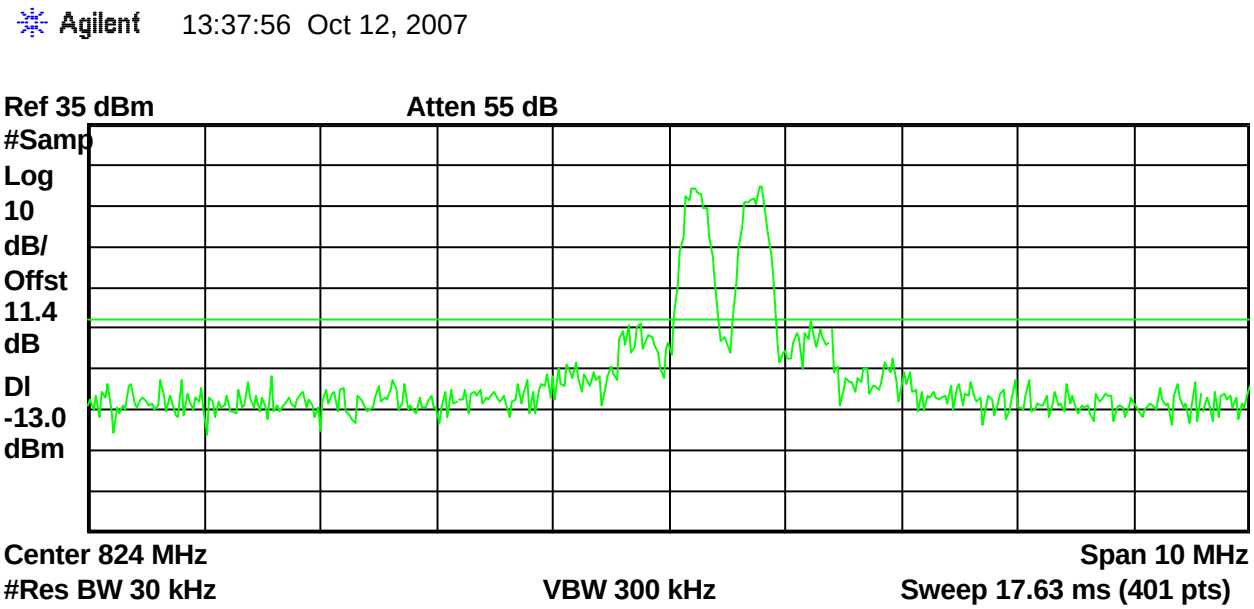


FIGURE 6: OCCUPIED BANDWIDTH

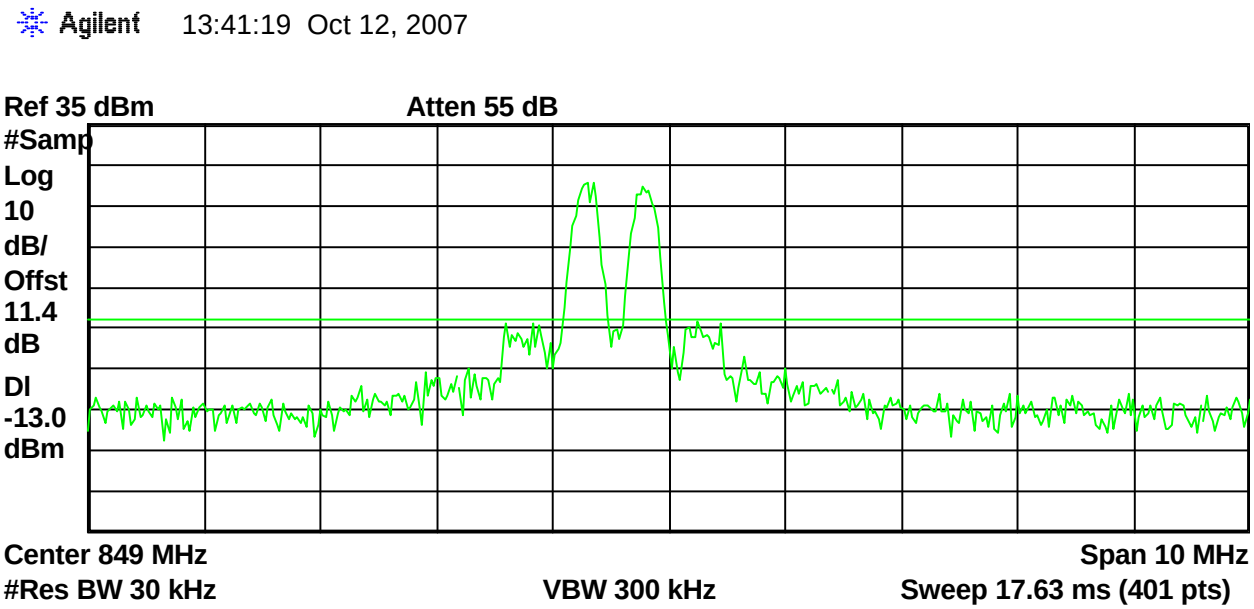
	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink		
	Signal Source - GSM – Input – Low Band – Low Edge		



	Freq	dBm	dBc	Intercept
Base Lower	824.225 MHz	19.46	-0.49	
Base Upper	824.800 MHz	19.95	0.00	
Worst Case	825.225 MHz	-13.43	-33.37	36.39 dBm
3rd Order Lower	823.750 MHz	-14.01	-33.96	36.44 dBm
3rd Order Upper	825.225 MHz	-13.43	-33.37	36.39 dBm

FIGURE 6: OCCUPIED BANDWIDTH

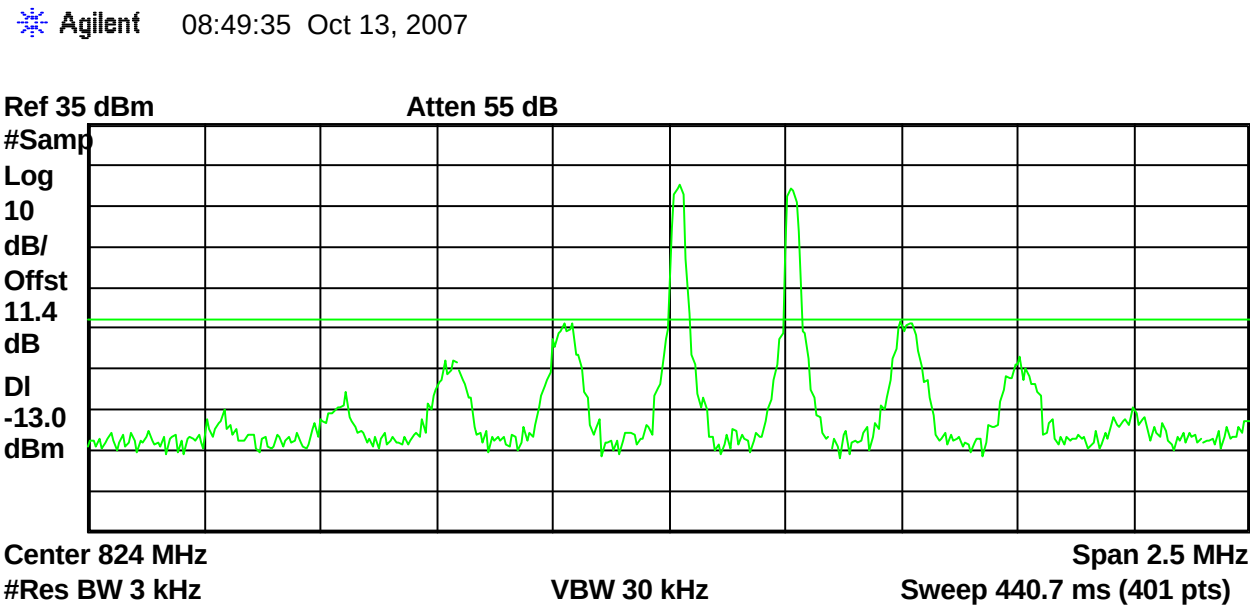
	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink		
	Signal Source - GSM – Input – Low Band – Upper edge		



	Freq	dBm	dBc	Intercept
Base Lower	848.300 MHz	20.64	0.00	
Base Upper	848.775 MHz	19.68	-0.95	
Worst Case	849.250 MHz	-13.23	-33.87	36.62 dBm
3rd Order Lower	847.825 MHz	-13.98	-34.62	37.47 dBm
3rd Order Upper	849.250 MHz	-13.23	-33.87	36.62 dBm

FIGURE 6: OCCUPIED BANDWIDTH

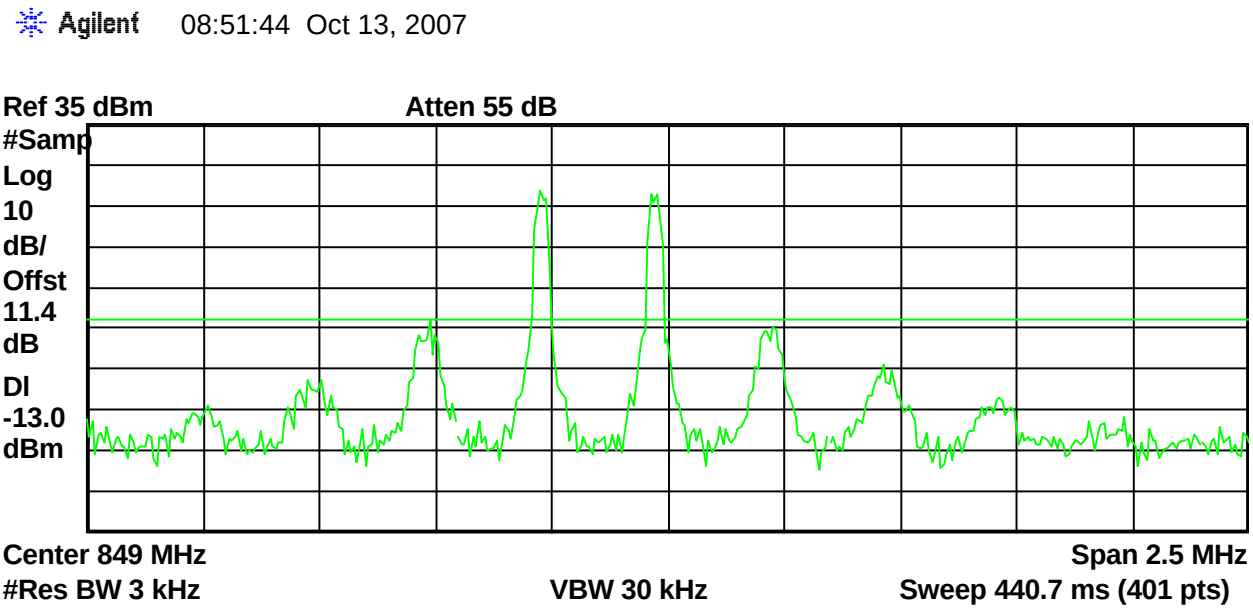
	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink		
	Signal Source - TDMA – Input – Low Band – Low Edge		



	Freq	dBm	dBc	Intercept
Base Lower	824.025 MHz	20.00	0.00	
Base Upper	824.263 MHz	19.27	-0.73	
Worst Case	824.500 MHz	-13.20	-33.21	35.88 dBm
3rd Order Lower	823.775 MHz	-13.60	-33.60	36.44 dBm
3rd Order Upper	824.500 MHz	-13.20	-33.21	35.88 dBm

FIGURE 6: OCCUPIED BANDWIDTH

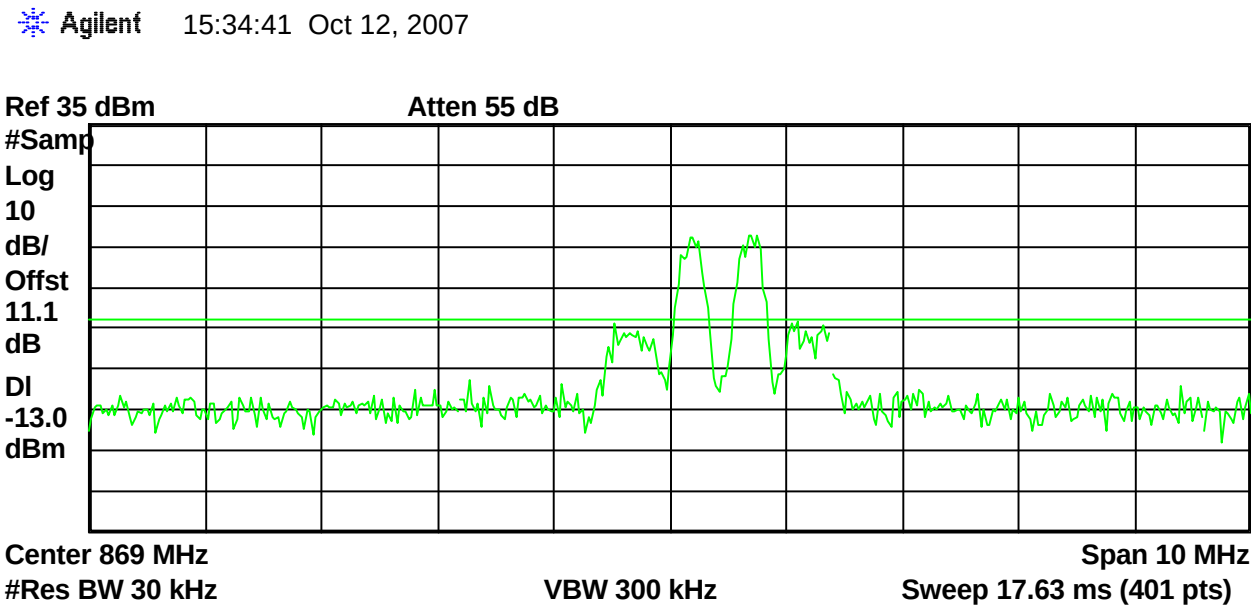
DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink		
	Signal Source - TDMA – Input – Low Band – Upper Edge		



	Freq	dBm	dBc	Intercept
Base Lower	848.725 MHz	18.90	0.00	
Base Upper	848.975 MHz	18.02	-0.89	
Worst Case	848.488 MHz	-13.01	-31.92	34.42 dBm
3rd Order Lower	848.488 MHz	-13.01	-31.92	34.42 dBm
3rd Order Upper	849.225 MHz	-14.84	-33.74	34.89 dBm

FIGURE 6: OCCUPIED BANDWIDTH

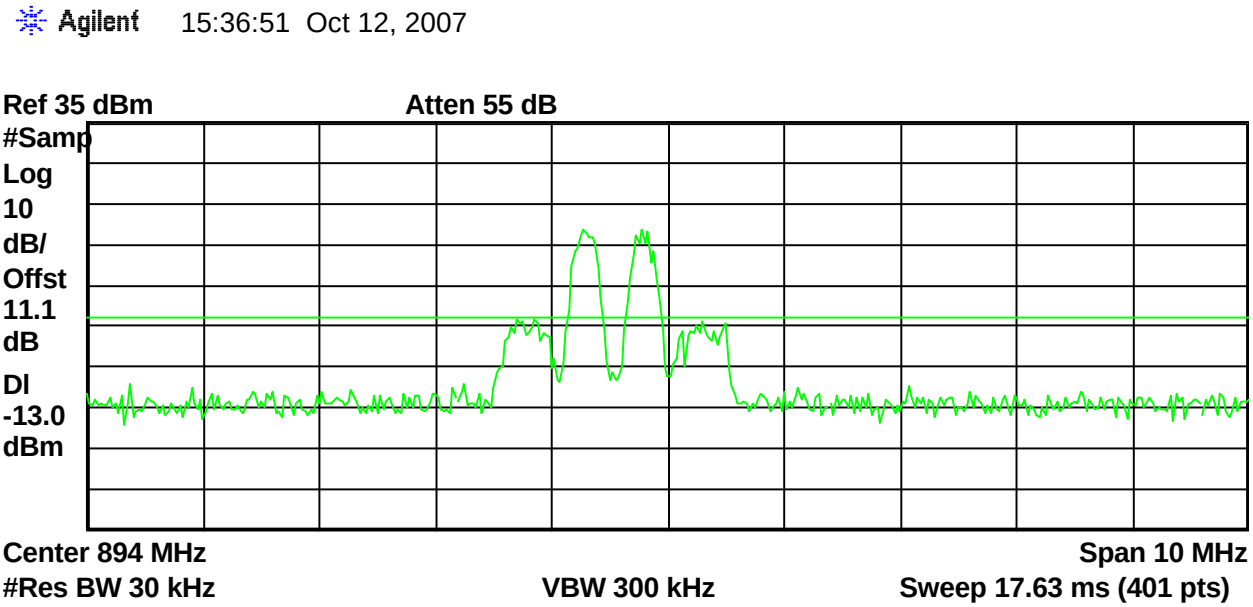
	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink		
	Signal Source - GSM – Input – Low Band – Low Edge		



	Freq	dBm	dBc	Intercept
Base Lower	869.200 MHz	7.30	-0.59	
Base Upper	869.675 MHz	7.90	0.00	
Worst Case	870.100 MHz	-13.41	-21.31	18.25 dBm
3rd Order Lower	868.525 MHz	-14.01	-21.90	18.25 dBm
3rd Order Upper	870.100 MHz	-13.41	-21.31	18.25 dBm

FIGURE 6: OCCUPIED BANDWIDTH

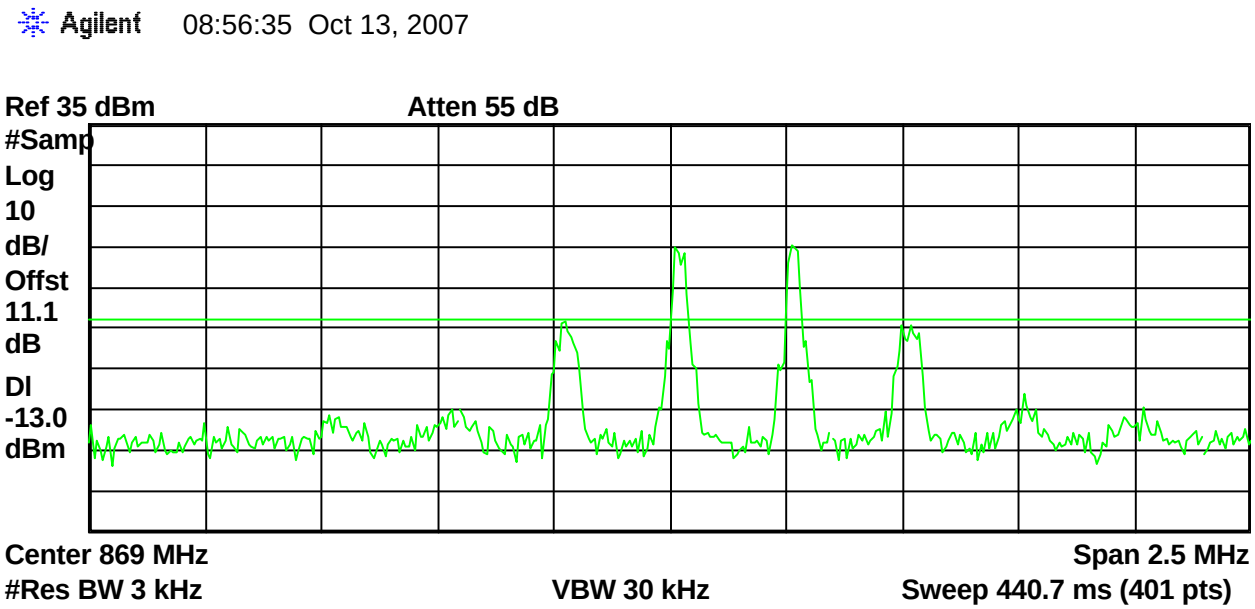
	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink		
	Signal Source - GSM – Input – Low Band – Upper Edge		



	Freq	dBm	dBc	Intercept
Base Lower	893.275 MHz	8.78	-0.07	
Base Upper	893.775 MHz	8.84	0.00	
Worst Case	892.850 MHz	-13.12	-21.96	19.76 dBm
3rd Order Lower	892.850 MHz	-13.12	-21.96	19.76 dBm
3rd Order Upper	894.300 MHz	-13.76	-22.60	20.11 dBm

FIGURE 6: OCCUPIED BANDWIDTH

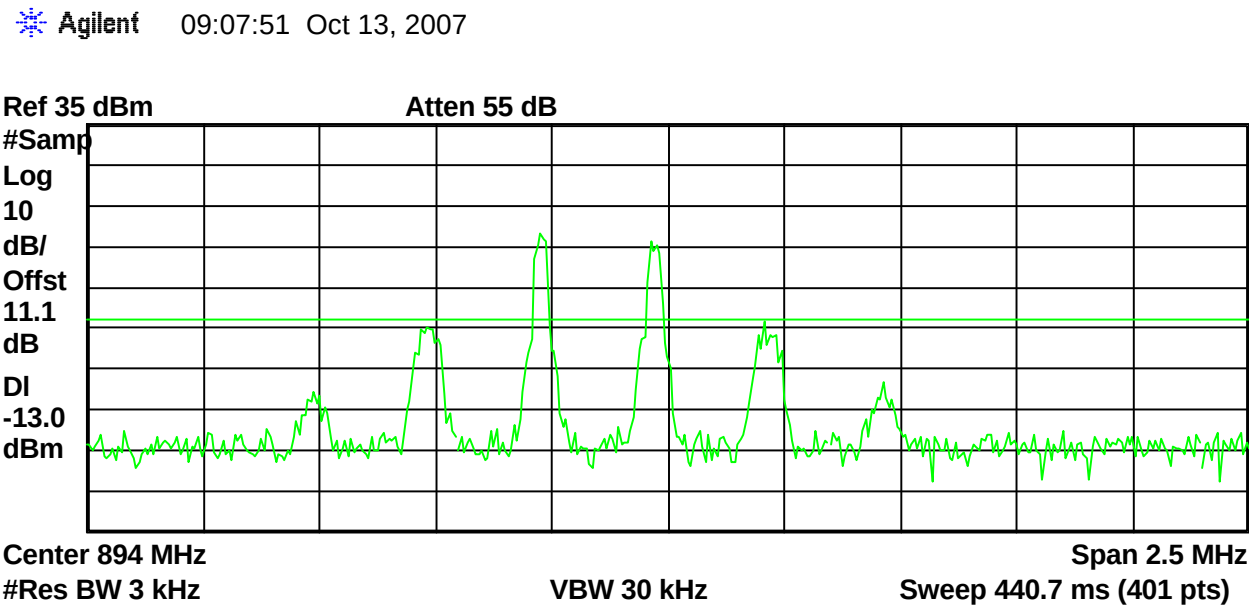
DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink		
	Signal Source - TDMA – Input – Low Band – Lower Edge		



	Freq	dBm	dBc	Intercept
Base Lower	869.012 MHz	4.65	-0.80	
Base Upper	869.263 MHz	5.45	0.00	
Worst Case	868.775 MHz	-13.09	-18.53	13.92 dBm
3rd Order Lower	868.775 MHz	-13.09	-18.53	13.92 dBm
3rd Order Upper	869.519 MHz	-14.30	-19.75	14.92 dBm

