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REPORT OF MEASUREMENTS

FOR
CELLULAR SPECIALTIES, INC.

BI-DIRECTIONAL DUAL BAND AMPLIFIER

MODEL: SMR-700/800

FCC ID: NVRCSIT61080-SP78

Company Name: Cellular Specialties, Inc.

Date of Report: April 1, 2010

Test Report No: R-5307N

Test Start Date: March 11, 2010

Test Finish Date: March 16, 2010

Test Technician: Matt Seamans

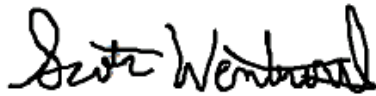
Lab Supervisor: Todd Hannemann

Report Prepared By: Jamie Ramsey

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Certification and Signatures

We certify that this report is a true report of the results obtained from the tests of the equipment stated and relates only to the equipment tested. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.



Scott Wentworth
Branch Manager
NVLAP Approved Signatory



Todd Hannemann
Laboratory Supervisor

Non-Warranty Provision

The testing services have been performed, findings obtained, and reports prepared in accordance with generally accepted testing laboratory principles and practices. This warranty is in lieu of all other warranties, either express or implied.

Non-Endorsement

This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation, endorsement, or certification of the product or material tested. This report must not be used by the client to claim product endorsement by NVLAP, NIST or any agency of the U.S. Government.

CERTIFICATION APPLICATION SUMMARY

Applicant/Manufacturer: Cellular Specialties
670 North Commercial Street
Manchester, NH 03101

Equipment under Test (EUT): The EUT is a Bi-Directional Dual Band Amplifier

Model: SMR-700/800

FCC ID Number: FCC ID: NVRCIT61080-SP78

Applicable Test Standard: FCC Parts 2 & 90

Measurement Procedure: ANSI/TIA-603-C-2004

Device Classification: Mobile

EUT Frequency Bands: Uplink: 793MHz to 805MHz
Downlink: 763MHz to 775MHz

Uplink: 806MHz to 824MHz
Downlink: 851MHz to 869MHz

Power Output Rating Based on Intermodulation Data Composite power (For Certification Grant): 763MHz to 775MHz (TDMA): .476W
763MHz to 775MHz (FM): .468W
793MHz to 805MHz (TDMA): .491W
793MHz to 805MHz (FM): .506W
806MHz to 824MHz (TDMA): .726W
806MHz to 824MHz (FM): .723W
851MHz to 869MHz (TDMA): .406W
851MHz to 869MHz (FM): .403W

Modulation Types: FM (F1D), TDMA (DXW)

RF Exposure + Antenna Installation: See Attached Installation/Users Manual and MPE Evaluation

Measurements Required by FCC: See Report Section 1 (Summary of Test Program) and the following Test Report Data Attachments:

- RF Power Output
- Intermodulation Characteristics (Two-Tone)
- Occupied Bandwidth
- Spurious Emissions at Antenna Terminals
- Effective Radiated Power of Spurious Radiation
- Frequency Stability

Test Report No. R-5307N
FCC ID: NVRCIT61080-SP78

SECTION 1

SUMMARY OF TEST PROGRAM

INTERMODULATION CHARACTERISTICS (TWO TONE)

Measurement Procedure:

Two signals were injected, in turn, to each uplink and downlink frequency band via a two way power combiner. Testing was performed at both the low band edge and high band edge of each pass band. The output of each signal generator was adjusted so that the two output fundamental frequencies were equal in magnitude. Testing was performed for FM & TDMA Modulation types. At the maximum specified input power levels all intermodulation products were at -13dBm or below. See attached test data.

OCCUPIED BANDWIDTH

Measurement Procedure:

For Occupied Bandwidth, measurements were made to compare the input signal to the output signal. The signal generator output was connected to the spectrum analyzer. A TDMA modulation signal was then applied to the carrier. Waveforms were then noted on an X-Y plot. Next, the signal generator was connected to the EUT and the output of the EUT was connected to the spectrum analyzer. The output waveform after amplification was then compared to the original input signal to ensure that no significant differences occurred between the input signal and the amplified signal. Testing was performed at one frequency within each passband (uplink and downlink). Testing was repeated with FM Modulation. See Occupied Bandwidth Data.

SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Measurement Procedure:

The signal generator output was connected in turn to the uplink and downlink input ports of the EUT. The input power level was at the maximum level which was ascertained during the Power Output test. A spectrum analyzer was connected to the output of the EUT. The input test frequencies used were three frequencies (low, mid & high) within each passband (uplink and downlink). The level of any spurious emission was recorded. Testing was performed in the frequency range of 30MHz to 9GHz. Testing was performed for TDMA & FM modulation types. The spurious emissions limit is -13dBm as specified in FCC Part 90. All emissions were below the specified -13dBm limit. See attached test data.

EFFECTIVE RADIATED POWER OF SPURIOUS RADIATION

Measurement Procedure:

The test sample was placed on a 80cm high wooden test stand which was located 3 meters from the test antenna on an FCC listed test site. A signal generator was connected to the input of the amplifier. The signal generator output was set to provide the input power level necessary to achieve maximum output power of the amplifier at 3 frequencies (low, mid & high) within each passband (uplink and downlink). The effective radiated power of each out of band spurious emission was measured using the substitution method specified in ANSI/TIA-603-C-2004. The frequency range of the test was 30MHz – 9GHz. The limit for out of band spurious emissions is -13dBm as specified in Part 90. All emissions were below the specified -13dBm limit. See attached test data.