FIGURE 6: OCCUPIED BANDWIDTH

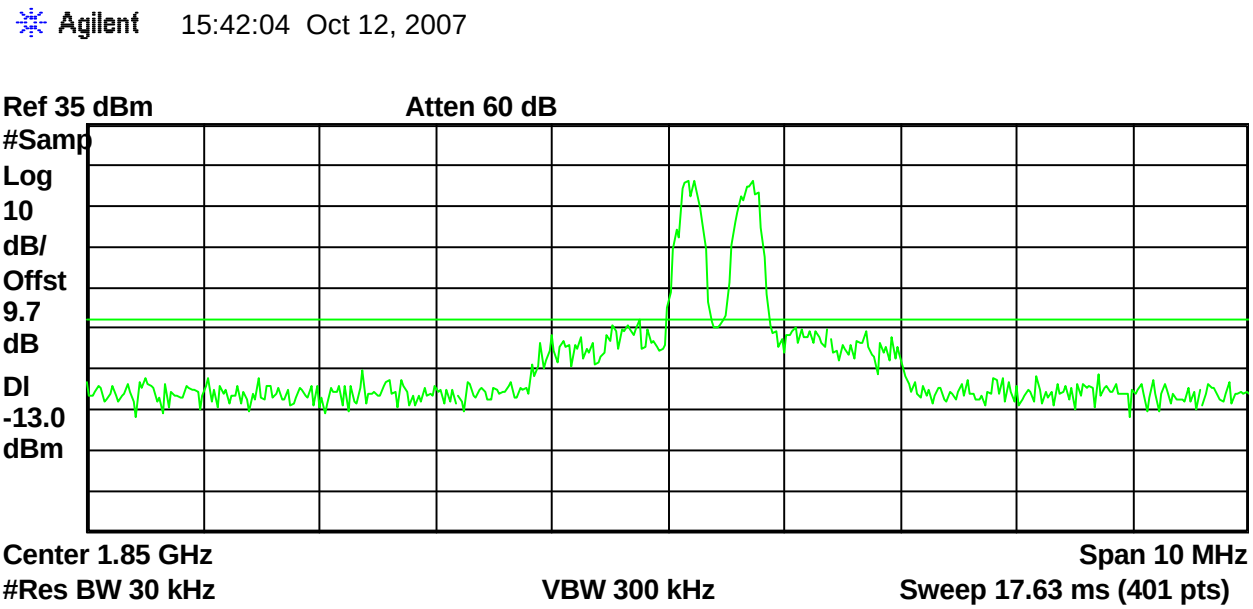
	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink		
	Signal Source - TDMA – Input – Low Band – Upper Edge		



	Freq	dBm	dBc	Intercept
Base Lower	893.725 MHz	8.43	0.00	
Base Upper	893.962 MHz	6.45	-1.98	
Worst Case	894.206 MHz	-13.47	-21.90	17.40 dBm
3rd Order Lower	893.481 MHz	-14.94	-23.37	19.12 dBm
3rd Order Upper	894.206 MHz	-13.47	-21.90	17.40 dBm

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink		
	Signal Source - GSM – Input – High Band – Lower Edge		



	Freq	dBm	dBc	Intercept
Base Lower	1.85023 GHz	21.30	0.00	
Base Upper	1.85072 GHz	20.96	-0.34	
Worst Case	1.84975 GHz	-12.60	-33.90	38.08 dBm
3rd Order Lower	1.84975 GHz	-12.60	-33.90	38.08 dBm
3rd Order Upper	1.85110 GHz	-14.66	-35.96	38.94 dBm

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink		
	Signal Source - GSM – Input – High Band – Upper Edge		

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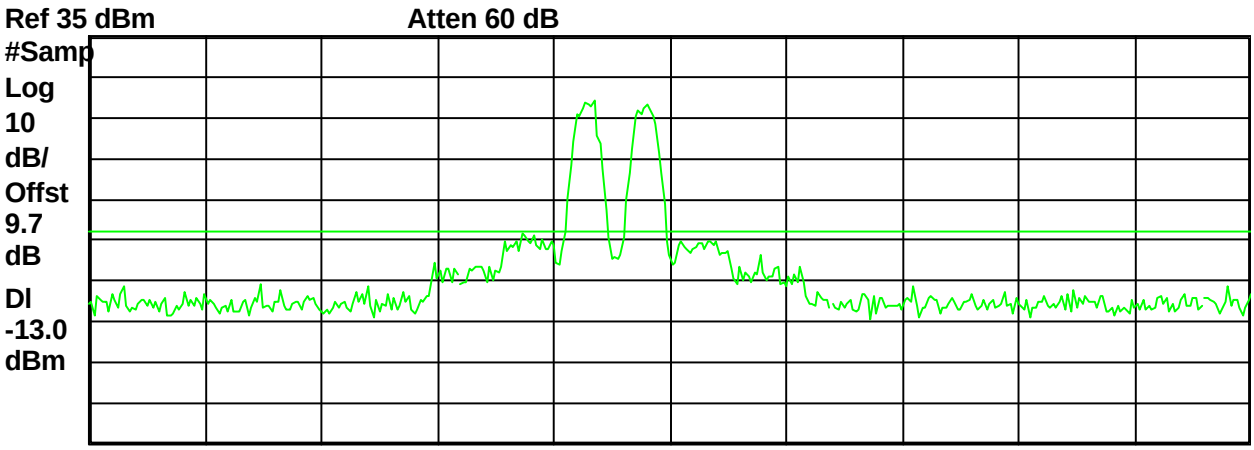
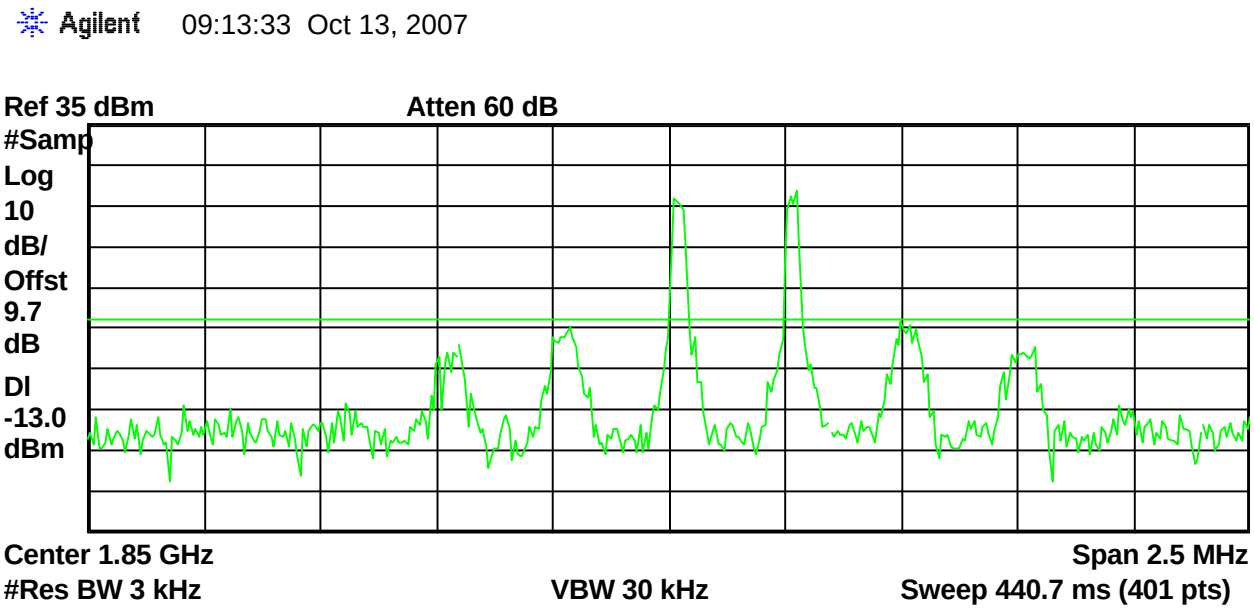


	Freq	dBm	dBc	Intercept
Base Lower	1.90935 GHz	19.02	0.00	
Base Upper	1.90980 GHz	18.49	-0.52	
Worst Case	1.90872 GHz	-13.39	-32.41	34.96 dBm
3rd Order Lower	1.90872 GHz	-13.39	-32.41	34.96 dBm
3rd Order Upper	1.91040 GHz	-15.04	-34.06	35.52 dBm

FIGURE 6: OCCUPIED BANDWIDTH

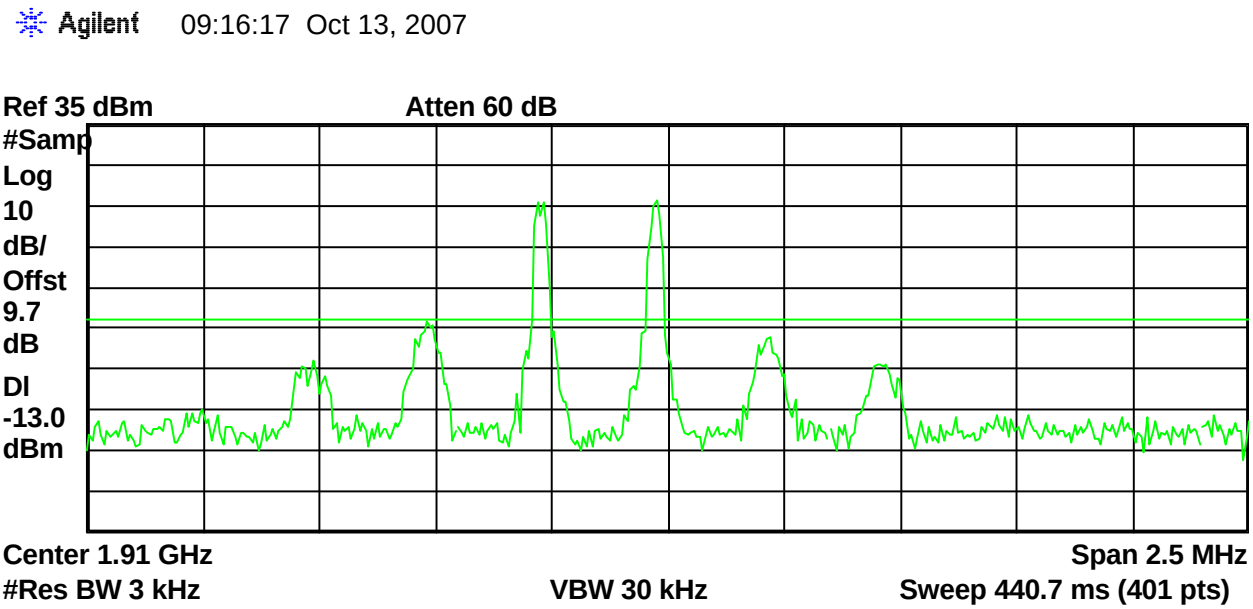
DNB	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink		
	Signal Source - TDMA – Input – High Band – Lower Edge		



	Freq	dBm	dBc	Intercept
Base Lower	1.85001 GHz	16.86	-2.06	
Base Upper	1.85028 GHz	18.93	0.00	
Worst Case	1.84979 GHz	-14.72	-33.65	33.69 dBm
3rd Order Lower	1.84979 GHz	-14.72	-33.65	33.69 dBm
3rd Order Upper	1.85050 GHz	-13.45	-32.38	34.08 dBm

FIGURE 6: OCCUPIED BANDWIDTH

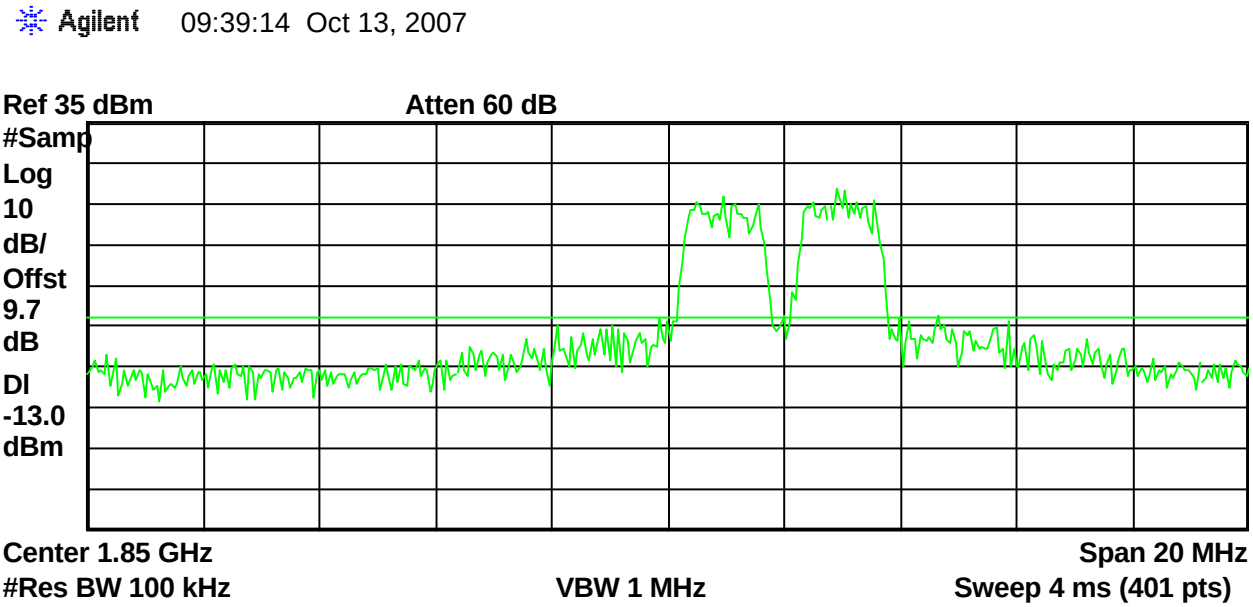
	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink		
	Signal Source - TDMA – Input – High Band – Upper Edge		



	Freq	dBm	dBc	Intercept
Base Lower	1.90972 GHz	16.10	-0.02	
Base Upper	1.90998 GHz	16.12	0.00	
Worst Case	1.90948 GHz	-13.15	-29.27	30.74 dBm
3rd Order Lower	1.90948 GHz	-13.15	-29.27	30.74 dBm
3rd Order Upper	1.91022 GHz	-17.28	-33.41	32.82 dBm

FIGURE 6: OCCUPIED BANDWIDTH

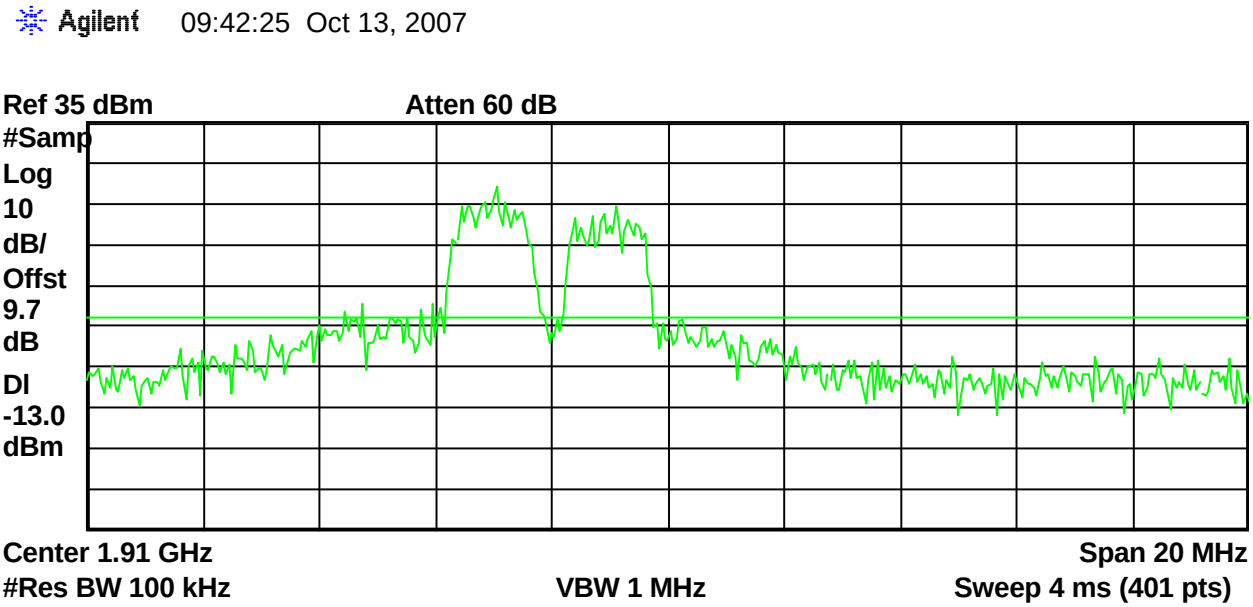
	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink		
	Signal Source - CDMA – Input – High Band – Lower Edge		



	Freq	dBm	dBc	Intercept
Base Lower	1.85095 GHz	16.87	-1.86	
Base Upper	1.85290 GHz	18.72	0.00	
Worst Case	1.85465 GHz	-12.50	-31.23	33.41 dBm
3rd Order Lower	1.84905 GHz	-14.57	-33.30	33.52 dBm
3rd Order Upper	1.85465 GHz	-12.50	-31.23	33.41 dBm

FIGURE 6: OCCUPIED BANDWIDTH

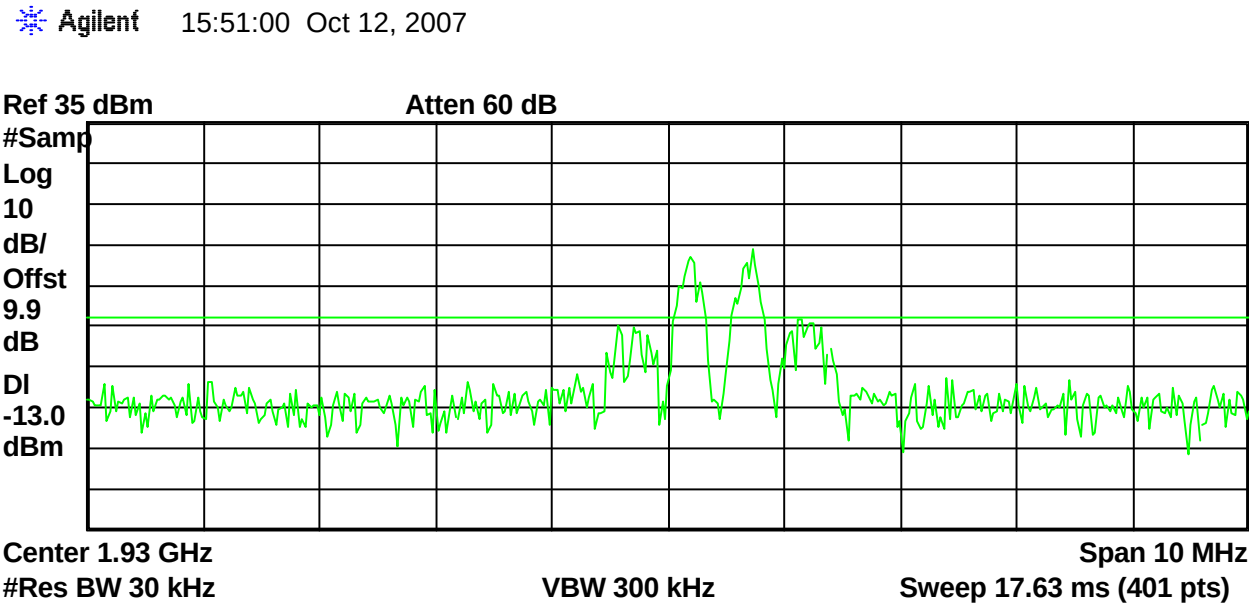
	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink		
	Signal Source - CDMA – Input – High Band – Upper Edge		



	Freq	dBm	dBc	Intercept
Base Lower	1.90705 GHz	19.07	0.00	
Base Upper	1.90910 GHz	14.26	-4.81	
Worst Case	1.90475 GHz	-9.33	-28.40	30.86 dBm
3rd Order Lower	1.90475 GHz	-9.33	-28.40	30.86 dBm
3rd Order Upper	1.91125 GHz	-17.13	-36.20	32.36 dBm

FIGURE 6: OCCUPIED BANDWIDTH

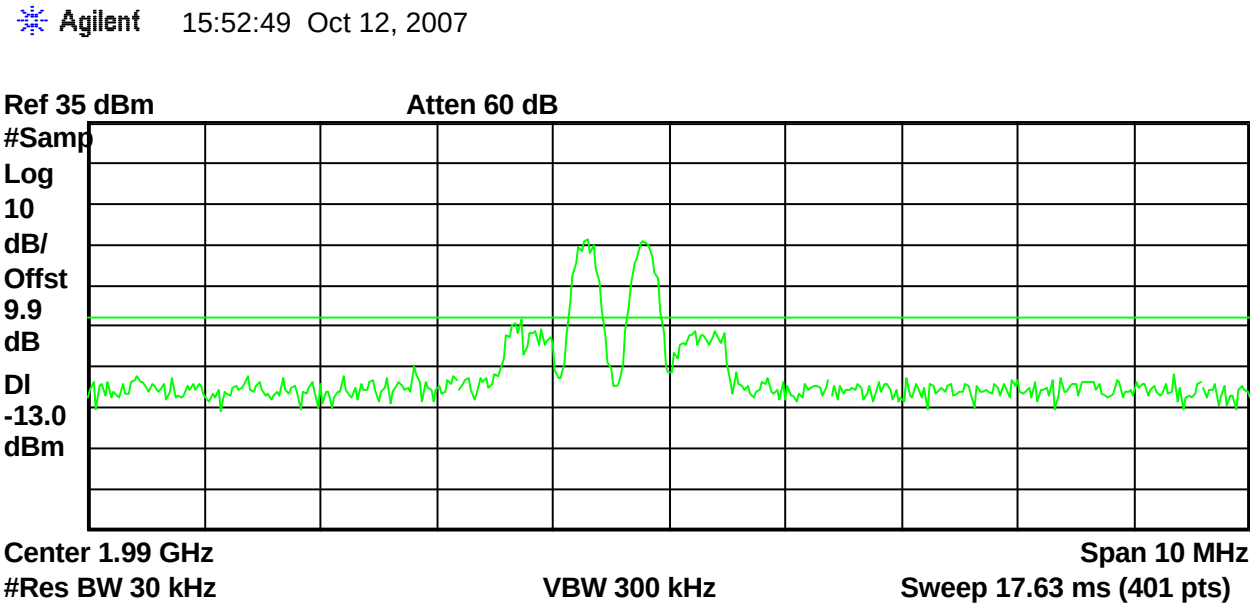
	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink		
	Signal Source - GSM – Input – High Band – Lower Edge		



	Freq	dBm	dBc	Intercept
Base Lower	1.93020 GHz	1.79	-2.17	
Base Upper	1.93073 GHz	3.97	0.00	
Worst Case	1.92958 GHz	-14.65	-18.62	11.10 dBm
3rd Order Lower	1.92958 GHz	-14.65	-18.62	11.10 dBm
3rd Order Upper	1.93115 GHz	-13.31	-17.27	11.52 dBm

FIGURE 6: OCCUPIED BANDWIDTH

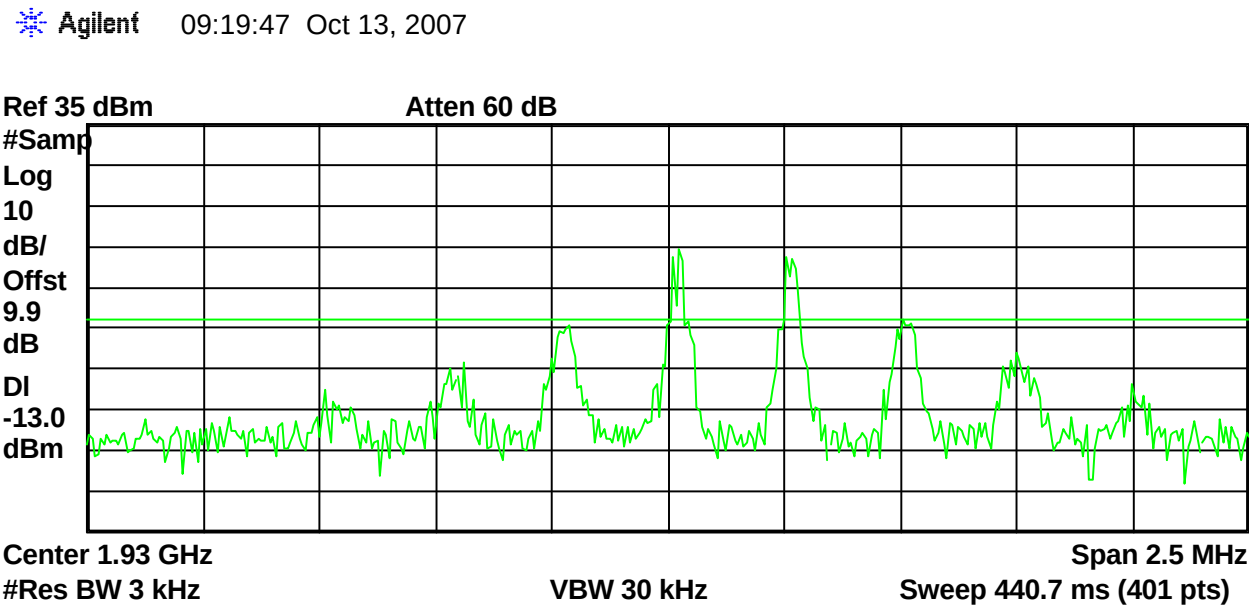
	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 12 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink		
	Signal Source - GSM – Input – High Band – Upper Edge		



	Freq	dBm	dBc	Intercept
Base Lower	1.98930 GHz	6.11	0.00	
Base Upper	1.98977 GHz	5.91	-0.20	
Worst Case	1.98873 GHz	-13.08	-19.19	15.60 dBm
3rd Order Lower	1.98873 GHz	-13.08	-19.19	15.60 dBm
3rd Order Upper	1.99040 GHz	-15.95	-22.06	16.94 dBm

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink		
	Signal Source - TDMA – Input – High Band – Lower Edge		



	Freq	dBm	dBc	Intercept
Base Lower	1.93002 GHz	4.29	0.00	
Base Upper	1.93026 GHz	2.45	-1.84	
Worst Case	1.93051 GHz	-12.83	-17.12	11.01 dBm
3rd Order Lower	1.92979 GHz	-14.14	-18.43	12.59 dBm
3rd Order Upper	1.93051 GHz	-12.83	-17.12	11.01 dBm

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
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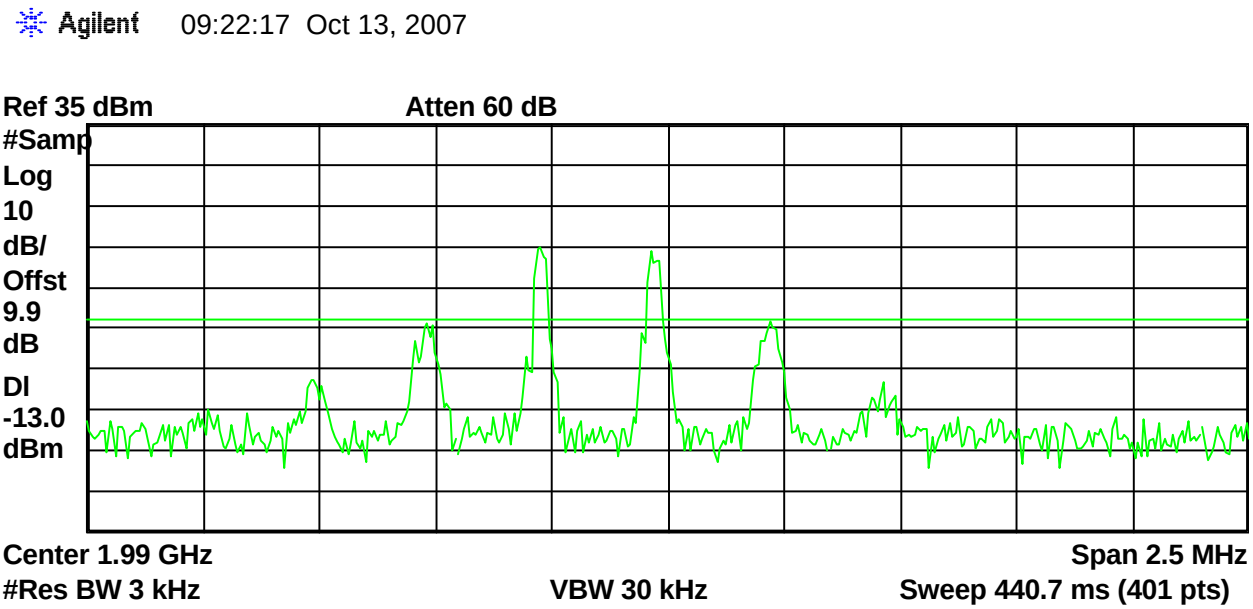
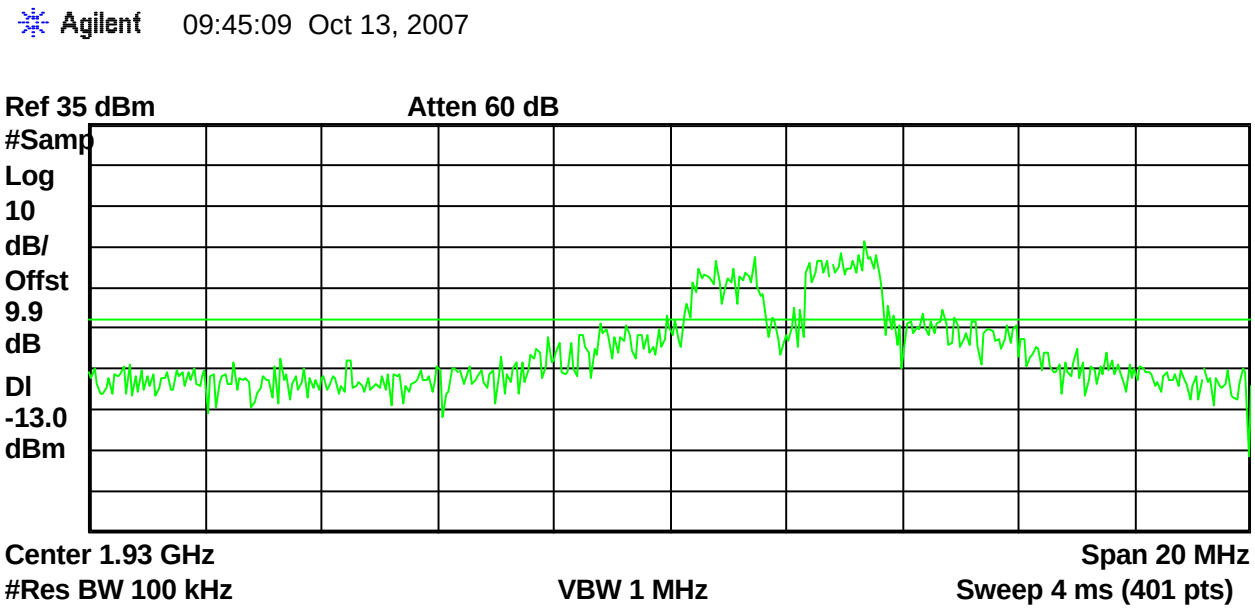
Description:	RF amplifier		
	Downlink		
	Signal Source - TDMA – Input – High Band – Upper Edge		



	Freq	dBm	dBc	Intercept
Base Lower	1.98972 GHz	4.71	0.00	
Base Upper	1.98996 GHz	4.11	-0.60	
Worst Case	1.99022 GHz	-13.35	-18.06	13.14 dBm
3rd Order Lower	1.98948 GHz	-13.72	-18.43	13.62 dBm
3rd Order Upper	1.99022 GHz	-13.35	-18.06	13.14 dBm

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink		
	Signal Source - CDMA – Input – High Band – Lower Edge		



	Freq	dBm	dBc	Intercept
Base Lower	1.93145 GHz	2.41	-3.74	
Base Upper	1.93335 GHz	6.15	0.00	
Worst Case	1.92995 GHz	-11.75	-17.90	11.36 dBm
3rd Order Lower	1.92995 GHz	-11.75	-17.90	11.36 dBm
3rd Order Upper	1.93490 GHz	-12.54	-18.68	13.62 dBm

FIGURE 6: OCCUPIED BANDWIDTH

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Inter-Modulation**	
DNB Job Number:	86010	Date: 13 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
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	Downlink		
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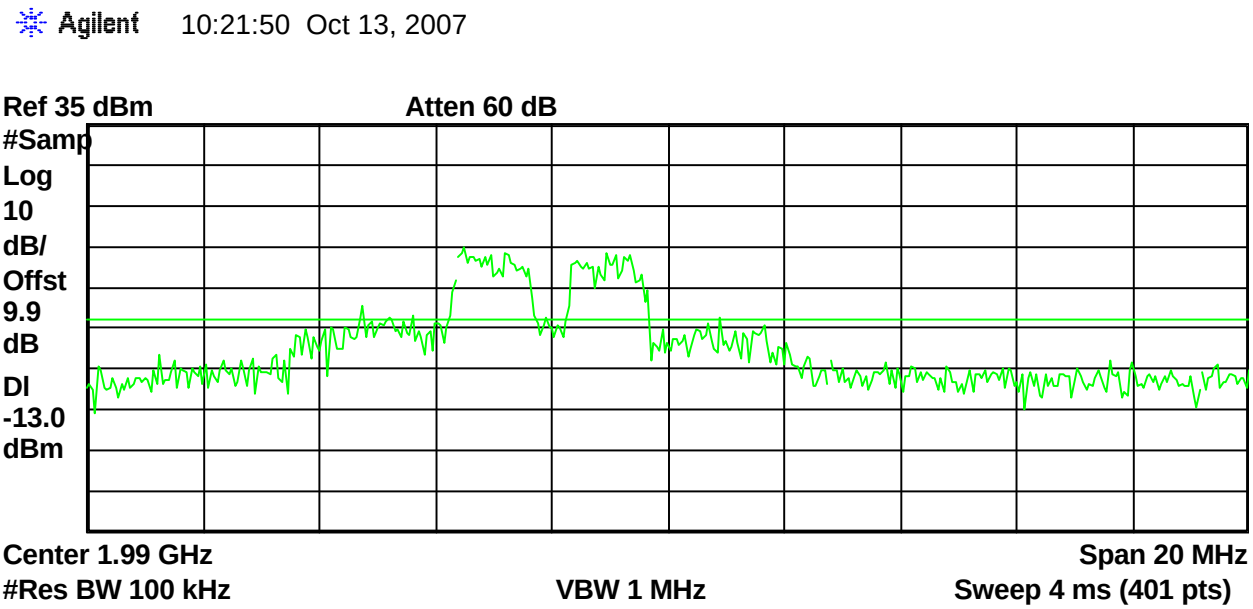


	Freq	dBm	dBc	Intercept
Base Lower	1.98650 GHz	4.82	0.00	
Base Upper	1.98895 GHz	3.34	-1.47	
Worst Case	1.99165 GHz	-14.39	-19.21	12.95 dBm
3rd Order Lower	1.98375 GHz	-15.26	-20.08	14.12 dBm
3rd Order Upper	1.99165 GHz	-14.39	-19.21	12.95 dBm

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:

-13dB= Measured Power - (43+10 log10 (Rated Power))

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

Connect the equipment as shown in FIGURE 1.

Use Industry Canada RSS-131 4.4 Spurious Emission
4.4.1 Multi-channel Enhancer

The spurious emissions of the equipment under test shall be measured using the two-tone method in Industry Canada RSS-131 section 4.3.1, with the two tones P_o1 and P_o2 set to the required levels.

Using a spectrum analyser with a resolution bandwidth set at 100 kHz, search for spurious emissions from 30 MHz to at least 5 times the highest RF passband frequency. The search may omit the band that contains the test tones and intermodulation products.

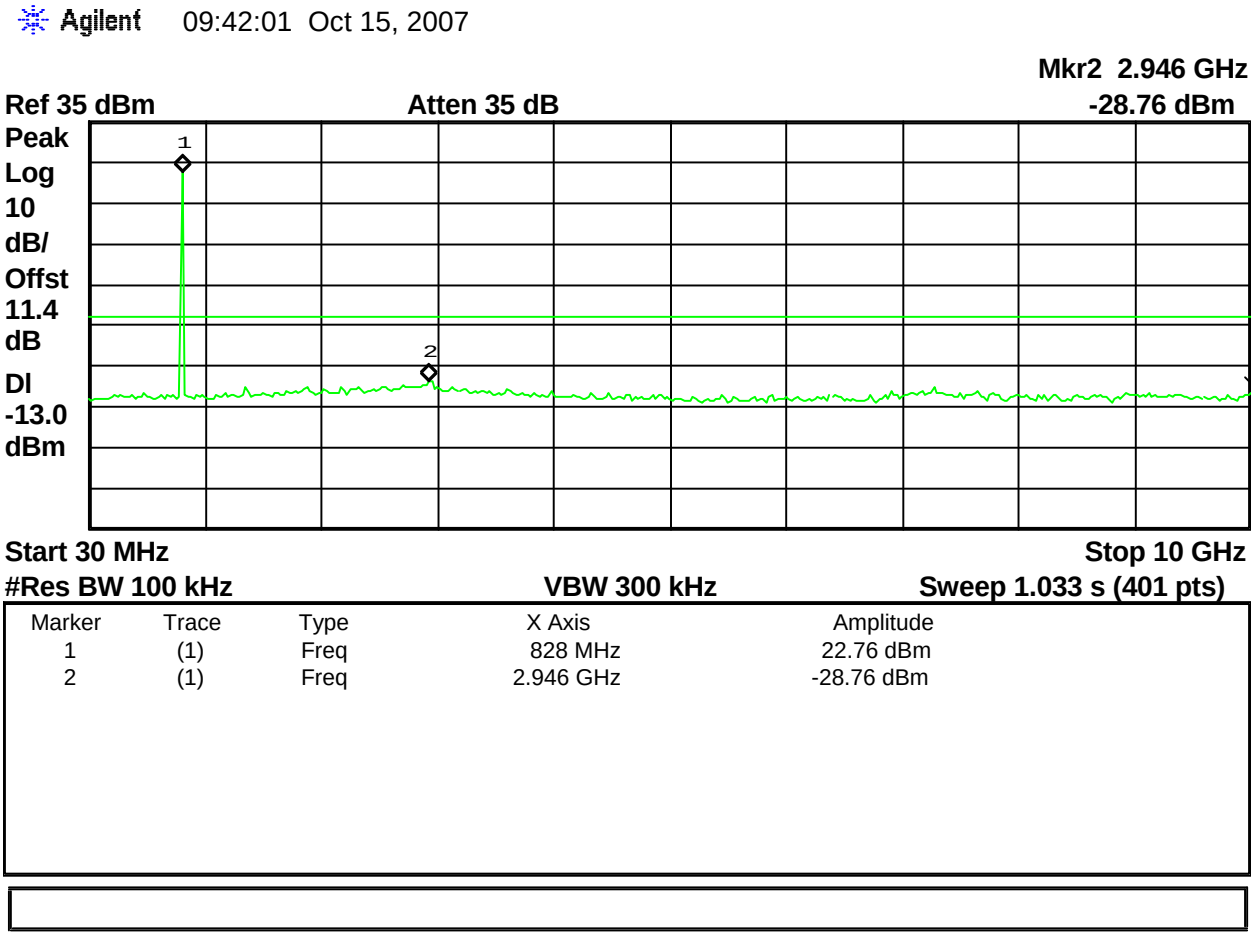
In addition to the above to satisfy FCC requirements scan the frequency spectrum from the lowest radio frequency generated in the equipment through the 10^{th} harmonic of the carrier frequency.

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.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Antenna Conducted Spurious**	
DNB Job Number:	86010	Date: 15 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 824.200 MHz		



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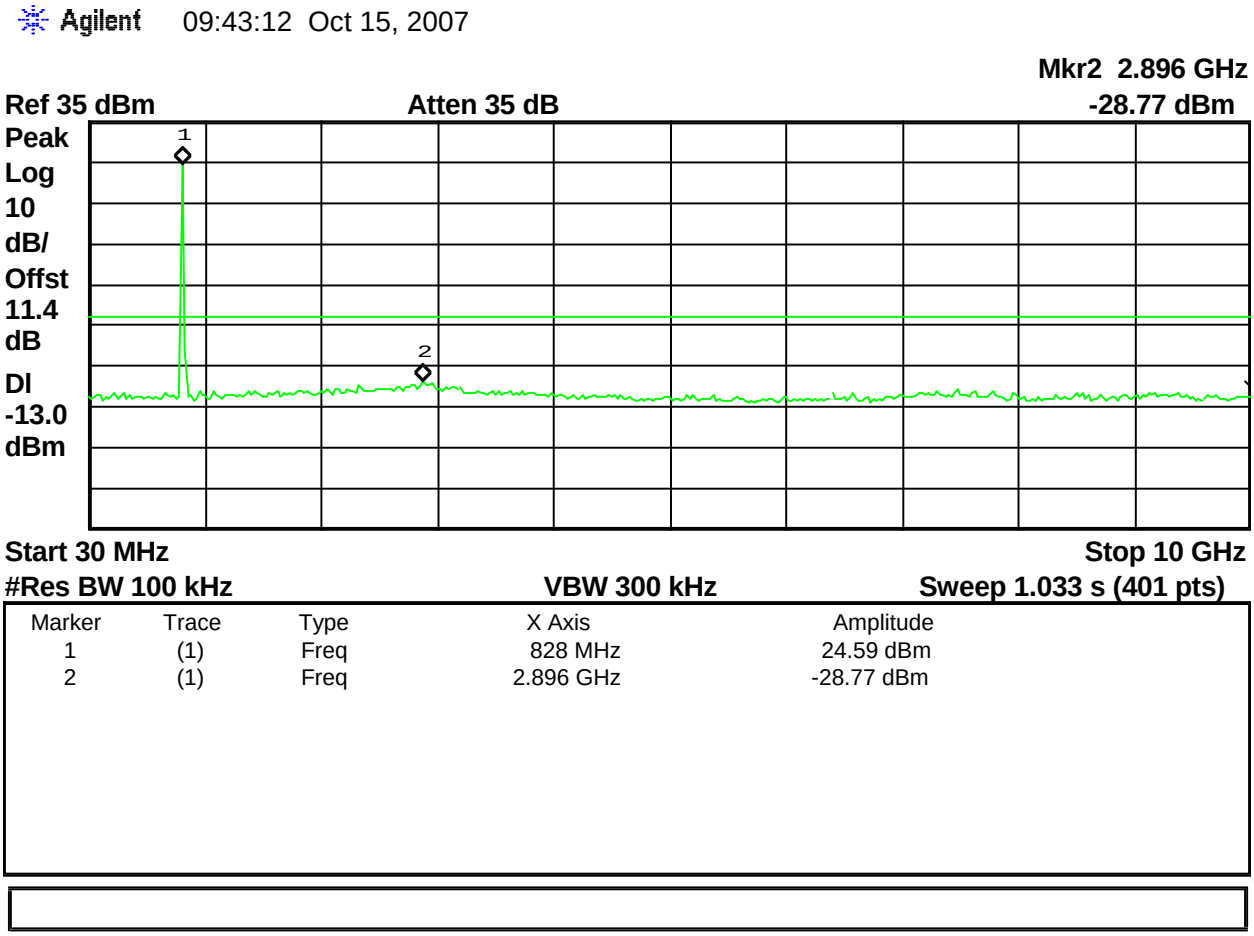
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 836.5 MHz		



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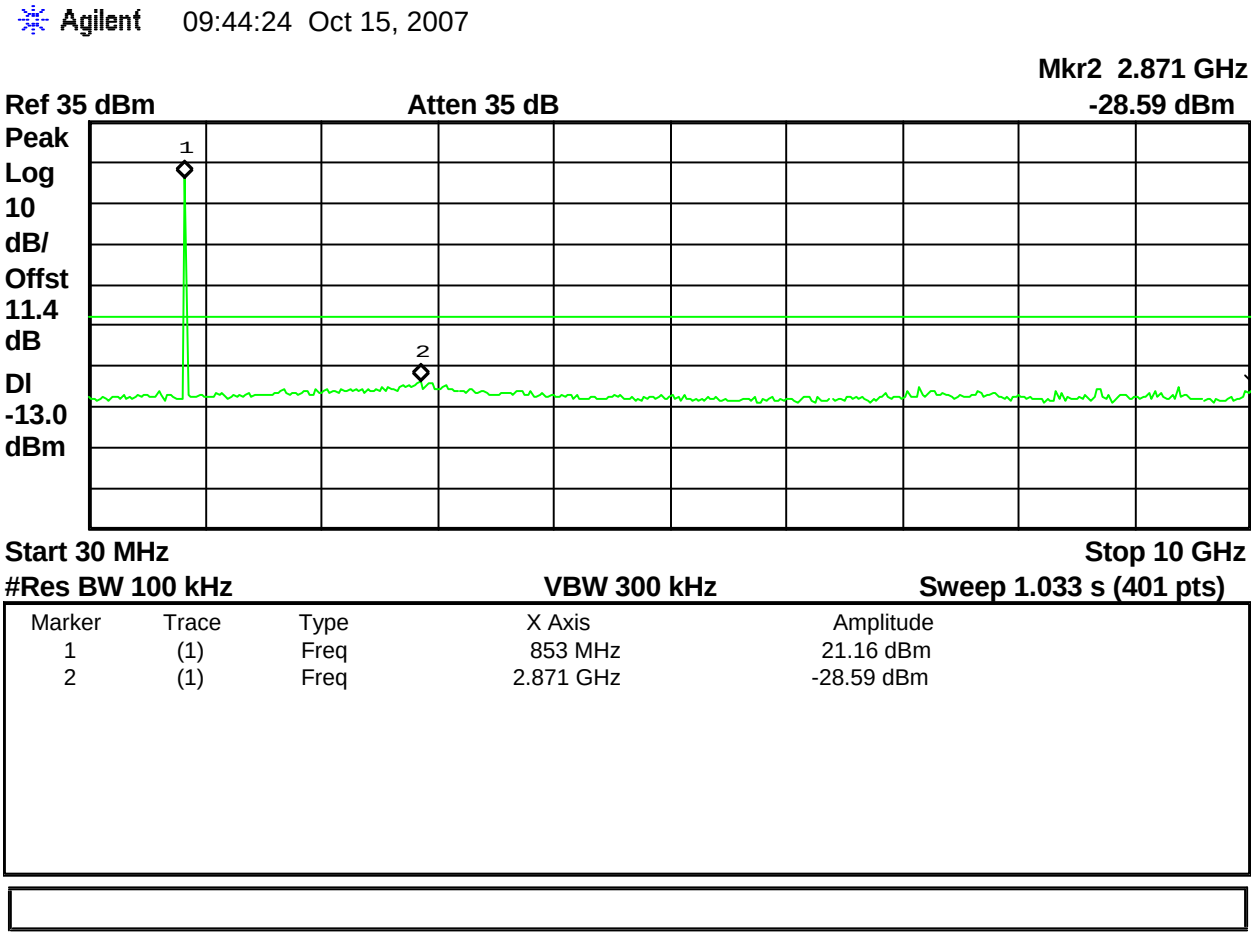
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 848.800 MHz		



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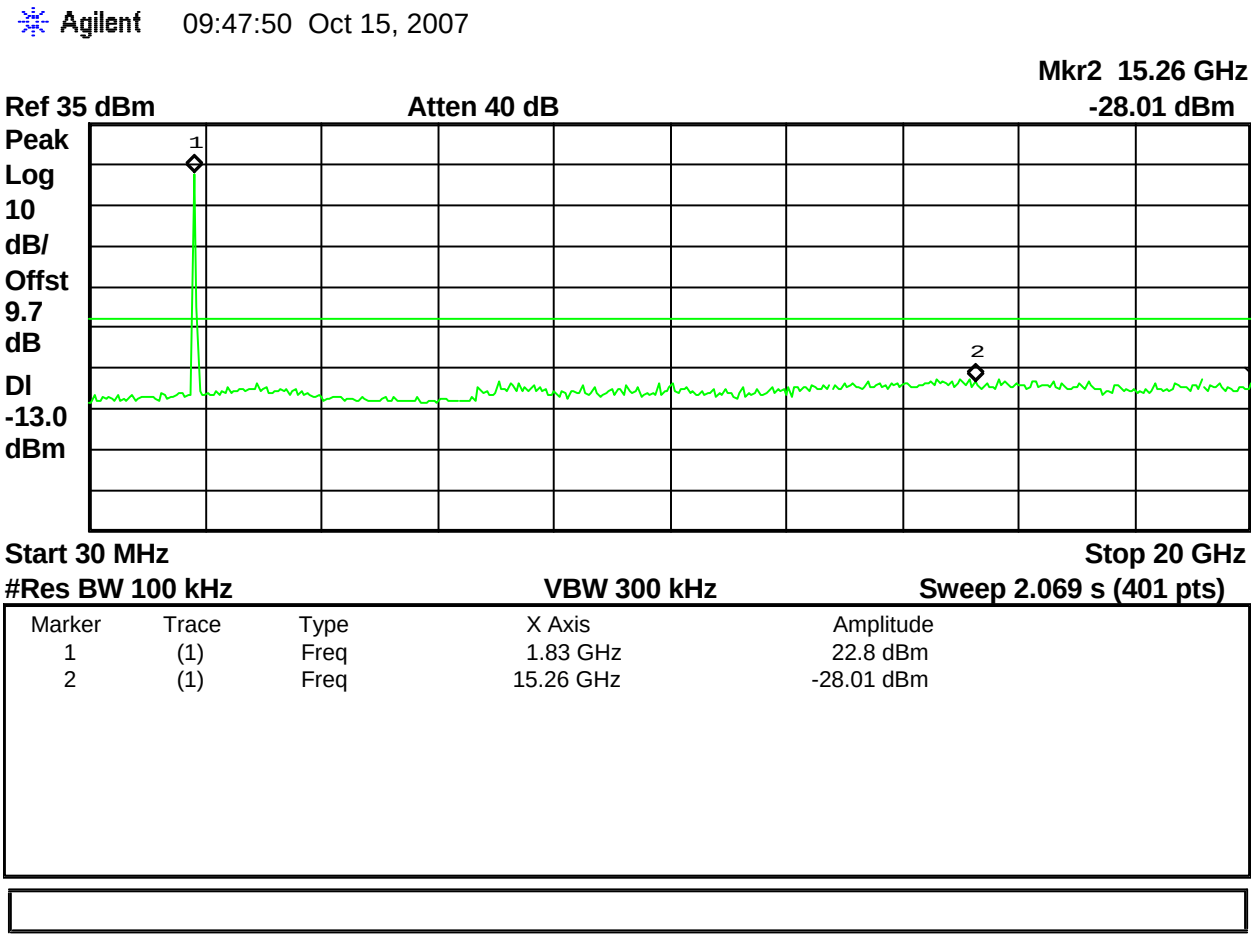
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1850.200 MHz		