RF POWER OUTPUT

The RF Power Output test was performed in conjunction with the intermodulation test using RMS channel power measurements of two channels with a one channel separation in between. The measurements were taken with the AGC turned off at maximum output power with all intermodulation products below the -13dBm limit. The measured output power matched the manufacturer's rated output power. See attached test data.

FREQUENCY STABILITY MEASUREMENTS

The test sample was placed into a temperature chamber with the AC input power supplied through a variable power source. A signal generator was used to provide the input signal and the output was measured with a frequency counter. With the test sample operating at maximum output power the test sample's output frequency was measured and recorded at the extremes of the temperature range and at 10 degree increments from -30 degrees C to +50 degrees C while the AC input voltage was varied from 85 to 115% of nominal. The output frequency for both the passband uplink and downlink stayed within the assigned frequency band. See attached test data.

SECTION 2

EQUIPMENT LISTS

Radiated Spurious Emissions

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
3116	Pre-Amplifier	Miteq	0.1 GHz - 18 GHz	AFS42-35	1/12/2010	1/12/2011
3117	Power Supply	B&K Precision	0-30 Vdc, 3.0 A	1630	1/31/2010	1/31/2011
3258	Double Ridge Guide	EMCO	1 - 18 GHz	3115	1/14/2010	1/14/2011
4029B	Test Site Attenuation	Retlif	3 / 10 Meters	RNH	6/25/2009	6/25/2010
5053	Biconilog	EMCO	26 MHz - 3 GHz	3142C	1/27/2009	4/27/2010
5070	EMI Test Receiver	Rohde & Schwarz	20 Hz - 40 GHz	ESIB40	1/14/2009	4/14/2010
R420B	Signal Generator	Agilent	250 kHz - 3 GHz	AT/E4437B:F	9/09/2008	10/17/2010

RF Power Output

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
1345	Attenuator	Narda East	DC - 18GHz	776B-30	6/8/2009	6/8/2010
5070	EMI Test Receiver	Rohde & Schwarz	20 Hz - 40 GHz	ESIB40	1/14/2009	3/14/2011
5133	10 dB Atten.	Narda	DC - 12.4 GHz	757C-10	8/18/2009	8/18/2010
R420B	Signal Generator	Agilent	250 kHz - 3 GHz	AT/E4437B:F	9/09/2008	10/17/2010

Frequency Stability

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
4997	Digital Thermometer	Omega	N/A		8/5/2009	8/5/2010
5049B	Digital Multimeter	Fluke	N/A	111	8/19/2009	8/19/2010
5077	Temperature Chamber	Associated Env. Systems	-50 to 150 Deg C	ZFD-531	8/6/2009	8/6/2010
R425B	Spectrum Analyzer	Agilent	100 Hz - 26.5 GHz	E7405A;A	5/11/2009	5/11/2010
R420B	Signal Generator	Agilent	250 kHz - 3 GHz	AT/E4437B:F	9/09/2008	10/17/2010

Intermodulation Characteristics

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
5038	10 DB Atten. (50 ohm)	Fluke	DC - 12.4 GHz	Y9304	1/20/2010	1/20/2011
5040	30 DB Atten. (50 ohm)	Fluke	DC - 12.4 GHz	Y9306	1/20/2010	1/20/2011
R420B	Signal Generator	Agilent	250K - 3G	AT/E4437B:F	9/9/2008	10/7/2010
R425B	Spectrum Analyzer	Agilent	100 Hz - 26.5 GHz	E7405A;A	5/11/2008	5/11/2009
R420B	Signal Generator	Agilent	250 kHz - 3 GHz	AT/E4437B:F	9/09/2008	10/17/2010

Occupied Bandwidth

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
1345	Attenuator	Narda East	DC - 18GHz	776B-30	6/8/2009	6/8/2010
5070	EMI Test Receiver	Rohde & Schwarz	20 Hz - 40 GHz	ESIB40	1/14/2009	3/14/2011
5133	10 dB Atten.	Narda	DC - 12.4 GHz	757C-10	8/18/2009	8/18/2010
R420B	Signal Generator	Agilent	250 kHz - 3 GHz	AT/E4437B:F	9/09/2008	10/17/2010

Antenna Conducted Spurious Emissions

EN	Type	Manufacturer	Description	Model No.	Cal Date	Due Date
1345	Attenuator	Narda East	DC - 18GHz	776B-30	6/8/2009	6/8/2010
5070	EMI Test Receiver	Rohde & Schwarz	20 Hz - 40 GHz	ESIB40	1/14/2009	3/14/2011
5133	10 dB Atten.	Narda	DC - 12.4 GHz	757C-10	8/18/2009	8/18/2010
R420B	Signal Generator	Agilent	250 kHz - 3 GHz	AT/E4437B:F	9/09/2008	10/17/2010

SETUP PHOTOGRAPHS
SPURIOUS RADIATED EMISSIONS
30MHz to 1000 MHz



Test Setup, Horizontal Antenna Polarization



Test Setup, Vertical Antenna Polarization



SETUP PHOTOGRAPHS
SPURIOUS RADIATED EMISSIONS
1 GHz to 9 GHz

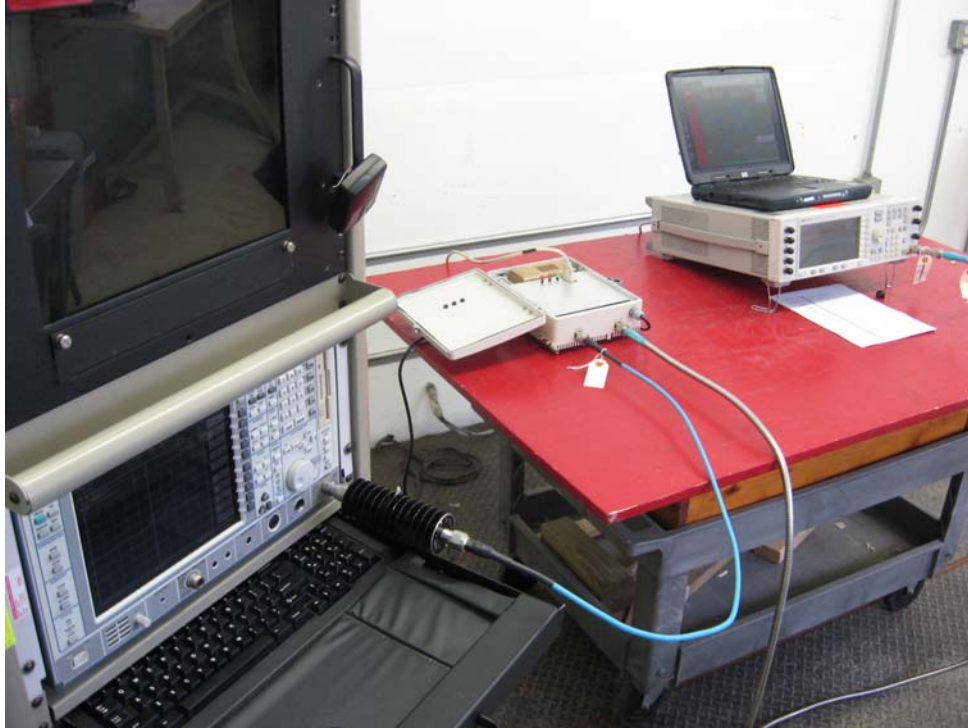
Test Setup, Horizontal Antenna Polarization



Test Setup, Vertical Antenna Polarization



SPURIOUS EMISSIONS AT ANTENNA TERMINALS
OCCUPIED BANDWIDTH/RF POWER OUTPUT
INTERMODULATION (TWO TONE)