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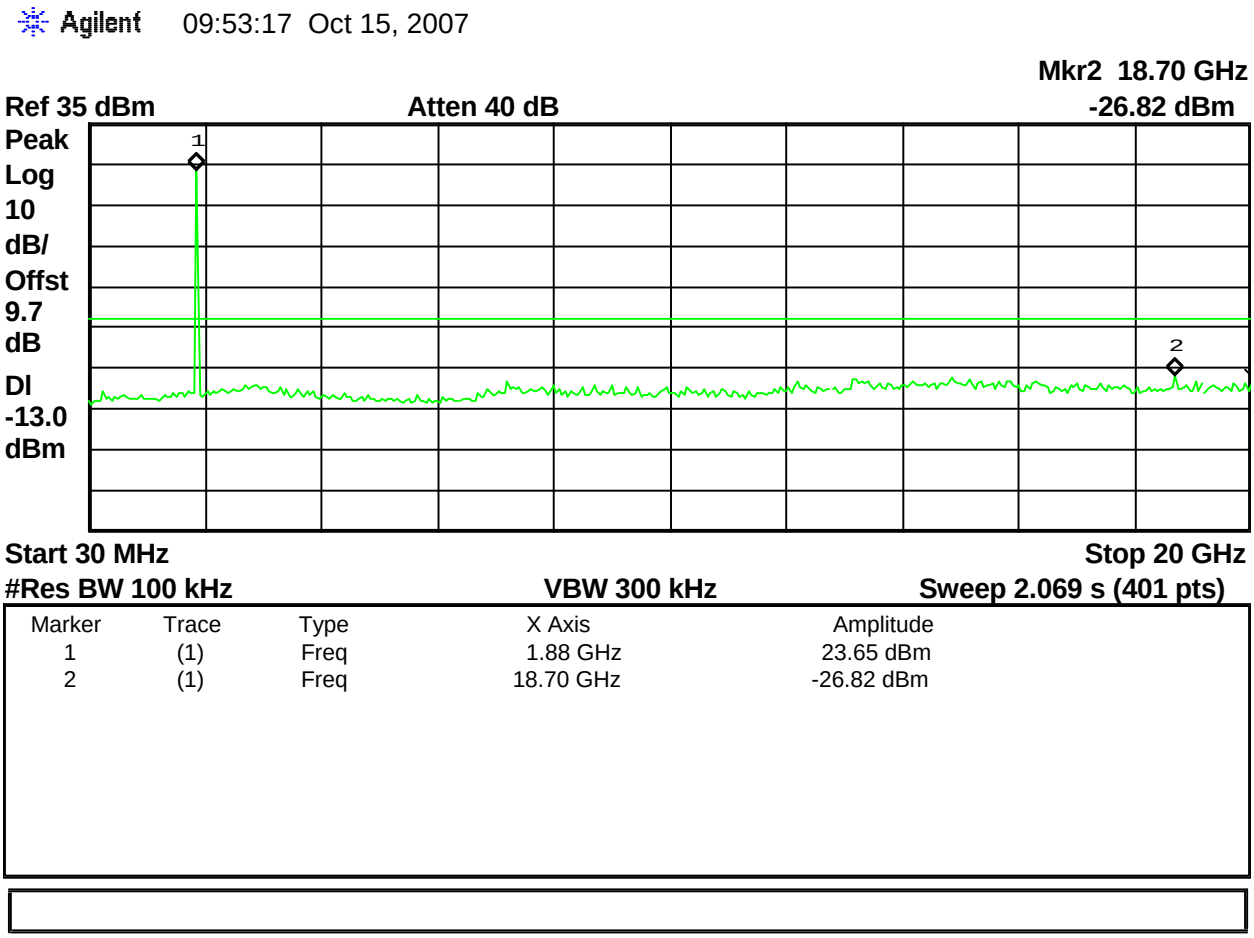
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1880 MHz		



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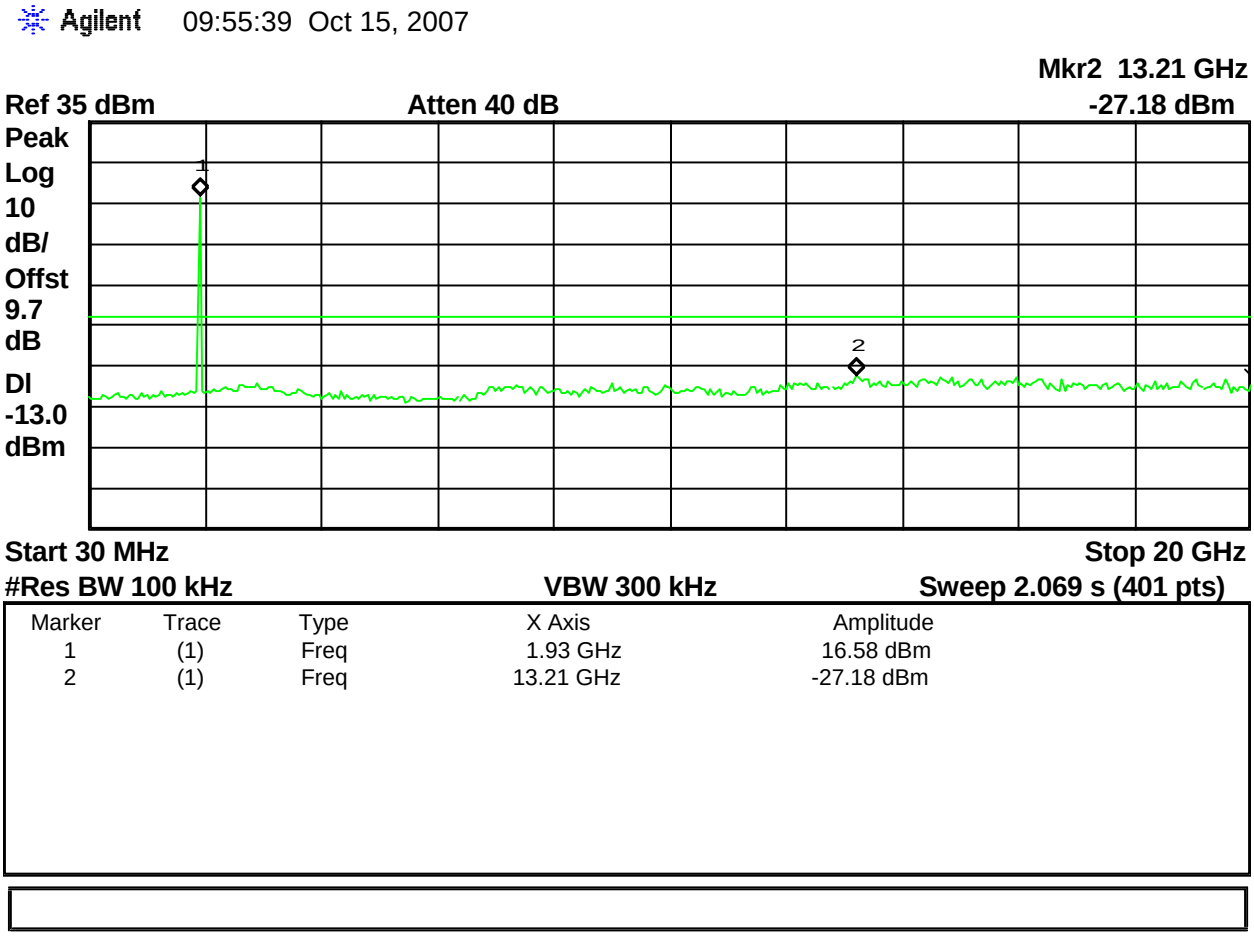
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink GSM 1909.800 MHz		



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Model Number:	CWAP819		
Description:	RF amplifier		
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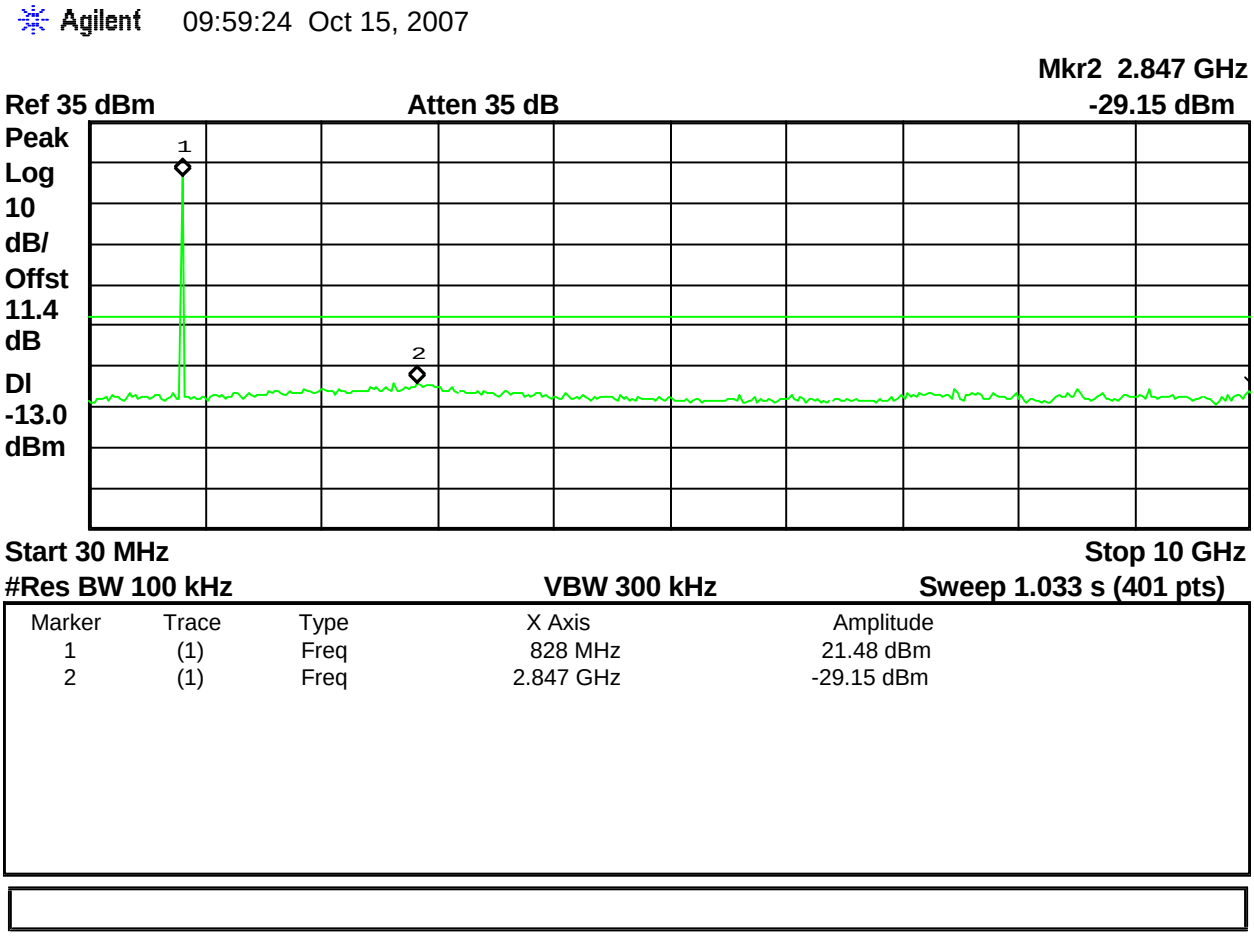

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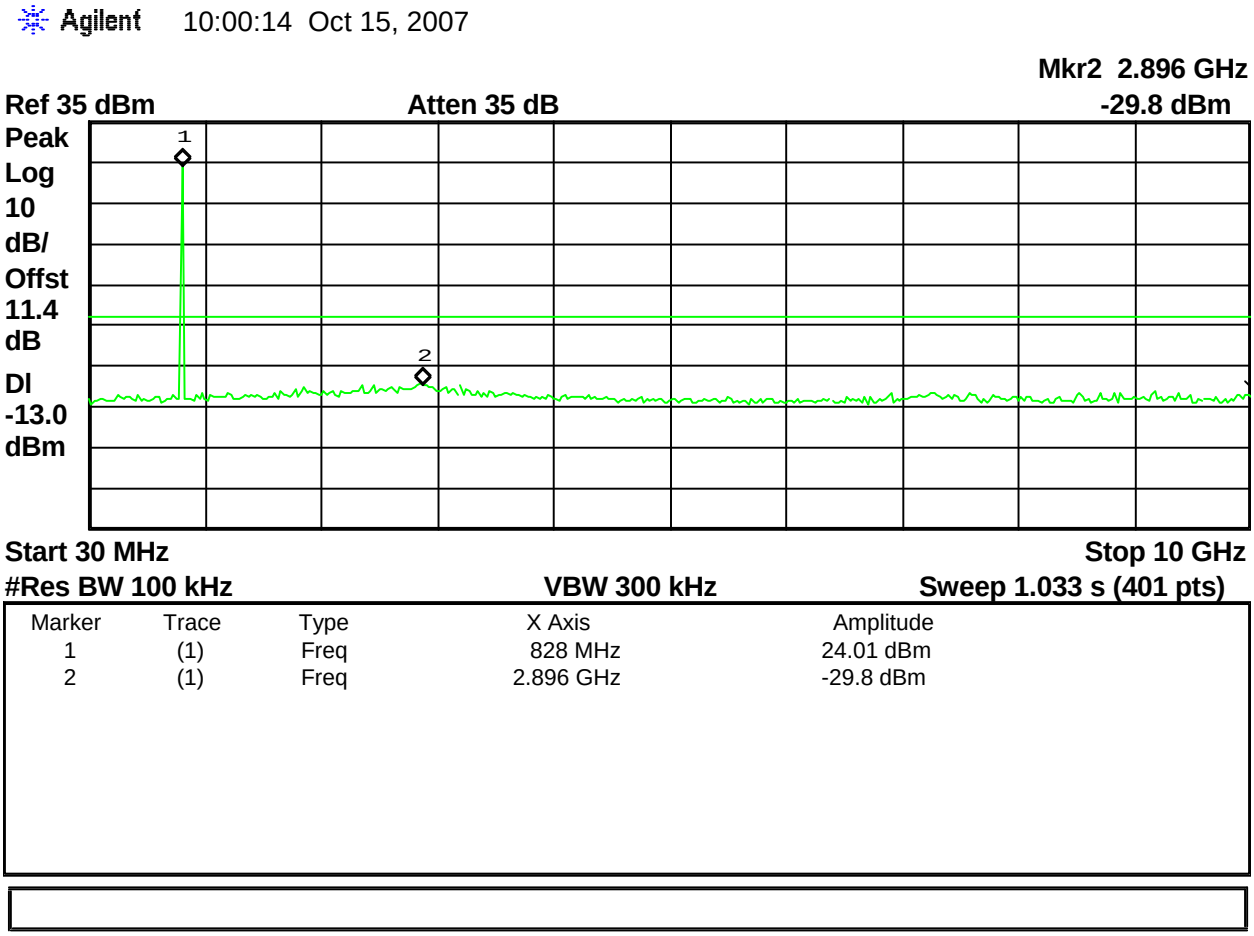

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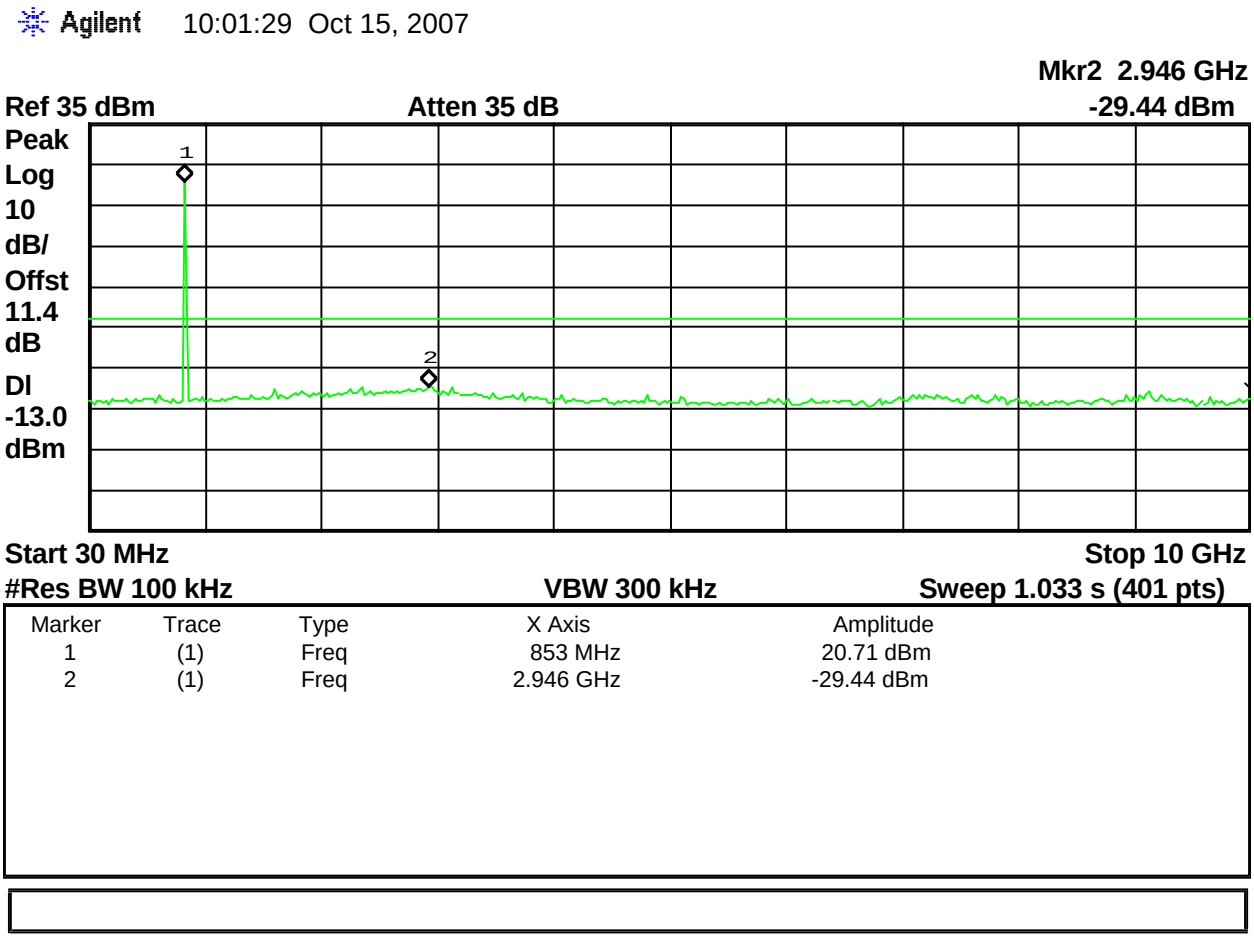
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 848.975 MHz		



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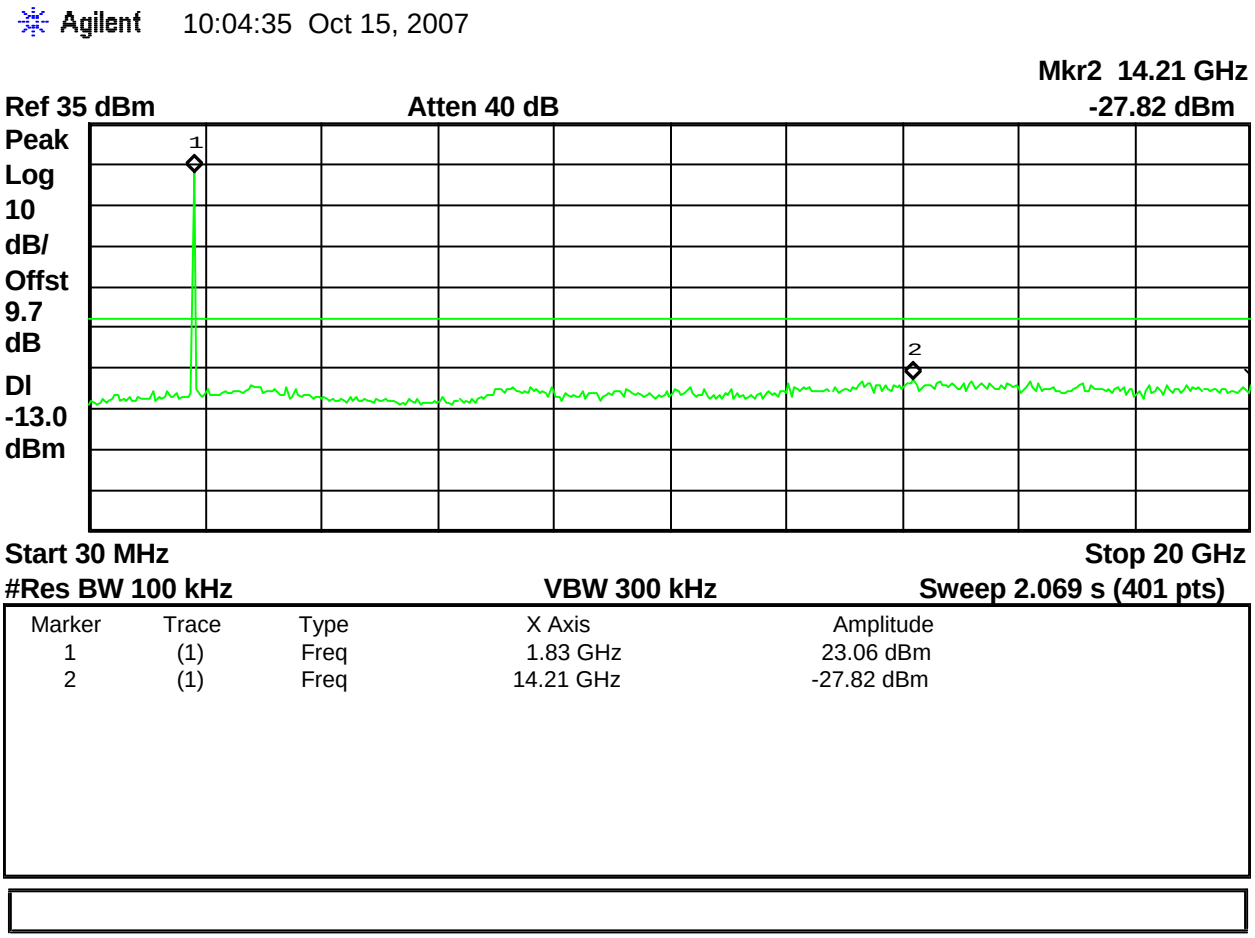
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 1850.025 MHz		