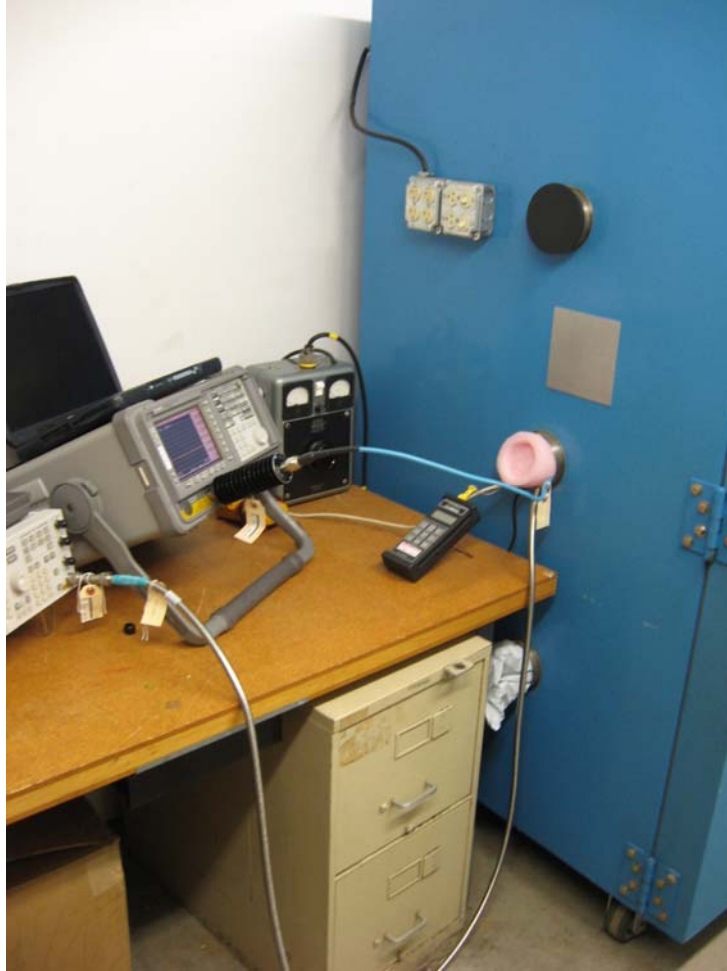


FREQUENCY STABILITY



Test Report No. R-5307N
FCC ID: NVRCSIT61080-SP78

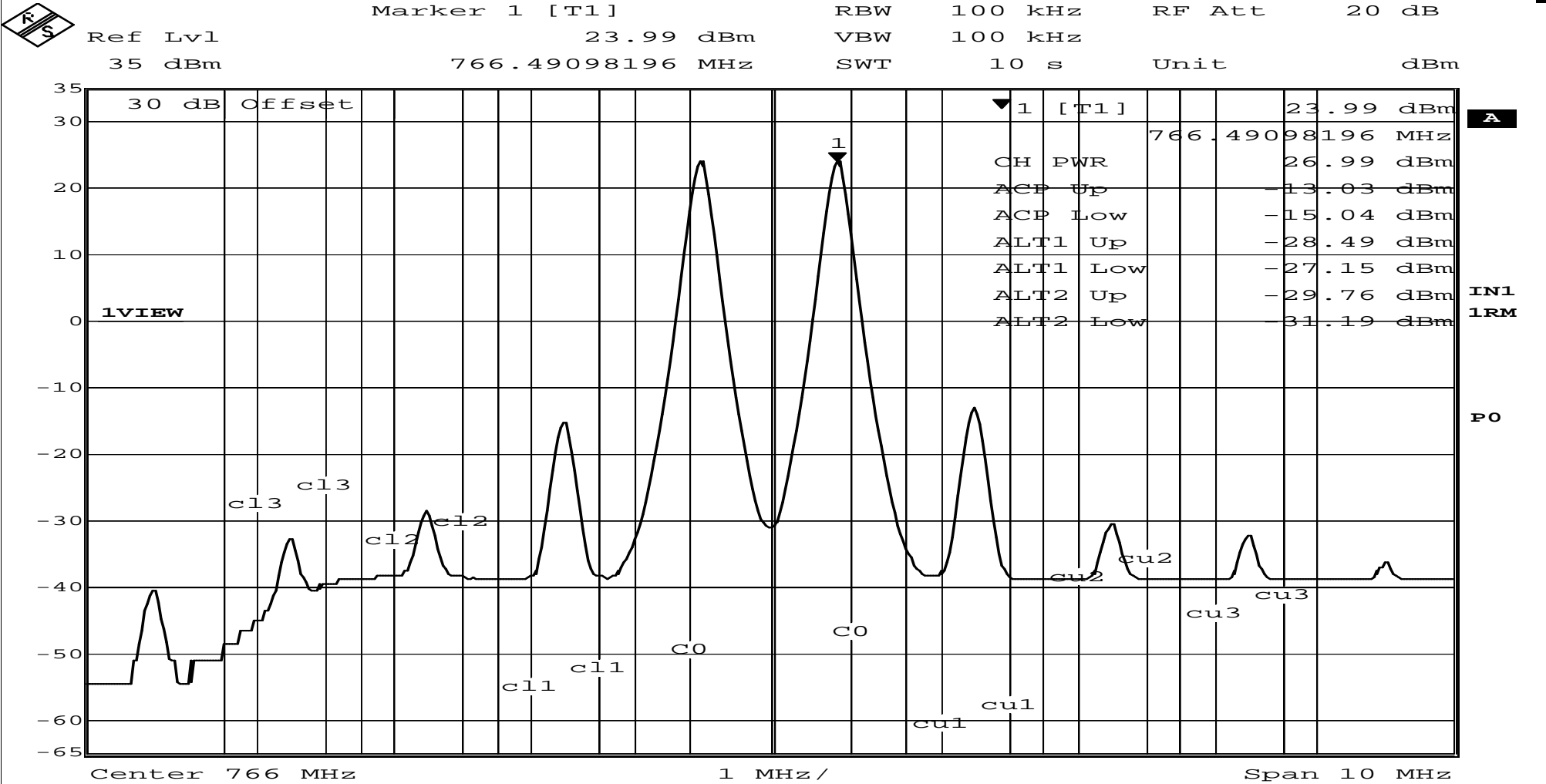
FREQUENCY STABILITY



RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink (763-775MHz)		

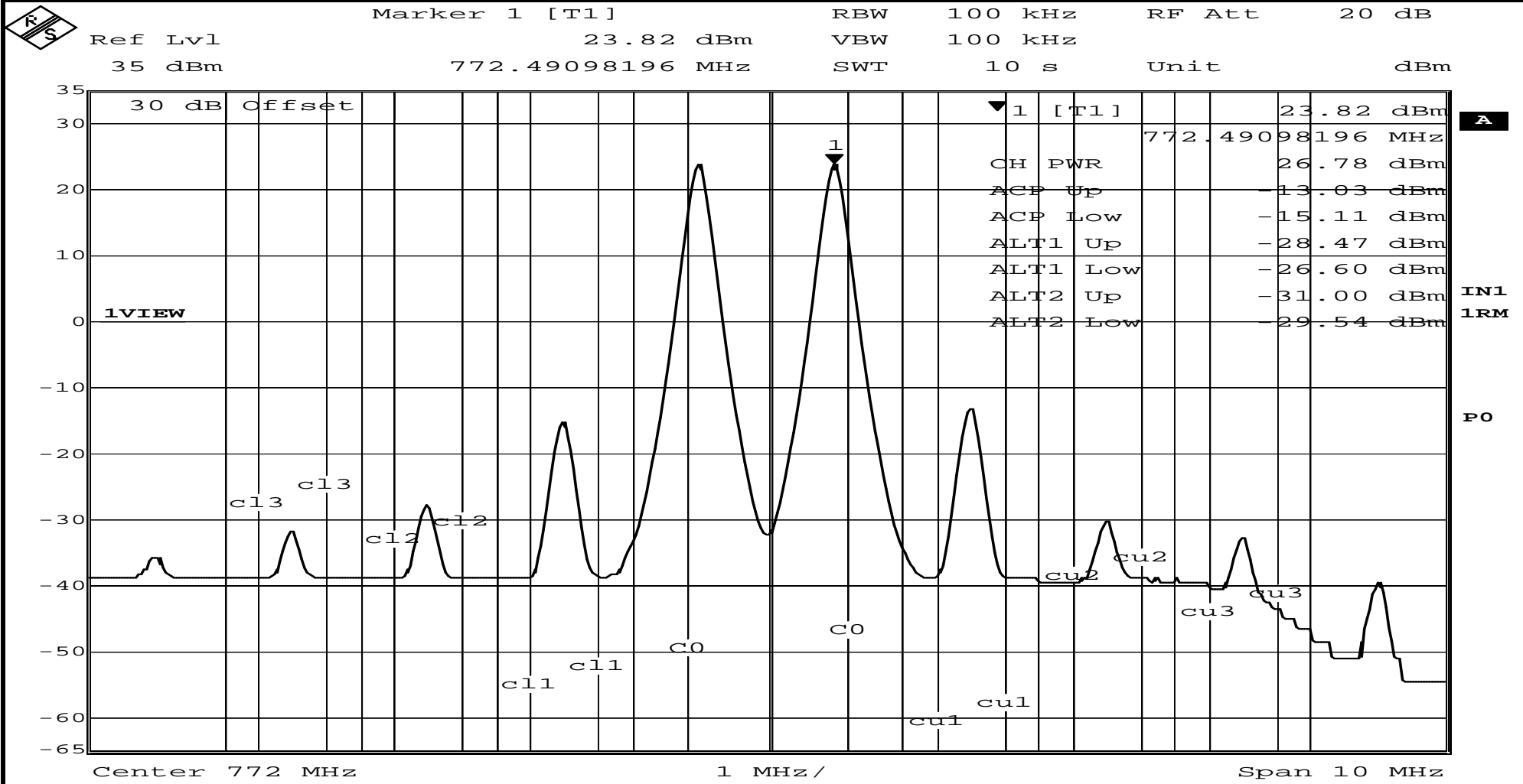


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink (763-775MHz)		

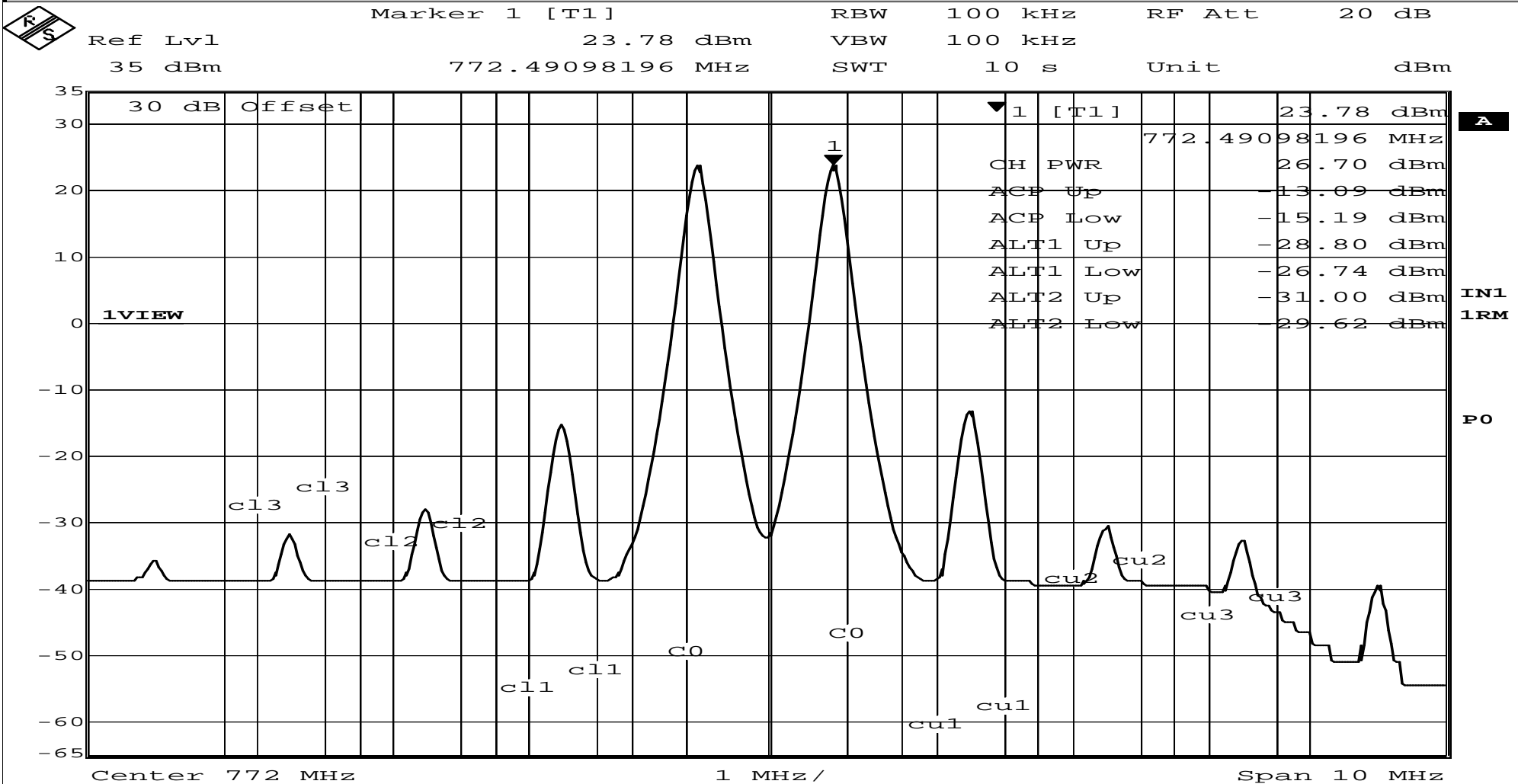


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	FM - Downlink (763-775MHz)		