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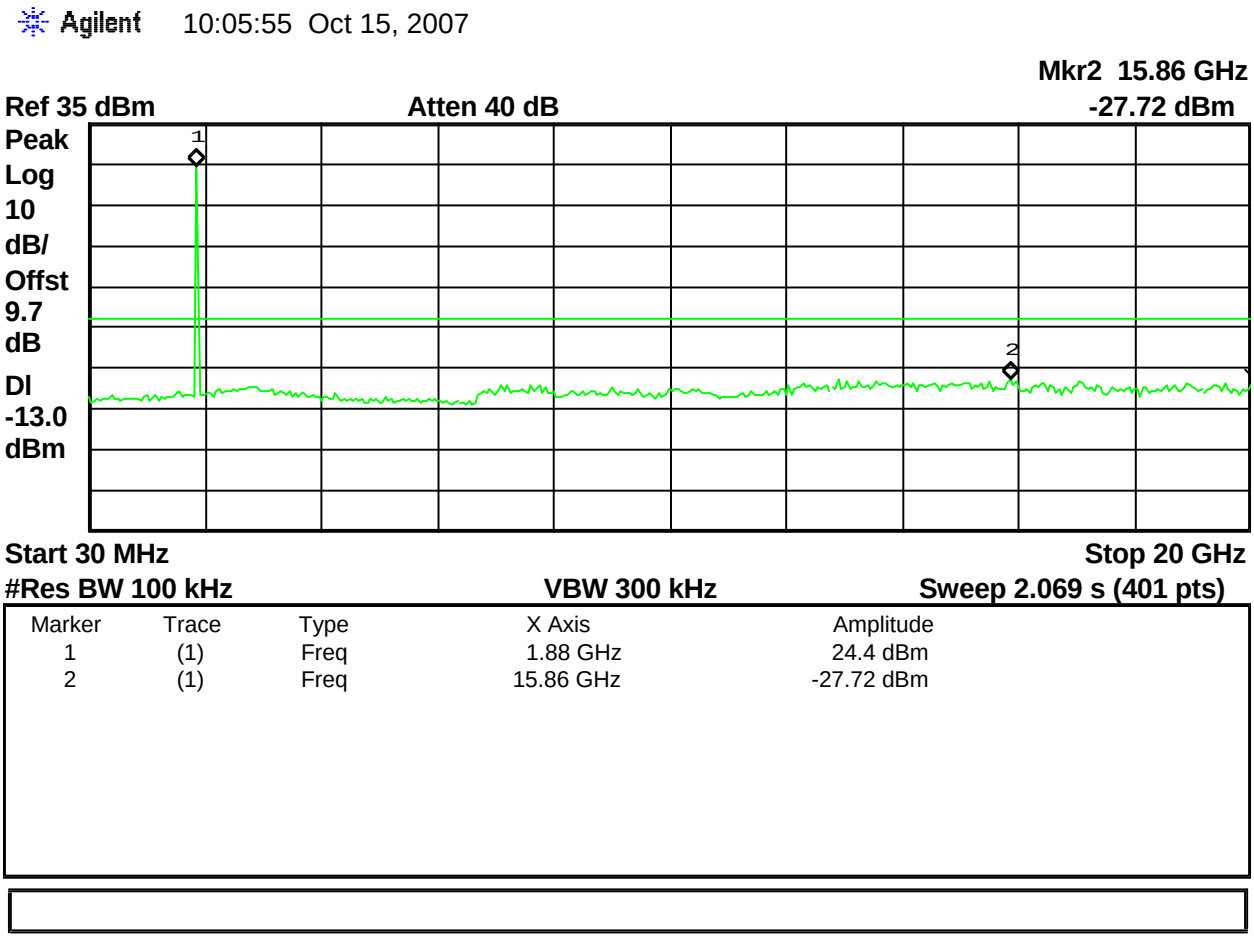
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink TDMA 1880 MHz		



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Model Number:	CWAP819		
Description:	RF amplifier		
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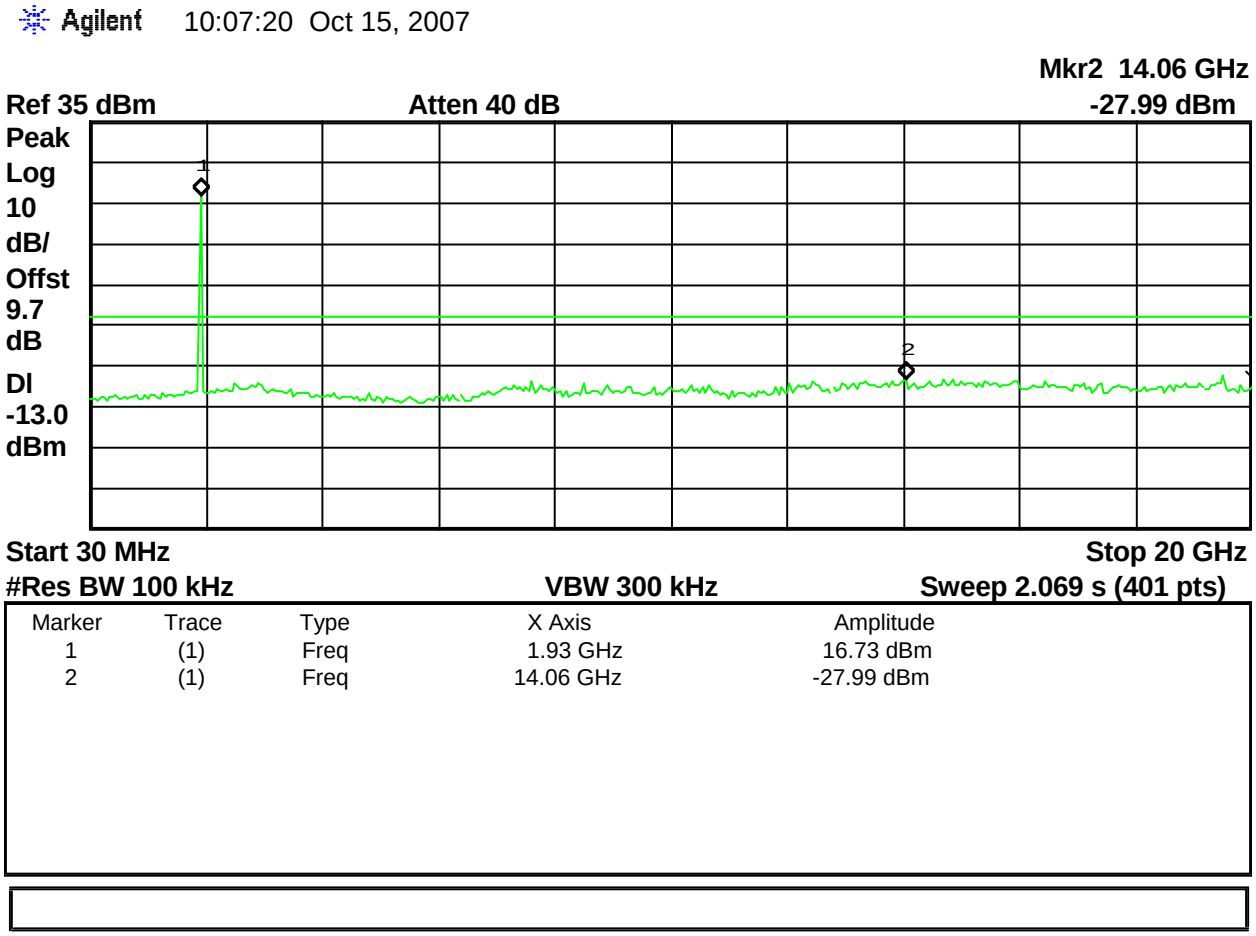

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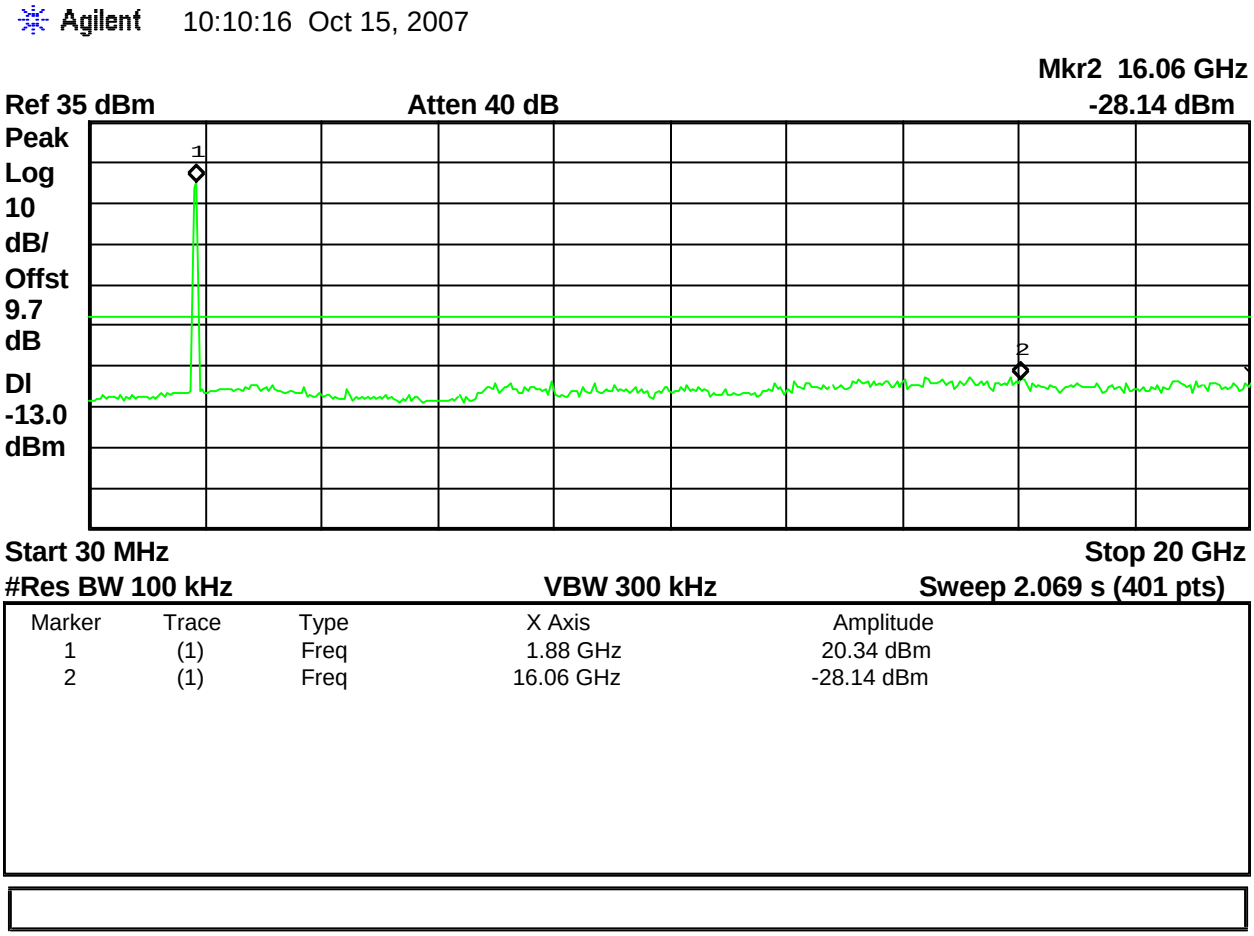
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink CDMA 1851 MHz		



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Model Number:	CWAP819		
Description:	RF amplifier		
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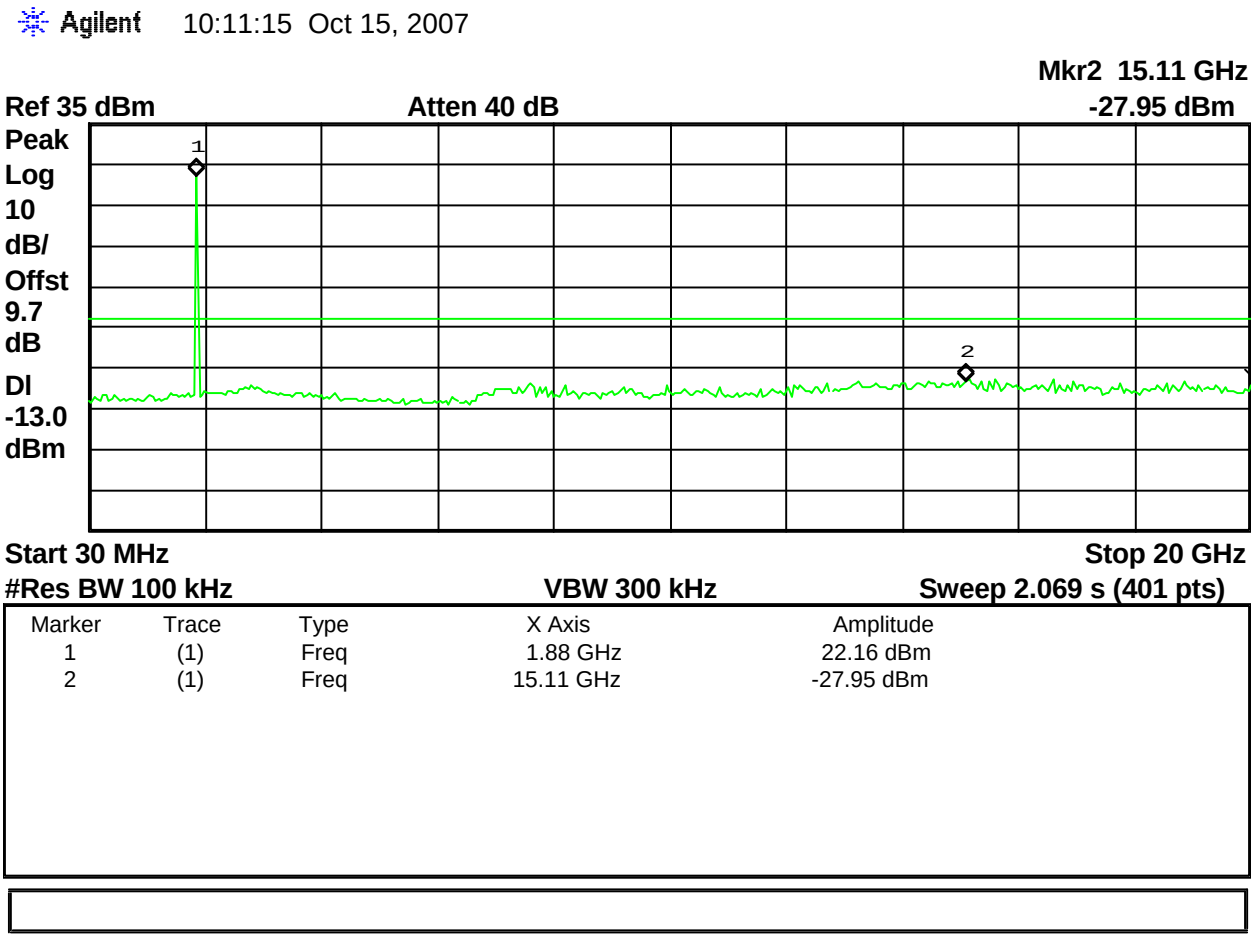

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Description:	RF amplifier		
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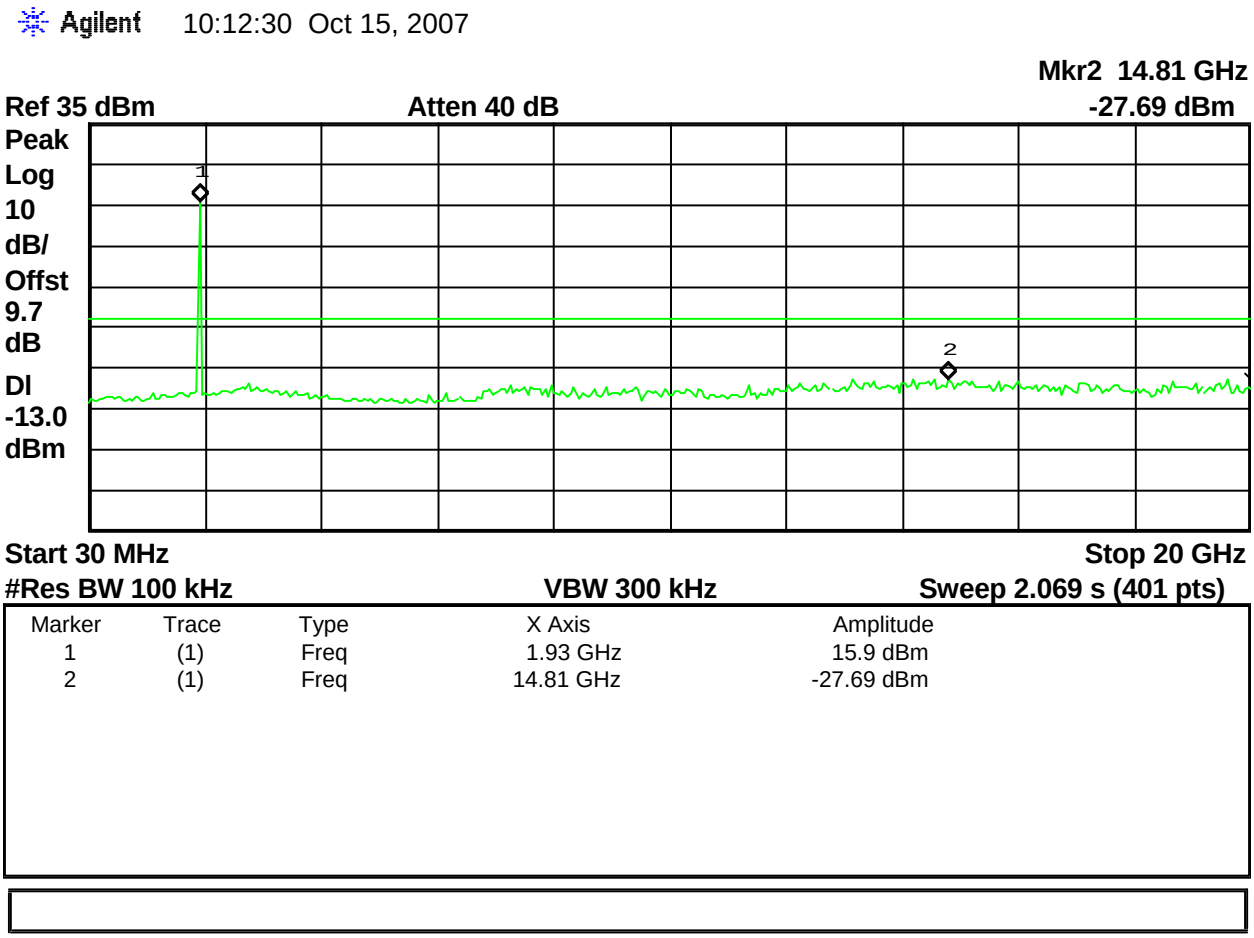

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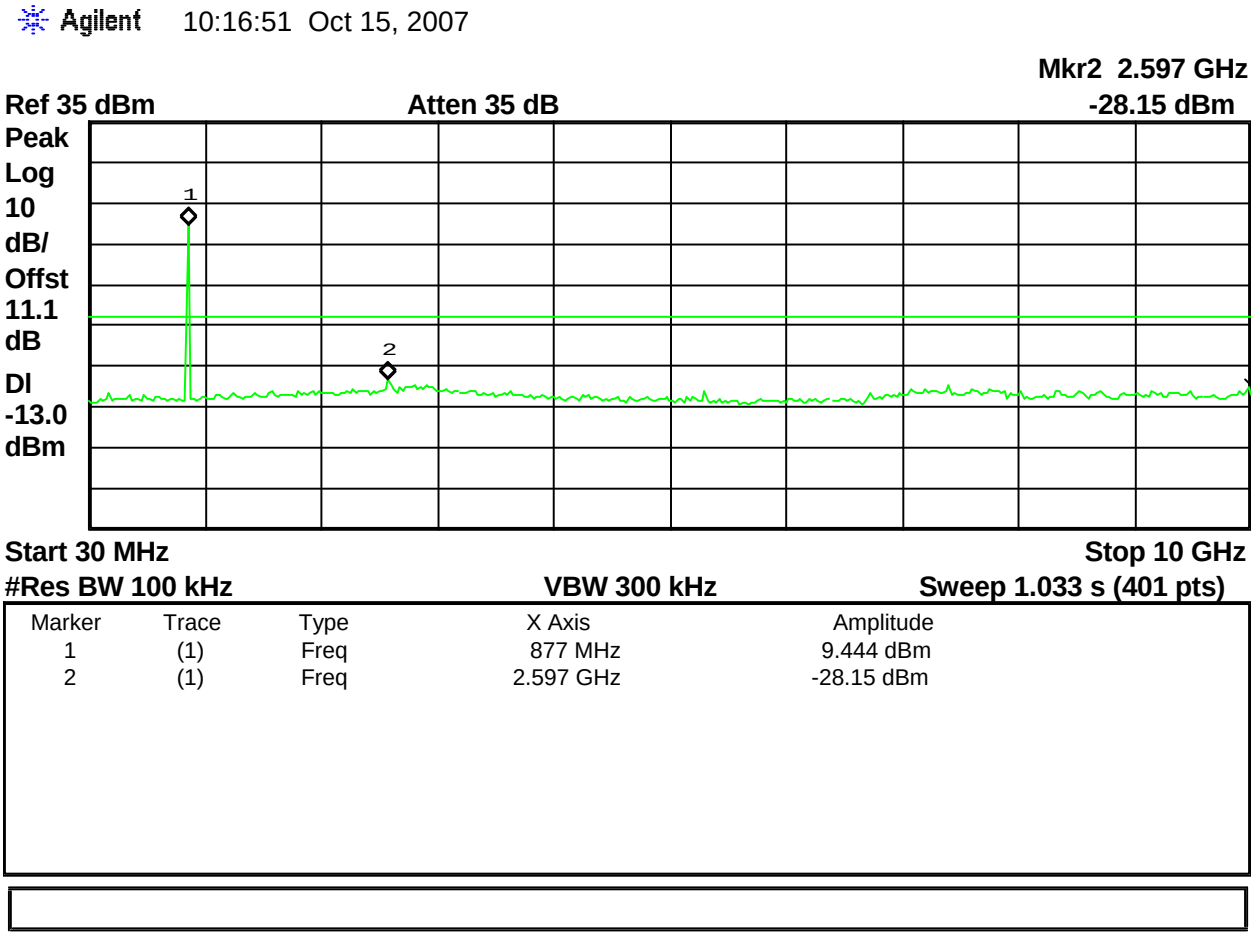
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 869.200 MHz		



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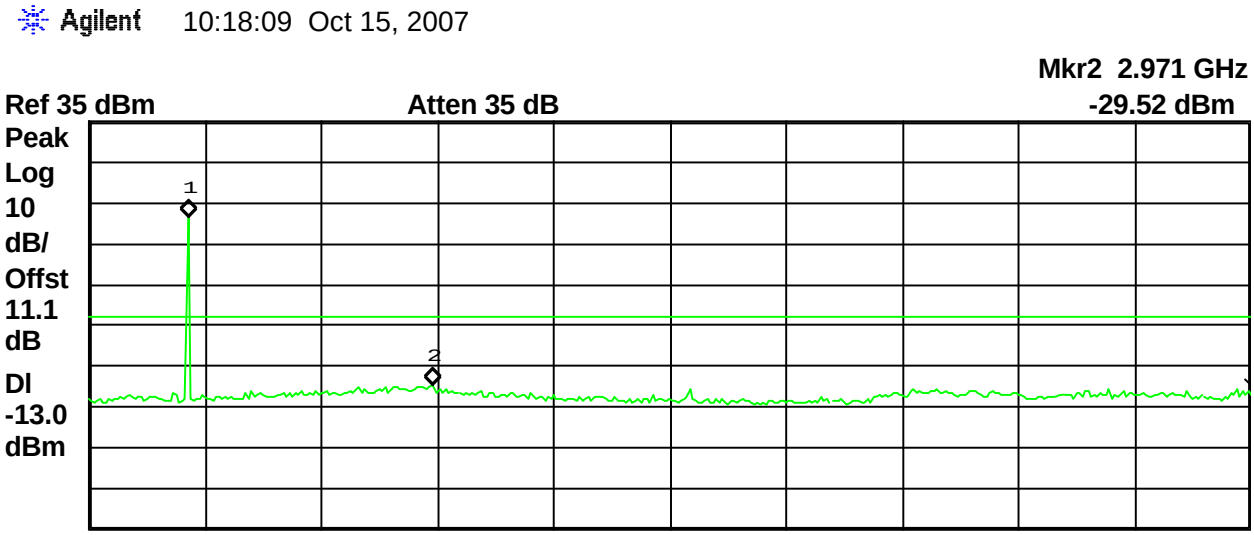
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 881.5 MHz		



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	877 MHz	11.43 dBm
2	(1)	Freq	2.971 GHz	-29.52 dBm

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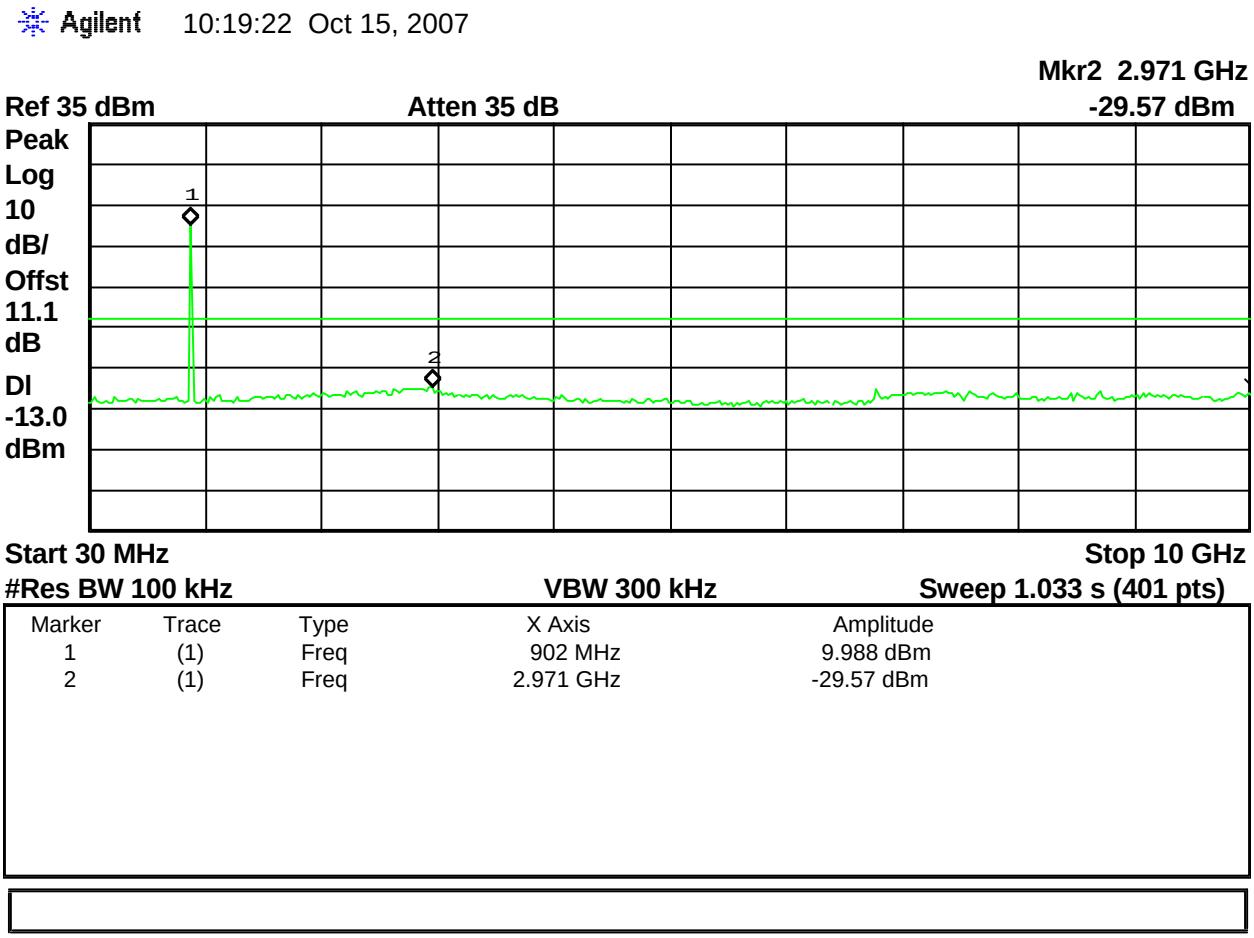
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 893.800 MHz		



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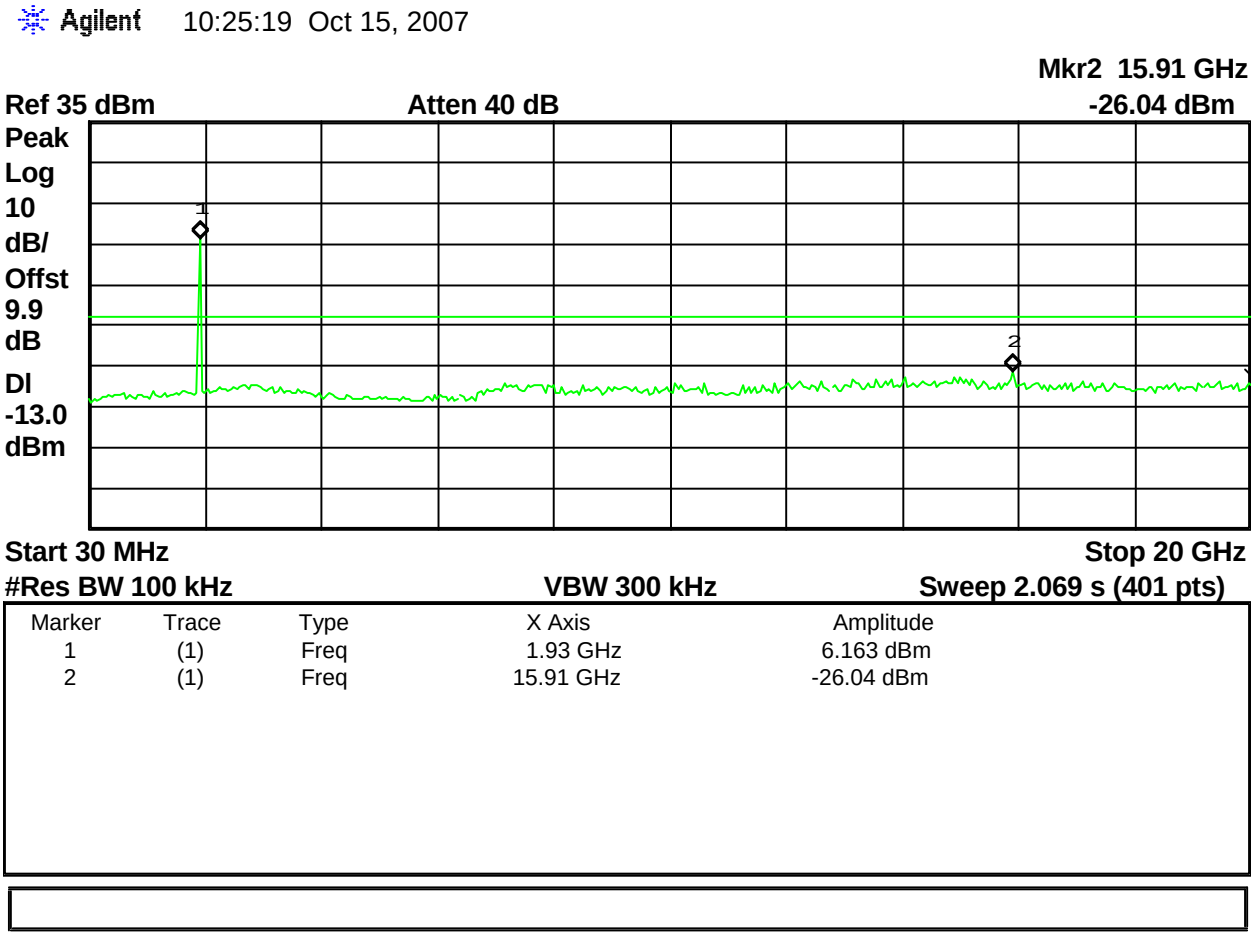
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1930.200 MHz		



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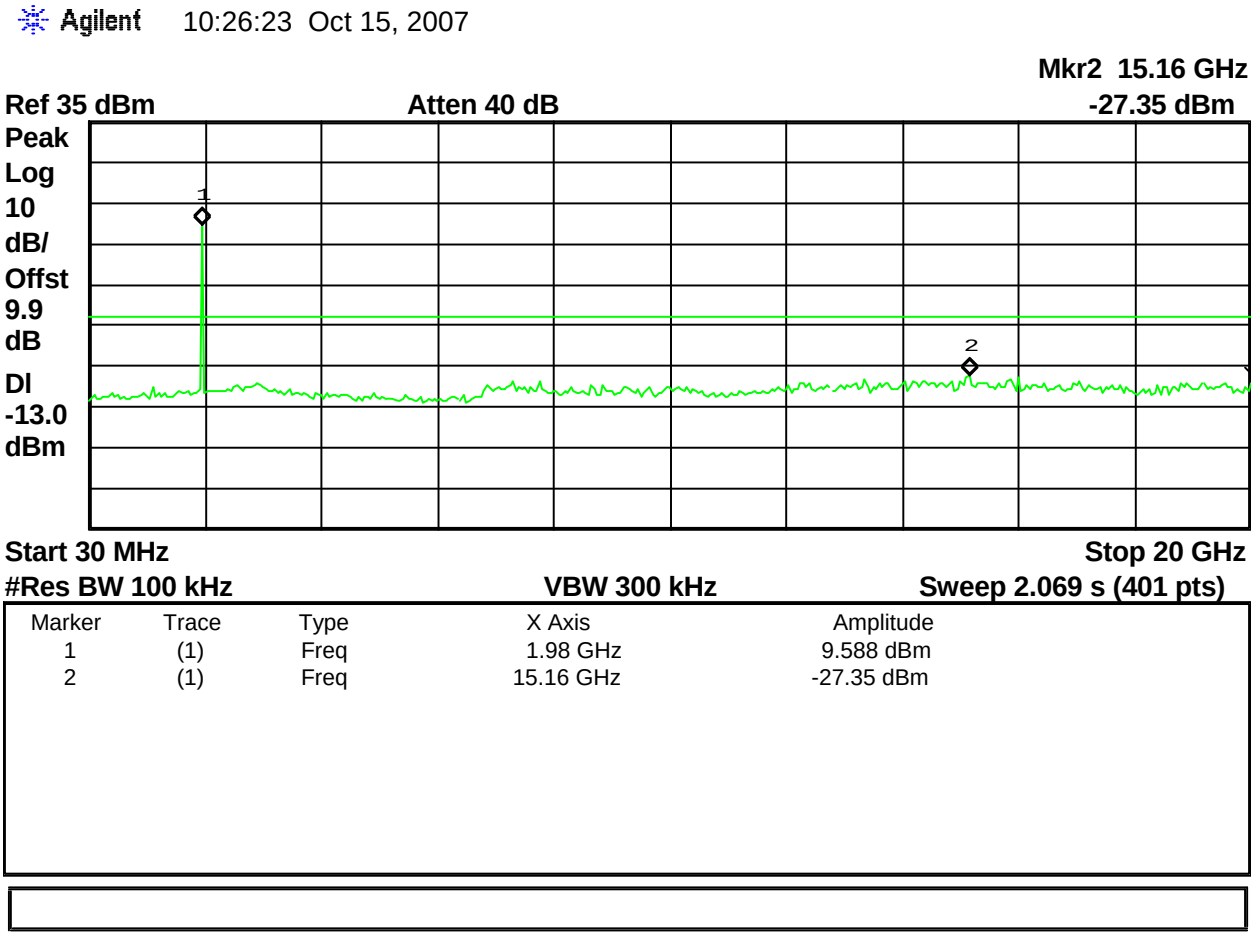
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1960 MHz		



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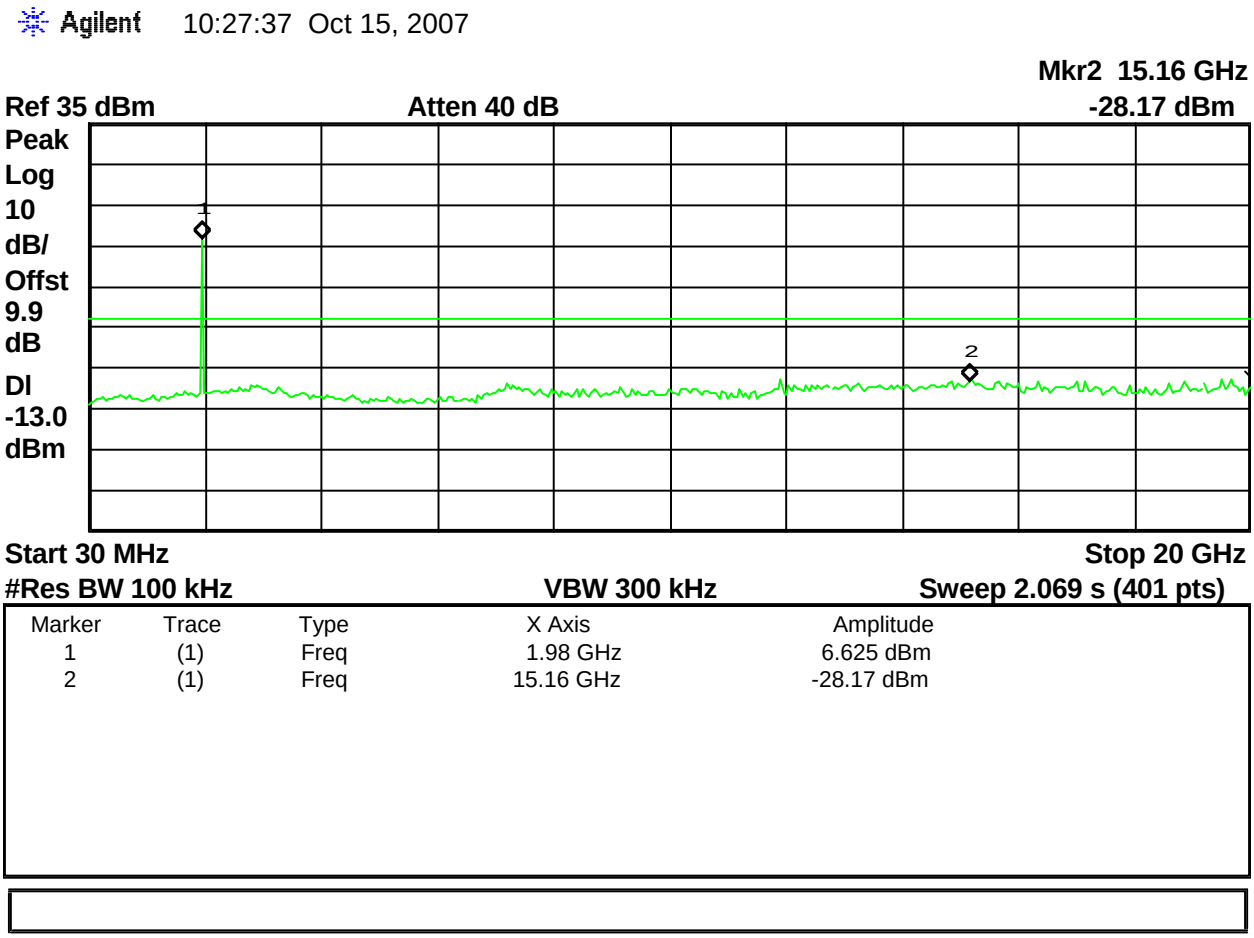
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink GSM 1989.800 MHz		



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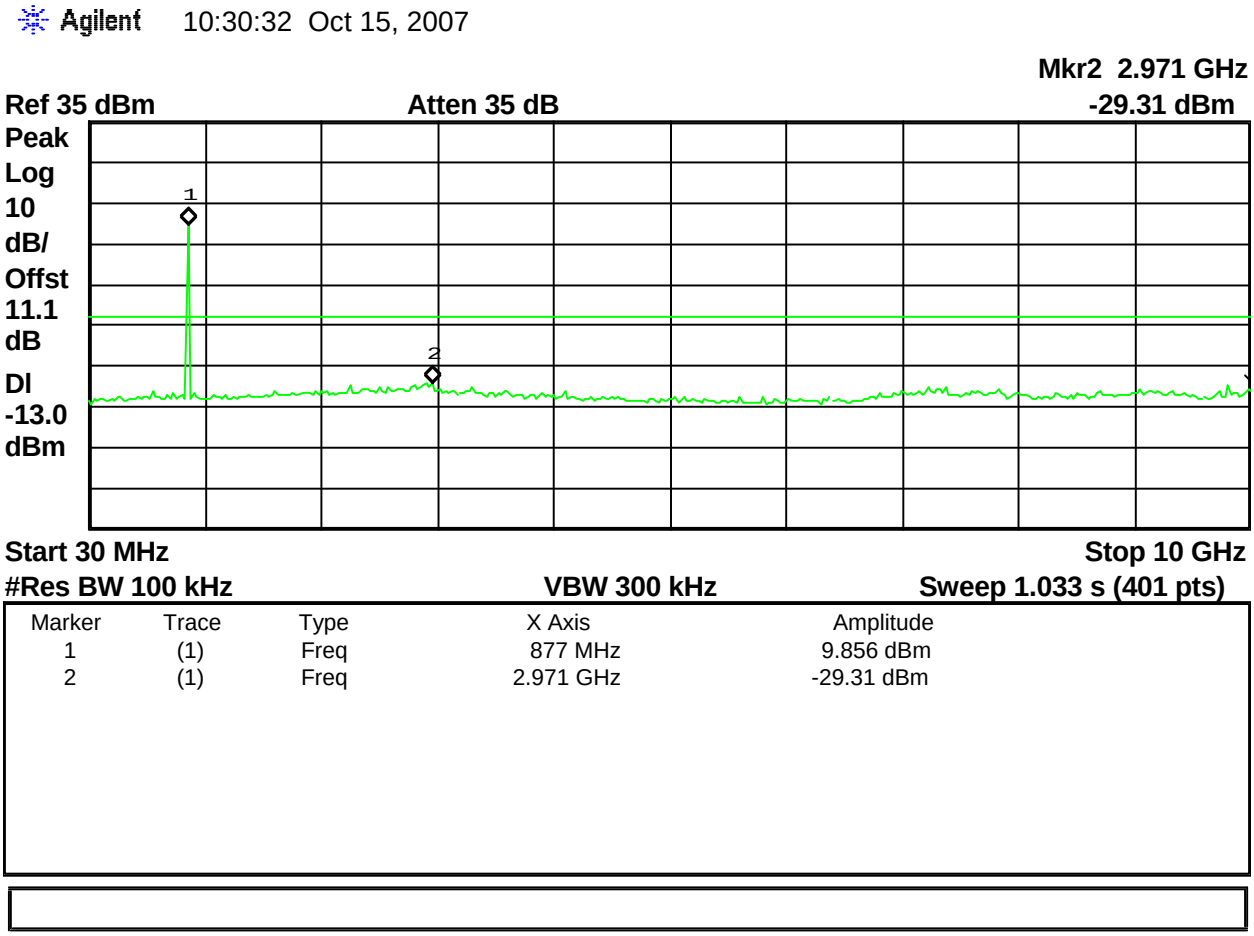
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink TDMA 869.025 MHz		



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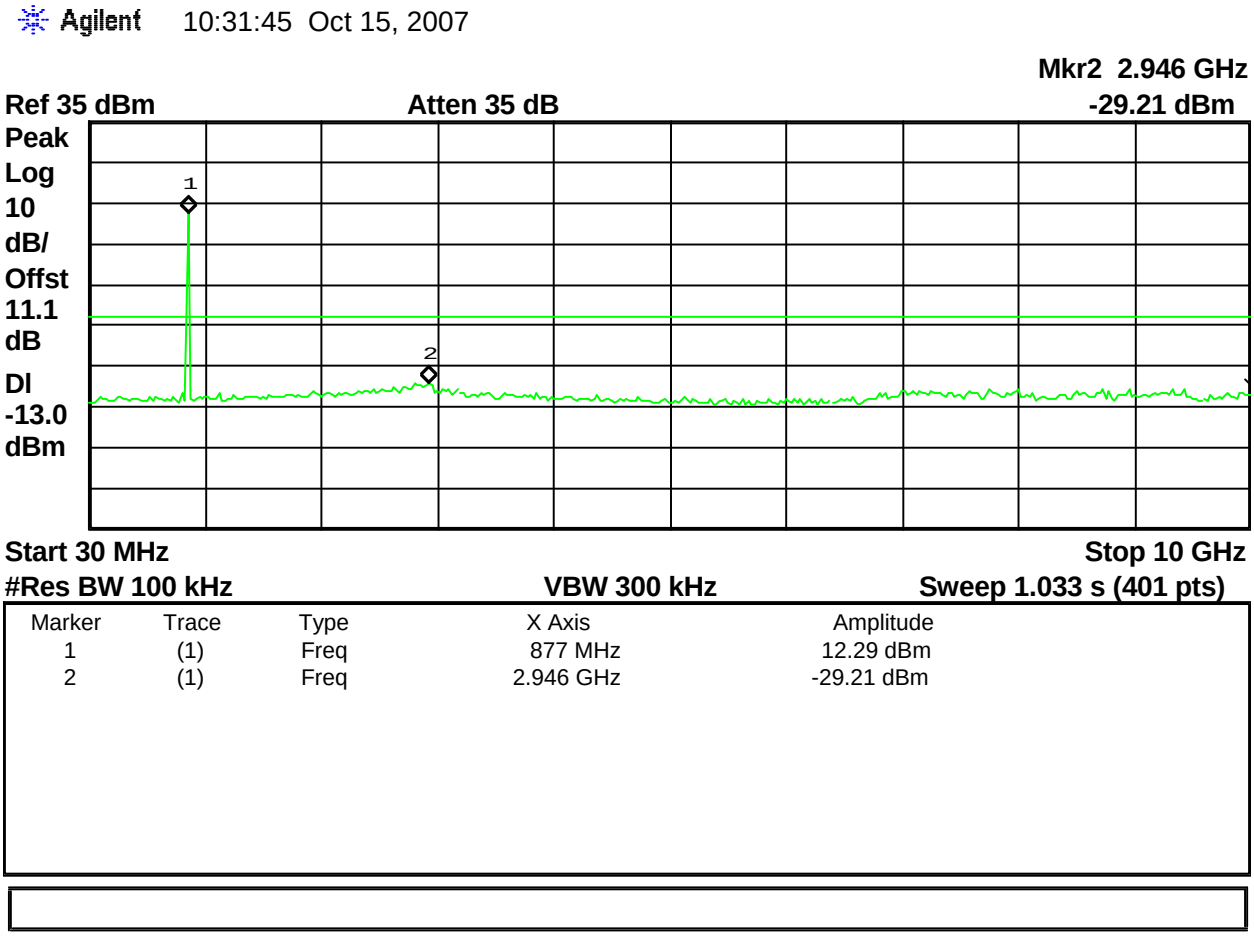