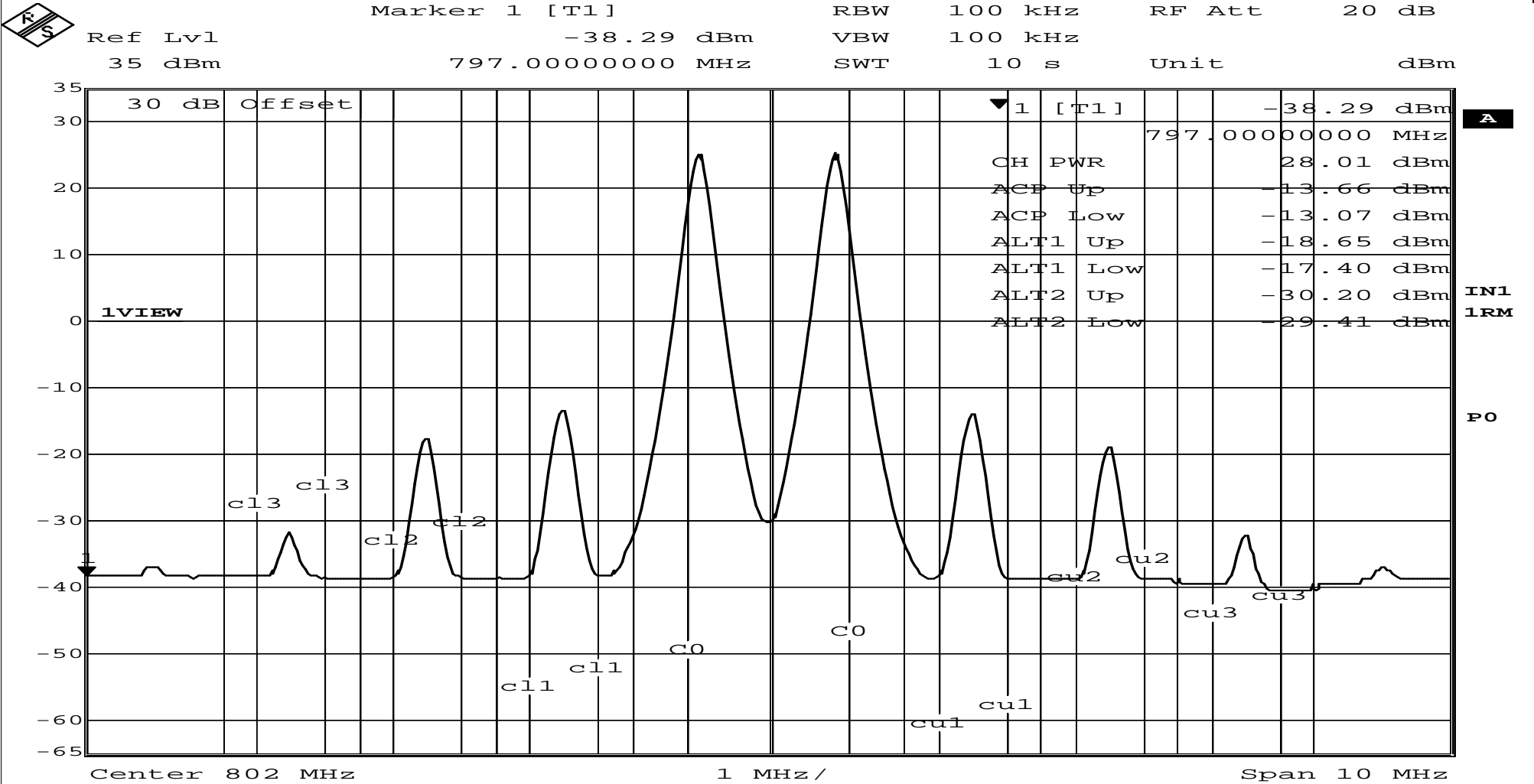


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
Operating Mode:	Amplifying input signal		
Notes:	FM - Uplink (793-805MHz)		

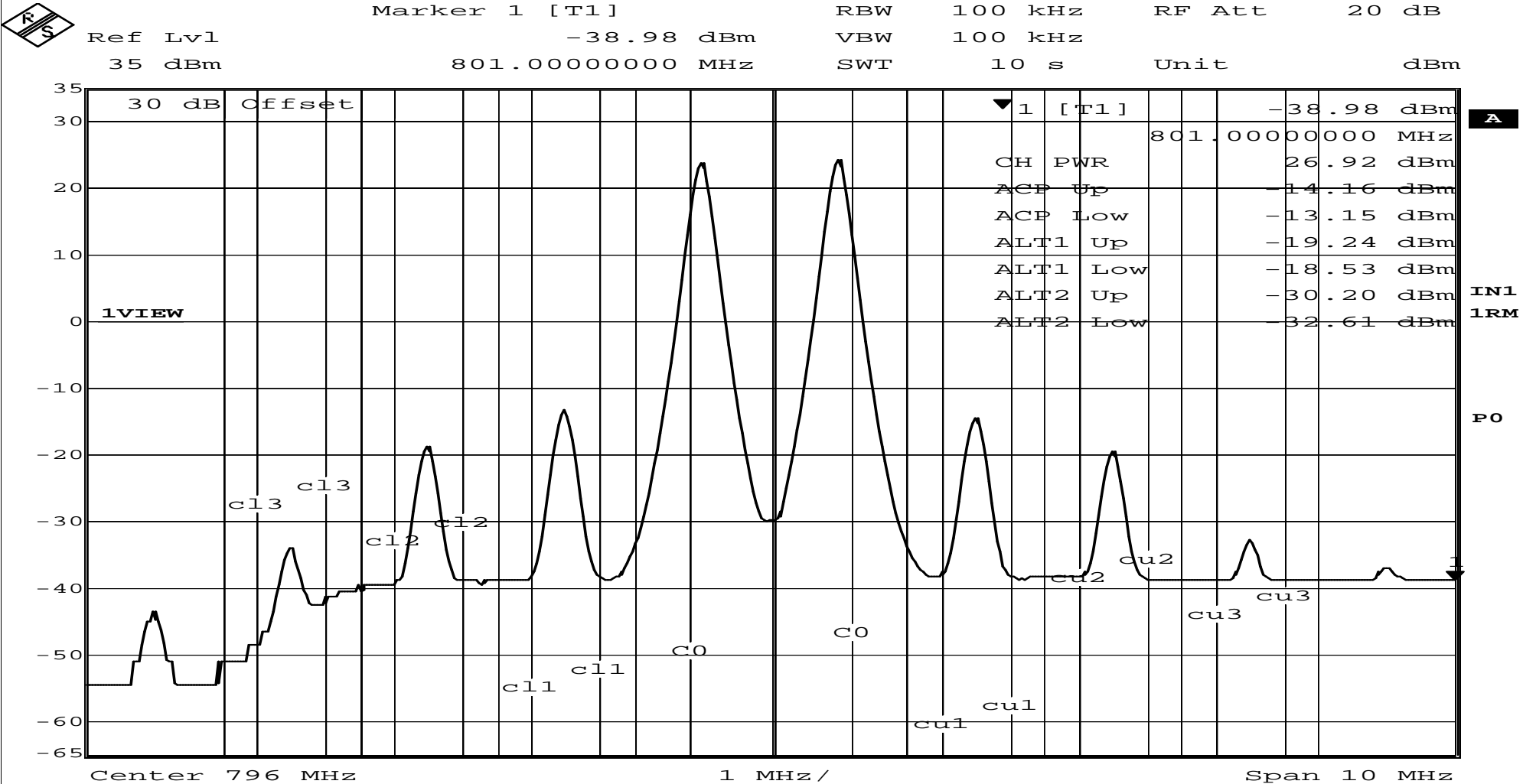


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Job No:	R-5307N		
Model No:	SMR-700/800	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
Date:	3/11/2010		
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink (793-805MHz)		

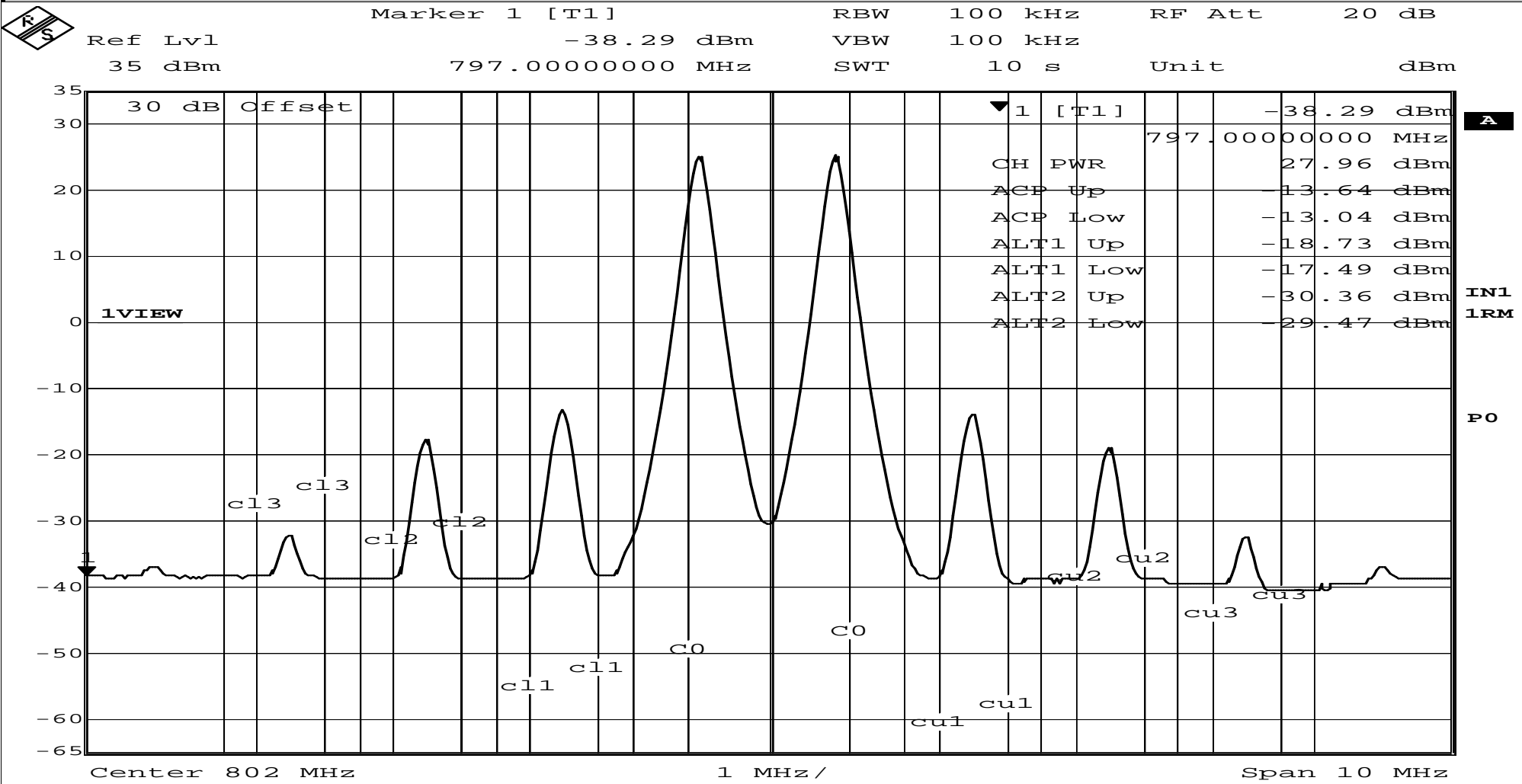


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Job No:	R-5307N		
Model No:	SMR-700/800	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
			3/11/2010
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink (793-805MHz)		

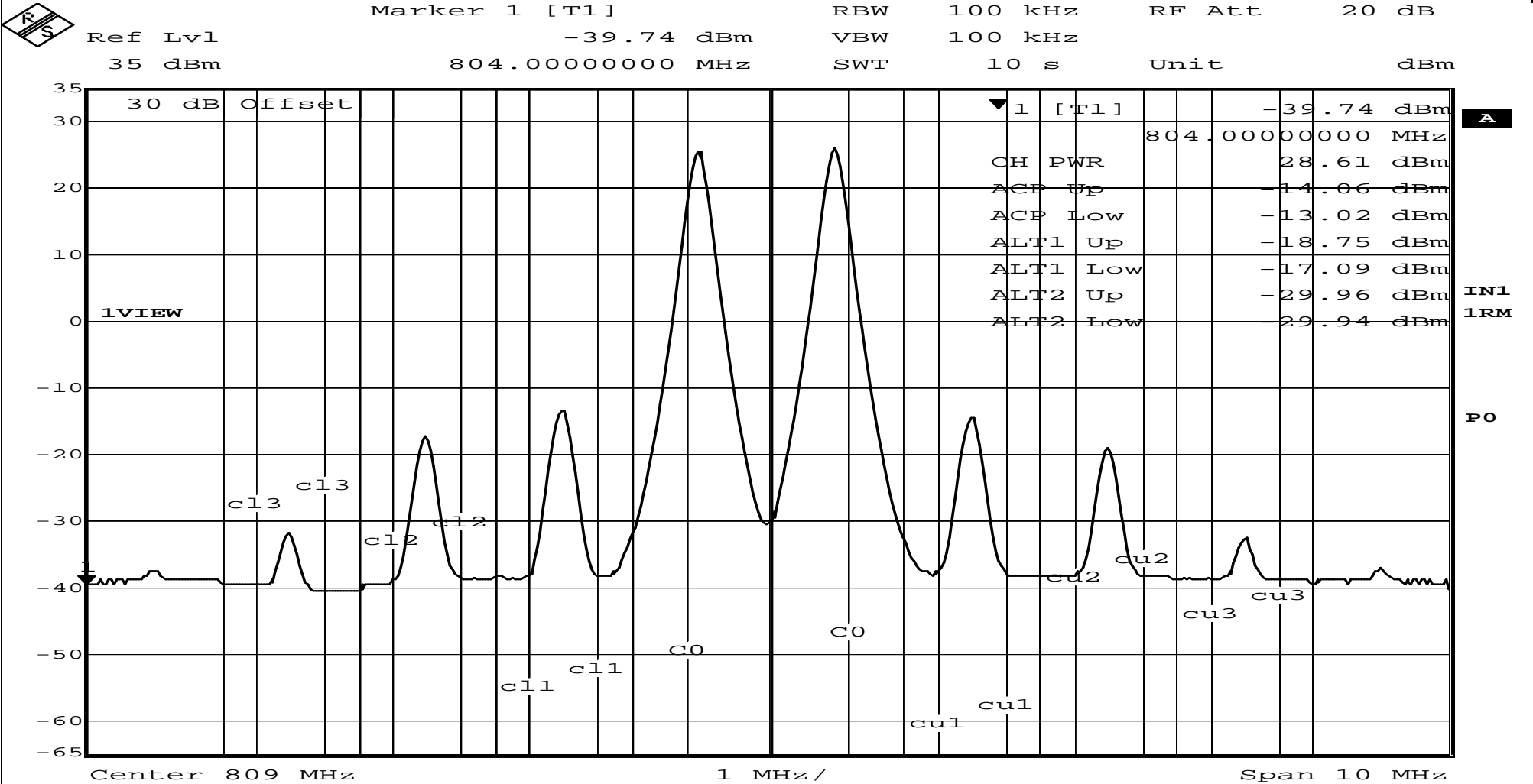


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics			
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater	
Model No:	SMR-700/800	Serial No:	N/A	
Test Specification:	FCC Part 2	Paragraph:	2.1047	
Operating Mode:	Amplifying input signal			
Notes:	TDMA - Downlink (806-824MHz)			
Job No:	R-5307N		Technician:	M.Seamans
Date:	3/11/2010			