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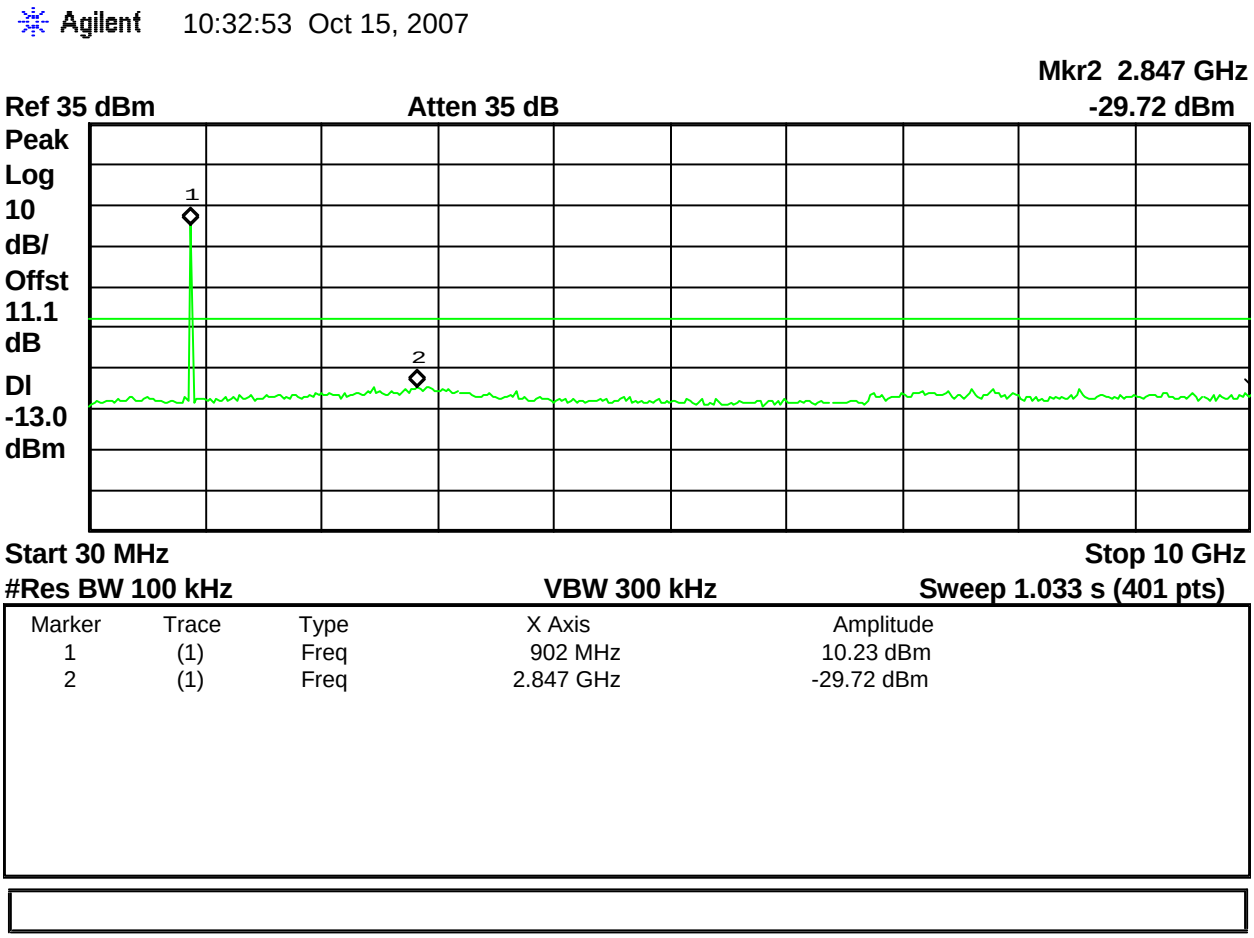

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Description:	RF amplifier		
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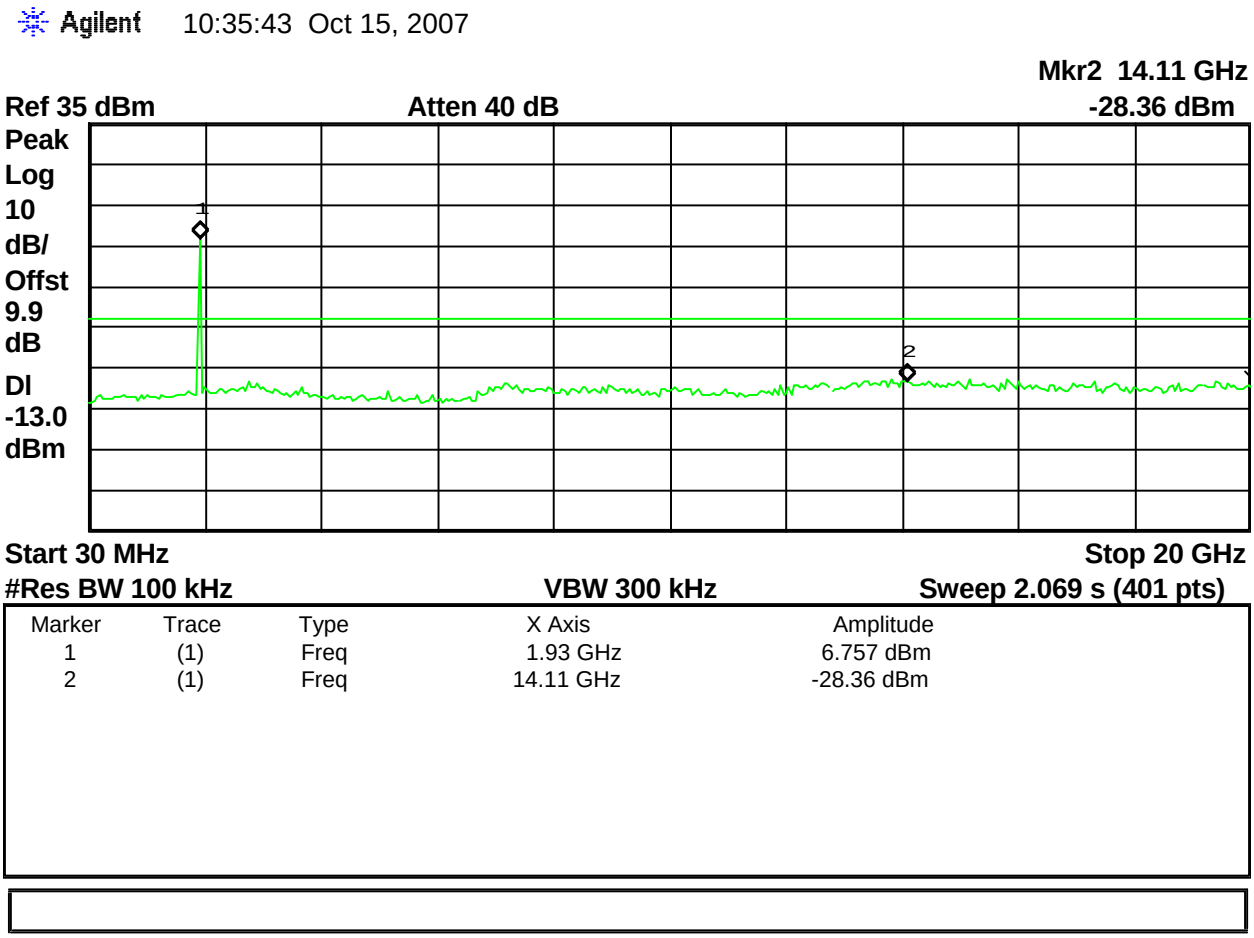

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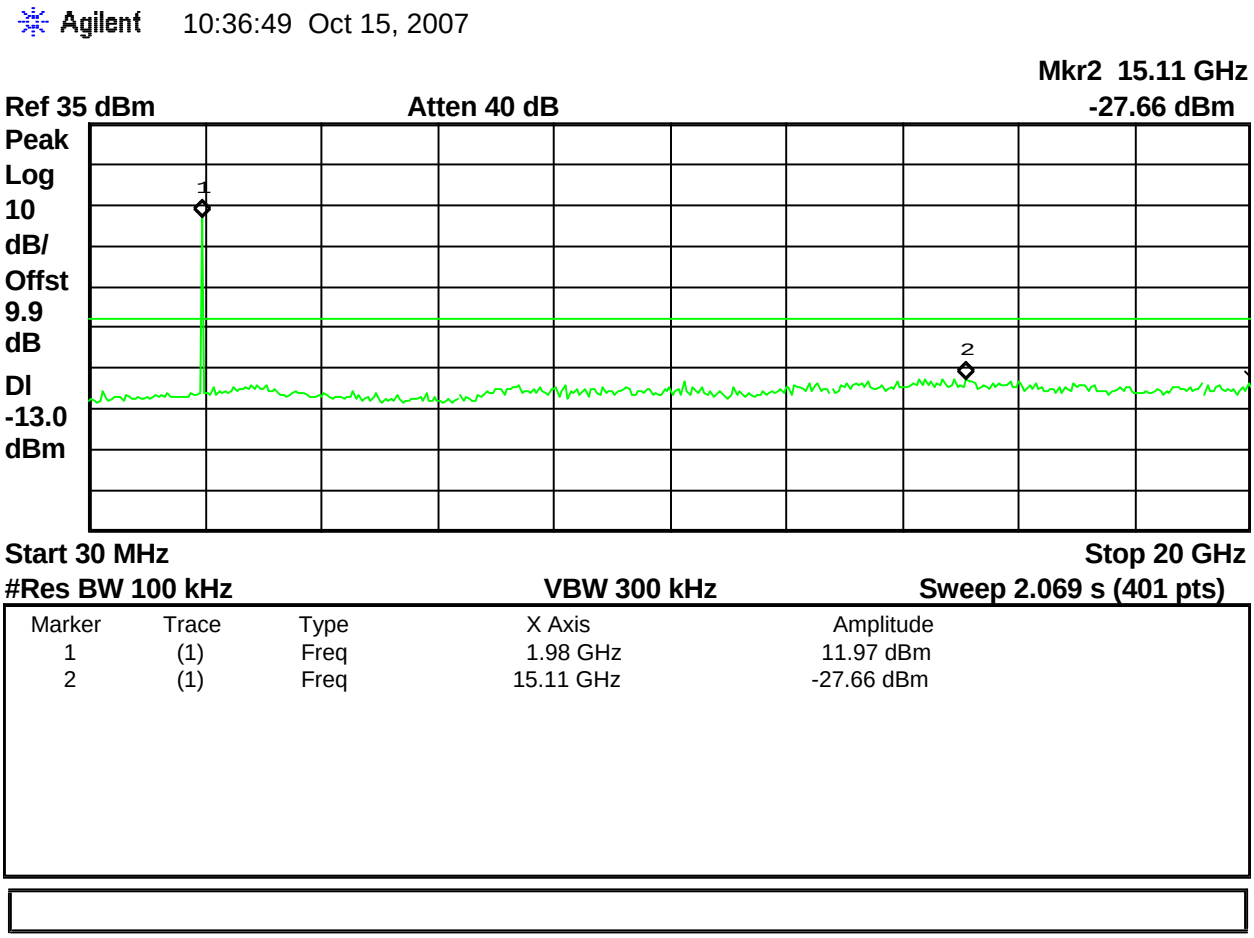

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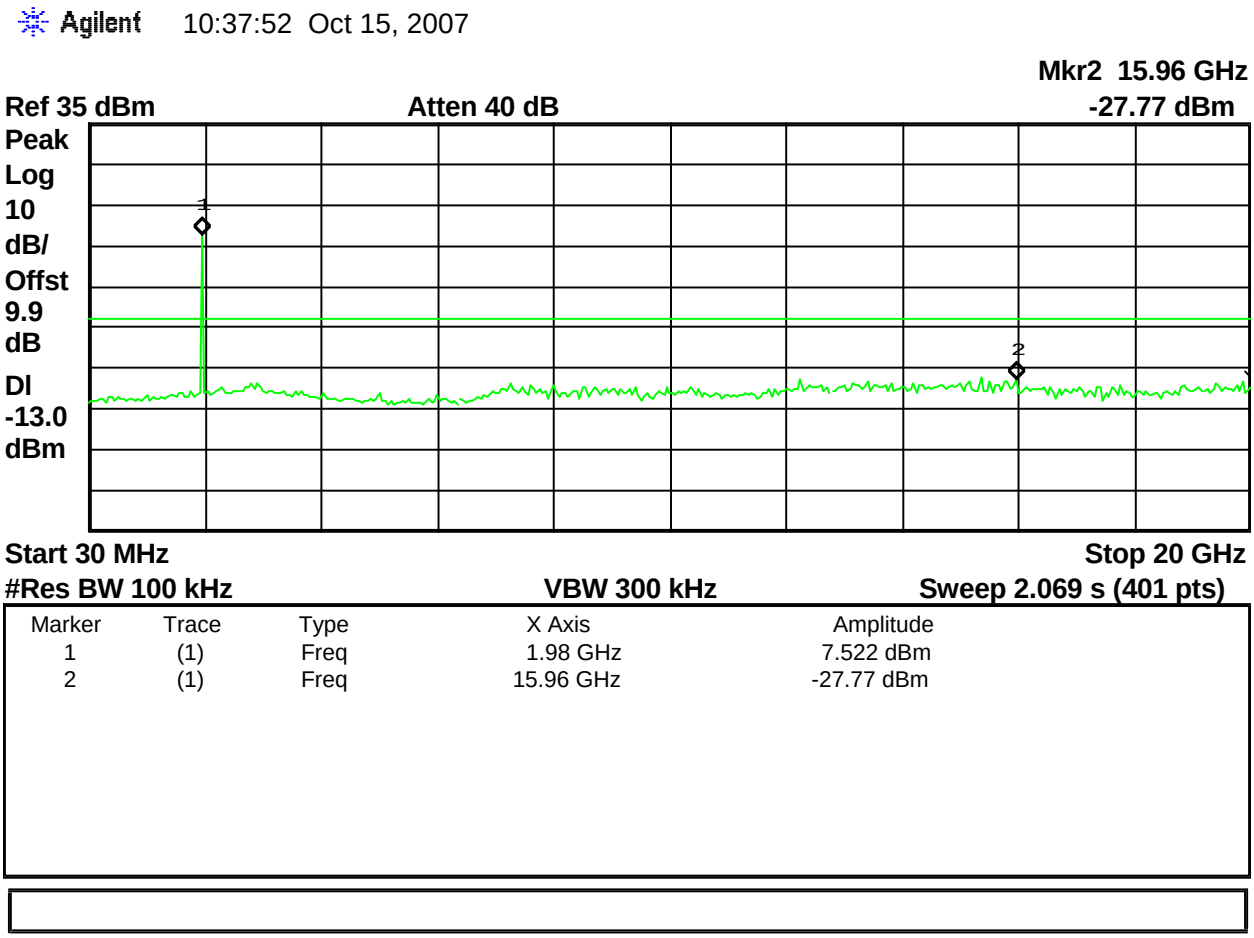

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Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1931 MHz		

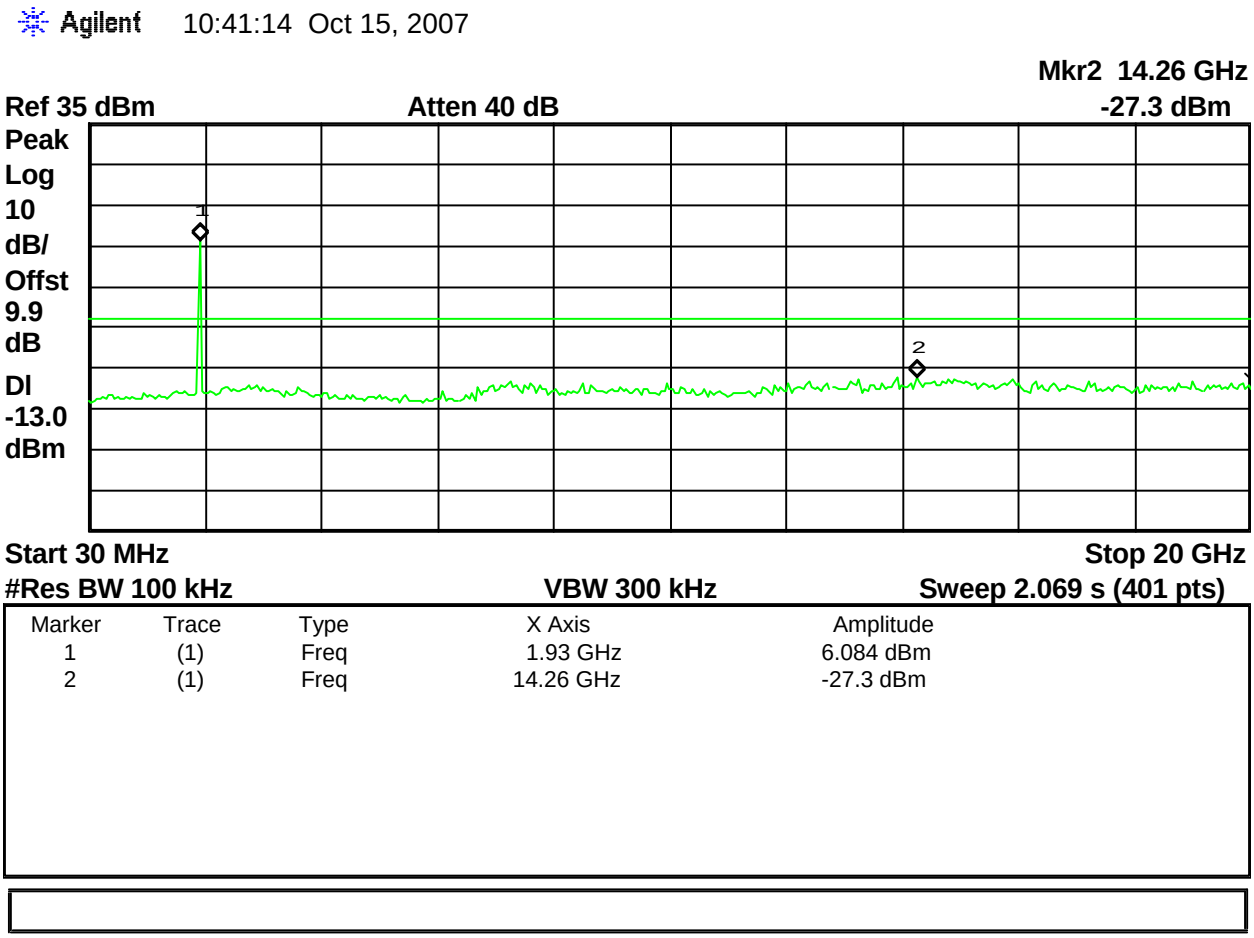


Figure 7: Conducted Spurious Emissions at Antenna Terminals, Downlink.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Antenna Conducted Spurious**	
DNB Job Number:	86010	Date: 15 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1960 MHz		

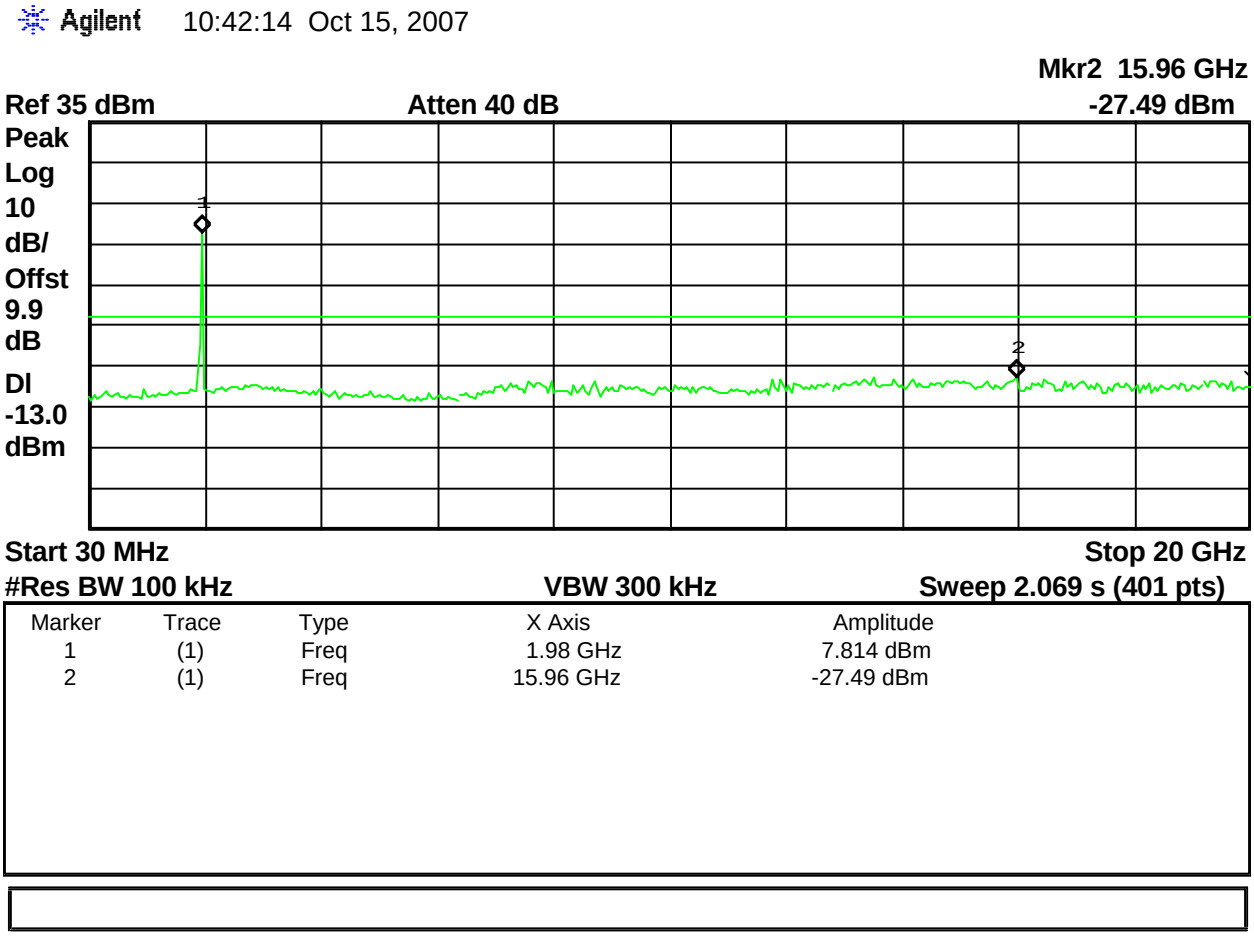
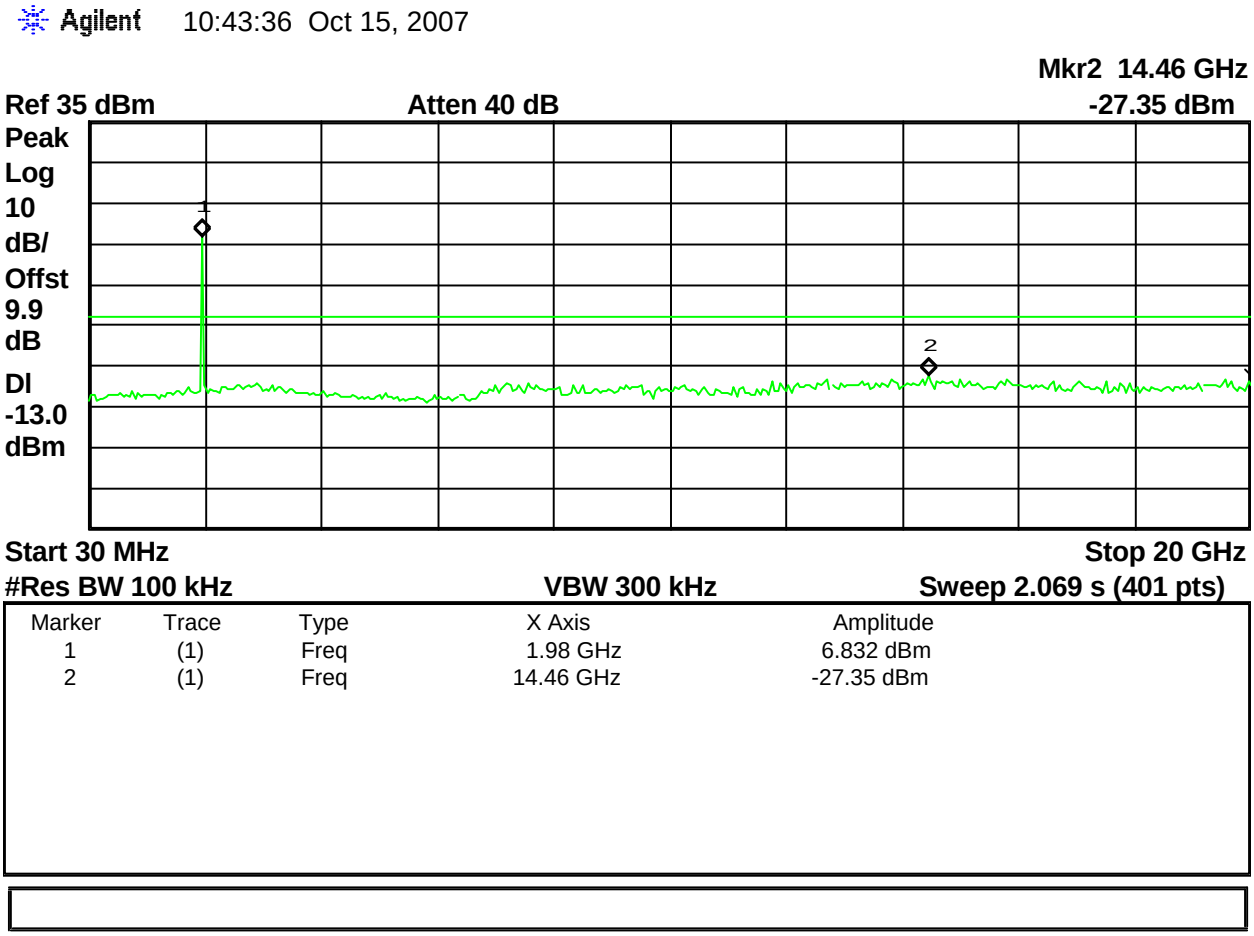


Figure 7: Conducted Spurious Emissions at Antenna Terminals, Downlink.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Antenna Conducted Spurious**	
DNB Job Number:	86010	Date: 15 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink CDMA 1989 MHz		



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

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^{th} 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. 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 the DRG antenna is used the appropriate gain factor for the antenna is added for the final measurement. 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 IC/FCC Specifications.

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 16 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink – Low Channel – Low Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	1648.050	H	-56.3	-13	-43.3
	1648.050	V	-45.3	-13	-32.3
3rd	2472.075	H	-52.3	-13	39.3
	2472.075	V	-37.3	-13	-24.3
4th	3296.100	H	* N/A	-13	* N/A
	3296.100	V	* N/A	-13	* N/A
5th	4120.125	H	* N/A	-13	* N/A
	4120.125	V	* N/A	-13	* N/A
6th	4944.150	H	* N/A	-13	* N/A
	4944.150	V	* N/A	-13	* N/A
7th	5768.175	H	* N/A	-13	* N/A
	5768.175	V	* N/A	-13	* N/A
8th	6592.200	H	* N/A	-13	* N/A
	6592.200	V	* N/A	-13	* N/A
9th	7416.225	H	* N/A	-13	* N/A
	7416.225	V	* N/A	-13	* N/A
10th	8240.250	H	* N/A	-13	* N/A
	8240.250	V	* N/A	-13	* N/A

** Measurement made at instrument ground floor – no discernible reading*

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 16 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink – Mid Channel Low Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	1673.0	H	-55.3	-13	-42.3
	1673.0	V	-62.3	-13	-49.3
3rd	2536.5	H	* N/A	-13	* N/A
	2536.5	V	* N/A	-13	* N/A
4th	3373.0	H	* N/A	-13	* N/A
	3373.0	V	* N/A	-13	* N/A
5th	4209.5	H	* N/A	-13	* N/A
	4209.5	V	* N/A	-13	* N/A
6th	5046.0	H	* N/A	-13	* N/A
	5046.0	V	* N/A	-13	* N/A
7th	5882.5	H	* N/A	-13	* N/A
	5882.5	V	* N/A	-13	* N/A
8th	6719.0	H	* N/A	-13	* N/A
	6719.0	V	* N/A	-13	* N/A
9th	7555.5	H	* N/A	-13	* N/A
	7555.5	V	* N/A	-13	* N/A
10th	8392.0	H	* N/A	-13	* N/A
	8392.0	V	* N/A	-13	* N/A

** Measurement made at instrument ground floor – no discernible reading*

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 16 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink – High Channel – Low Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	1697.950	H	-43.3	-13	-30.3
	1697.950	V	-50.0	-13	-37.0
3rd	2546.925	H	-54.3	-13	-41.3
	2546.925	V	-46.3	-13	-33.3
4th	3395.900	H	* N/A	-13	* N/A
	3395.900	V	* N/A	-13	* N/A
5th	4244.875	H	* N/A	-13	* N/A
	4244.875	V	* N/A	-13	* N/A
6th	5093.850	H	* N/A	-13	* N/A
	5093.850	V	* N/A	-13	* N/A
7th	5942.825	H	* N/A	-13	* N/A
	5942.825	V	* N/A	-13	* N/A
8th	6791.800	H	* N/A	-13	* N/A
	6791.800	V	* N/A	-13	* N/A
9th	7640.775	H	* N/A	-13	* N/A
	7640.775	V	* N/A	-13	* N/A
10th	8489.750	H	* N/A	-13	* N/A
	8489.750	V	* N/A	-13	* N/A

** Measurement made at instrument ground floor – no discernible reading*

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 16 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink – Low Channel – High Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	3700.050	H	-63.8	-13	-50.8
	3700.050	V	-59.9	-13	-46.9
3rd	5550.075	H	-52.6	-13	-39.6
	5550.075	V	-49.3	-13	-36.3
4th	7400.100	H	* N/A	-13	* N/A
	7400.100	V	* N/A	-13	* N/A
5th	9250.125	H	* N/A	-13	* N/A
	9250.125	V	* N/A	-13	* N/A
6th	11100.150	H	* N/A	-13	* N/A
	11100.150	V	* N/A	-13	* N/A
7th	12950.180	H	* N/A	-13	* N/A
	12950.180	V	* N/A	-13	* N/A
8th	14800.200	H	* N/A	-13	* N/A
	14800.200	V	* N/A	-13	* N/A
9th	16650.230	H	* N/A	-13	* N/A
	16650.230	V	* N/A	-13	* N/A
10th	18500.250	H	* N/A	-13	* N/A
	18500.250	V	* N/A	-13	* N/A

** Measurement made at instrument ground floor – no discernible reading*

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 16 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink – Mid Channel – High Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	3760	H	-60.2	-13	-47.2
	3760	V	-56.0	-13	-43.0
3rd	5640	H	-51.9	-13	-38.9
	5640	V	-46.2	-13	-33.2
4th	7520	H	* N/A	-13	* N/A
	7520	V	* N/A	-13	* N/A
5th	9400	H	* N/A	-13	* N/A
	9400	V	* N/A	-13	* N/A
6th	11280	H	* N/A	-13	* N/A
	11280	V	* N/A	-13	* N/A
7th	13160	H	* N/A	-13	* N/A
	13160	V	* N/A	-13	* N/A
8th	15040	H	* N/A	-13	* N/A
	15040	V	* N/A	-13	* N/A
9th	16920	H	* N/A	-13	* N/A
	16920	V	* N/A	-13	* N/A
10th	18800	H	* N/A	-13	* N/A
	18800	V	* N/A	-13	* N/A

** Measurement made at instrument ground floor – no discernible reading*

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 16 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Uplink – High Channel – High Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	3819.950	H	-64.9	-13	-51.9
	3819.950	V	-63.2	-13	-50.2
3rd	5729.925	H	-58.2	-13	-45.2
	5729.925	V	-53.3	-13	-40.3
4th	7639.900	H	* N/A	-13	* N/A
	7639.900	V	* N/A	-13	* N/A
5th	9549.875	H	* N/A	-13	* N/A
	9549.875	V	* N/A	-13	* N/A
6th	11459.850	H	* N/A	-13	* N/A
	11459.850	V	* N/A	-13	* N/A
7th	13369.830	H	* N/A	-13	* N/A
	13369.830	V	* N/A	-13	* N/A
8th	15279.800	H	* N/A	-13	* N/A
	15279.800	V	* N/A	-13	* N/A
9th	17189.780	H	* N/A	-13	* N/A
	17189.780	V	* N/A	-13	* N/A
10th	19099.750	H	* N/A	-13	* N/A
	19099.750	V	* N/A	-13	* N/A

** Measurement made at instrument ground floor – no discernible reading*

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 17 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink – Low Channel – Low Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	1738.050	H	* N/A	-13	* N/A
	1738.050	V	* N/A	-13	* N/A
3rd	2607.075	H	-56.8	-13	-43.8
	2607.075	V	-49.0	-13	-36.0
4th	3476.100	H	* N/A	-13	* N/A
	3476.100	V	* N/A	-13	* N/A
5th	4345.125	H	* N/A	-13	* N/A
	4345.125	V	* N/A	-13	* N/A
6th	5214.150	H	* N/A	-13	* N/A
	5214.150	V	* N/A	-13	* N/A
7th	6083.175	H	* N/A	-13	* N/A
	6083.175	V	* N/A	-13	* N/A
8th	6952.200	H	* N/A	-13	* N/A
	6952.200	V	* N/A	-13	* N/A
9th	7821.225	H	* N/A	-13	* N/A
	7821.225	V	* N/A	-13	* N/A
10th	8690.250	H	* N/A	-13	* N/A
	8690.250	V	* N/A	-13	* N/A

** Measurement made at instrument ground floor – no discernible reading*

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 17 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink – Mid Channel – Low Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	1763.0	H	-60.3	-13	-47.3
	1763.0	V	-60.8	-13	-47.8
3rd	2644.5	H	-51.8	-13	-38.8
	2644.5	V	-53.8	-13	-40.8
4th	3526.0	H	* N/A	-13	* N/A
	3526.0	V	* N/A	-13	* N/A
5th	4407.5	H	* N/A	-13	* N/A
	4407.5	V	* N/A	-13	* N/A
6th	5289.0	H	* N/A	-13	* N/A
	5289.0	V	* N/A	-13	* N/A
7th	6170.5	H	* N/A	-13	* N/A
	6170.5	V	* N/A	-13	* N/A
8th	7052.0	H	* N/A	-13	* N/A
	7052.0	V	* N/A	-13	* N/A
9th	7933.5	H	* N/A	-13	* N/A
	7933.5	V	* N/A	-13	* N/A
10th	8815.0	H	* N/A	-13	* N/A
	8815.0	V	* N/A	-13	* N/A

** Measurement made at instrument ground floor – no discernible reading*

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 17 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink – High Channel – Low Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	1787.950	H	* N/A	-13	* N/A
	1787.950	V	* N/A	-13	* N/A
3rd	2681.925	H	-61.3	-13	-48.3
	2681.925	V	-58.3	-13	-45.3
4th	3575.900	H	* N/A	-13	* N/A
	3575.900	V	* N/A	-13	* N/A
5th	4469.875	H	* N/A	-13	* N/A
	4469.875	V	* N/A	-13	* N/A
6th	5363.850	H	* N/A	-13	* N/A
	5363.850	V	* N/A	-13	* N/A
7th	6257.825	H	* N/A	-13	* N/A
	6257.825	V	* N/A	-13	* N/A
8th	7151.800	H	* N/A	-13	* N/A
	7151.800	V	* N/A	-13	* N/A
9th	8045.775	H	* N/A	-13	* N/A
	8045.775	V	* N/A	-13	* N/A
10th	8939.750	H	* N/A	-13	* N/A
	8939.750	V	* N/A	-13	* N/A

** Measurement made at instrument ground floor – no discernible reading*

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 17 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink – Low Channel - High Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	3860.050	H	-66.0	-13	-53.0
	3860.050	V	-63.3	-13	-50.3
3rd	5790.075	H	-56.2	-13	-43.2
	5790.075	V	-54.7	-13	-41.7
4th	7720.100	H	* N/A	-13	* N/A
	7720.100	V	* N/A	-13	* N/A
5th	9650.125	H	* N/A	-13	* N/A
	9650.125	V	* N/A	-13	* N/A
6th	11580.150	H	* N/A	-13	* N/A
	11580.150	V	* N/A	-13	* N/A
7th	13510.180	H	* N/A	-13	* N/A
	13510.180	V	* N/A	-13	* N/A
8th	15440.200	H	* N/A	-13	* N/A
	15440.200	V	* N/A	-13	* N/A
9th	17370.230	H	* N/A	-13	* N/A
	17370.230	V	* N/A	-13	* N/A
10th	19300.250	H	* N/A	-13	* N/A
	19300.250	V	* N/A	-13	* N/A

** Measurement made at instrument ground floor – no discernible reading*

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 17 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink – Mid Channel – High Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	3920	H	-64.0	-13	-51.0
	3920	V	-63.0	-13	-50.0
3rd	5880	H	* N/A	-13	* N/A
	5880	V	* N/A	-13	* N/A
4th	7840	H	* N/A	-13	* N/A
	7840	V	* N/A	-13	* N/A
5th	9800	H	* N/A	-13	* N/A
	9800	V	* N/A	-13	* N/A
6th	11760	H	* N/A	-13	* N/A
	11760	V	* N/A	-13	* N/A
7th	13720	H	* N/A	-13	* N/A
	13720	V	* N/A	-13	* N/A
8th	15680	H	* N/A	-13	* N/A
	15680	V	* N/A	-13	* N/A
9th	17640	H	* N/A	-13	* N/A
	17640	V	* N/A	-13	* N/A
10th	19600	H	* N/A	-13	* N/A
	19600	V	* N/A	-13	* N/A

** Measurement made at instrument ground floor – no discernible reading*

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

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Spurious**	
DNB Job Number:	86010	Date: 17 Oct 2007	**Conformance Standards** [X] IC RSS-131 [X] FCC Part 22 [X] FCC Part 24
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		
Description:	RF amplifier		
	Downlink – High Channel – High Band		

Harmonics	Freq In MHz	Antenna Polar	dBm Reading	-13dB Limit	Margin
2nd	3979.950	H	-67.0	-13	-54.0
	3979.950	V	-63.6	-13	-50.6
3rd	5969.925	H	-60.7	-13	-47.7
	5969.925	V	-56.8	-13	-43.8
4th	7959.900	H	* N/A	-13	* N/A
	7959.900	V	* N/A	-13	* N/A
5th	9949.875	H	* N/A	-13	* N/A
	9949.875	V	* N/A	-13	* N/A
6th	11939.850	H	* N/A	-13	* N/A
	11939.850	V	* N/A	-13	* N/A
7th	13929.830	H	* N/A	-13	* N/A
	13929.830	V	* N/A	-13	* N/A
8th	15919.800	H	* N/A	-13	* N/A
	15919.800	V	* N/A	-13	* N/A
9th	17909.780	H	* N/A	-13	* N/A
	17909.780	V	* N/A	-13	* N/A
10th	19899.750	H	* N/A	-13	* N/A
	19899.750	V	* N/A	-13	* N/A

** 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 (CISPR 22)
To measure radiated emissions, the EUT was set up on the 3 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.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Radiated Emissions**	
DNB Job Number:	86010	Date: 16 Oct 2007	**Conformance Standards**
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		[X] FCC Part 15 Class B
Description:	RF amplifier		
	All readings are at ground floor		

		Correction Factors					in dBuV/m			in uV/m			Positions			
FREQ	METER	Bcn	Log	Cbl	Amp	Dis	Corr	Lim	Delta	Corr	Lim	Delta	Typ	Tbl	Pl	Hgt
30.870	20.0	17.3	0	1.5	-26.5	0	12.3	40.0	-27.7	4	100	-96	QP	0	V	1.00
42.000	24.4	12.3	0	1.8	-26.4	0	12.1	40.0	-27.9	1	100	-99	QP	180	V	1.00
71.300	33.8	5.5	0	2.3	-26.3	0	15.3	40.0	-24.7	6	100	-94	QP	0	V	1.00
75.495	31.6	5.9	0	2.4	-26.3	0	13.6	40.0	-26.4	5	100	-95	QP	0	V	1.00
244.180	21.0	0	17.3	4.7	-25.8	0	17.2	46.0	-28.8	7	200	-93	QP	0	V	1.00
261.600	17.4	0	18.8	5.2	25.7	0	15.7	46.0	-30.3	6	200	-94	QP	0	V	1.00

CONDUCTED EMISSIONS

Definition:
Emissions which emanate from AC Mains of the EUT.

Test Method: FCC Part 15 Class B (CISPR 22)
To measure conducted emissions, the EUT was set upon a wooden table in the shielded enclosure. AC power was fed into the EUT from the Artificial Mains Network. With the Artificial Mains Network connected to an HP 8568B Spectrum Analyzer, and using the HP 9825 Computer/Controller and the HP 85864B EMI Measurement Software, the spectrum was searched from 0.15 - 30 MHz for emissions emanating from the EUT.

Test Results: All readings were below the expectable limit.

FIGURE 10: CONDUCTED EMISSIONS.

	1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436	**Conducted Emissions**	
DNB Job Number:	86010	Date: 16 Oct 2007	**Conformance Standards**
Customer:	Intelligent Wireless Products, Inc.		
Model Number:	CWAP819		[X] FCC Part 15 Class B
Description:	RF amplifier		

Freq	Meter	LISN	Cable	Corrected	Limit	Delta	Limit	Line	Type	Comments
17.344	28.00	0.1	0.8	28.90	50.0	-21.10	AVE	L2	QP	Run 2 Downlink mode
18.143	30.50	0.2	0.8	31.50	50.0	-18.50	AVE	L2	QP	Run 2 Downlink mode
18.677	30.10	0.2	0.8	31.10	50.0	-18.90	AVE	L2	QP	Run 2 Downlink mode
18.943	32.10	0.2	0.9	33.20	50.0	-16.80	AVE	L2	QP	Run 2 Downlink mode
19.744	29.20	0.2	0.9	30.30	50.0	-19.70	AVE	L2	QP	Run 2 Downlink mode
20.278	29.30	0.2	0.9	30.40	50.0	-19.60	AVE	L2	QP	Run 2 Downlink mode
17.343	35.40	0.1	0.8	36.30	50.0	-13.70	AVE	L1	QP	Run 1 Uplink mode
17.343	30.00	0.1	0.8	30.90	50.0	-19.10	AVE	L2	QP	Run 1 Uplink mode
18.143	32.30	0.2	0.8	33.30	50.0	-16.70	AVE	L2	QP	Run 1 Uplink mode
18.143	36.90	0.1	0.8	37.80	50.0	-12.20	AVE	L1	QP	Run 1 Uplink mode
18.677	33.70	0.2	0.8	34.70	50.0	-15.30	AVE	L2	QP	Run 1 Uplink mode
18.677	38.70	0.1	0.8	39.60	50.0	-10.40	AVE	L1	QP	Run 1 Uplink mode
18.943	37.50	0.1	0.9	38.50	50.0	-11.50	AVE	L1	QP	Run 1 Uplink mode
18.943	33.30	0.2	0.9	34.40	50.0	-15.60	AVE	L2	QP	Run 1 Uplink mode
19.477	33.80	0.2	0.9	34.90	50.0	-15.10	AVE	L2	QP	Run 1 Uplink mode
19.477	38.60	0.1	0.9	39.60	50.0	-10.40	AVE	L1	QP	Run 1 Uplink mode
20.278	36.60	0.1	0.9	37.60	50.0	-12.40	AVE	L1	QP	Run 1 Uplink mode
20.278	31.90	0.2	0.9	33.00	50.0	-17.00	AVE	L2	QP	Run 1 Uplink mode

2.1055 Measurement of Frequency Stability (IC RSS-131)

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 10^{th} harmonic of the carrier frequency.

RF Exposure

The CWAP819 (800 / 1900 MHz) dual band RF Compensator is operated as a signal booster as defined in 2.1091(b) based on its design and installation. The compensator is installed in such a way that it is physically secured and is generally located more than 40 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 40 cm of separation between user and the antenna.

RF Exposure – MPE Calculations

Input

Transmitter Power:	1.032W	@ 824-849MHz	(Uplink)
	54.0mW	@ 869-894MHz	(Downlink)
	0.796mW	@ 1850-1910MHz	(Uplink)
	27.2mW	@ 1930-1990MHz	(Downlink)

Antenna Gain: 5 dBi all cases

Cable loss: 1.5 dB @ 824–849 MHz and 869-894MHz
2.5 dB @ 1850–1910 MHz and 1930-1990MHz

Frequency range:	824-849MHz and 1850-1910MHz	(Uplink)
	869-894MHz and 1930-1990MHz	(Downlink)

Assumptions

1. A single ¼ wavelength radiating antenna is assumed.

2. Closest exposure distance is assumed to be 40 cm

3. Using the formula Level 1/Limit1 + Level2/Limit2 to show predicted total RF exposure if both bands are operating simultaneously, result must be less than 1.

   Where: Limit 1 is the limit in the uplink band
   Limit 2 is the limit in the downlink band
   Level 1 is the calculated maximum RF exposure in the uplink band
   Level 2 is the calculated maximum RF exposure in the downlink band

824-894 Band (Uplink and Downlink)

Combined Worst Case Exposure = 0.3521472 is less than 1 = compliant

1850-1990 Band (Uplink and Downlink)

Combined Worst Case Exposure = 0.0161025 is less than 1 = compliant

RF Exposure – MPE Calculations

Calculations for Uplink

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 40 cm is considered to be in the far-field for all cases.

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

@ 824 – 849 MHz

P is 1032 mW
G is 4.5 dBi (Antenna gain – loss) or $10^{(4.5/10)}$ or 2.818 Numerical
R is 40 cm

S = 0.145mW/cm^2

For Occupational/Controlled Exposure
From 300 to 1500 MHz, power density limit is f/300 mW/cm^2
@ 824 MHz, power density limit is **2.747 mW/cm^2 for 6 minutes.**

For General Population/Uncontrolled Exposure
From 300 to 1500 MHz, power density limit is f/1500 mW/cm^2
@ 824 MHz, Power density limit is **0.549 mW/cm^2 for 30 minutes.**

Conclusion: **Meets MPE limits**

@ 1850 – 1910 MHz

P is 796 mW
G is 3.5 dBi (Antenna gain – loss) or $10^{(3.5/10)}$ or 2.24 Numerical
R is 40 cm

S = 0.088675mW/cm^2

For Occupational/Controlled Exposure
From 1,500 to 100,000 MHz, power density limit is **5 mW/cm^2 for 6 minutes.**

For General Population/Uncontrolled Exposure
From 1,500 to 100,000 MHz, power density limit is **1 mW/cm^2 for 30 minutes.**

Conclusion: **Meets MPE limits**

RF Exposure – MPE Calculations

Calculations for Downlink

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 40 cm is considered to be in the far-field for all cases.

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

@ 869 – 894 MHz

P is 54 mW
G is 4.5 dBi (Antenna gain – loss) or $10^{(4.5/10)}$ or 2.818 Numerical
R is 40 cm

S = 0.008mW/cm^2

For Occupational/Controlled Exposure
From 300 to 1500 MHz, power density limit is f/300 mW/cm^2
@ 869 MHz, power density limit is **2.897 mW/cm^2 for 6 minutes.**

For General Population/Uncontrolled Exposure
From 300 to 1500 MHz, power density limit is f/1500 mW/cm^2
@ 869 MHz, Power density limit is **0.579 mW/cm^2 for 30 minutes.**

Conclusion: **Meets MPE limits**

@ 1930 – 1990 MHz

P is 27.2 mW
G is 3.5 dBi (Antenna gain – loss) or $10^{(3.5/10)}$ or 1.12 Numerical
R is 40 cm

S = 0.003030mW/cm^2

For Occupational/Controlled Exposure
From 1,500 to 100,000 MHz, power density limit is **5 mW/cm^2 for 6 minutes.**

For General Population/Uncontrolled Exposure
From 1,500 to 100,000 MHz, power density limit is **1 mW/cm^2 for 30 minutes.**

Conclusion: **Meets MPE limits**

Appendix A Photographs

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PHOTOS: RADIATED EMISSIONS: EUT SET UP

Notes: Receive antennas located outside weather dome 3 meters away from EUT.

PHOTOS: CONDUCTED EMISSIONS: EUT SET UP

Notes:

PHOTOS: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS

Notes: Transmit Antenna

PHOTOS: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS

Notes: Transmit Antenna

PHOTOS: RADIATED FIELD STRENGTH OF SPURIOUS EMISSIONS

Notes: Receive Antenna

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

Notes: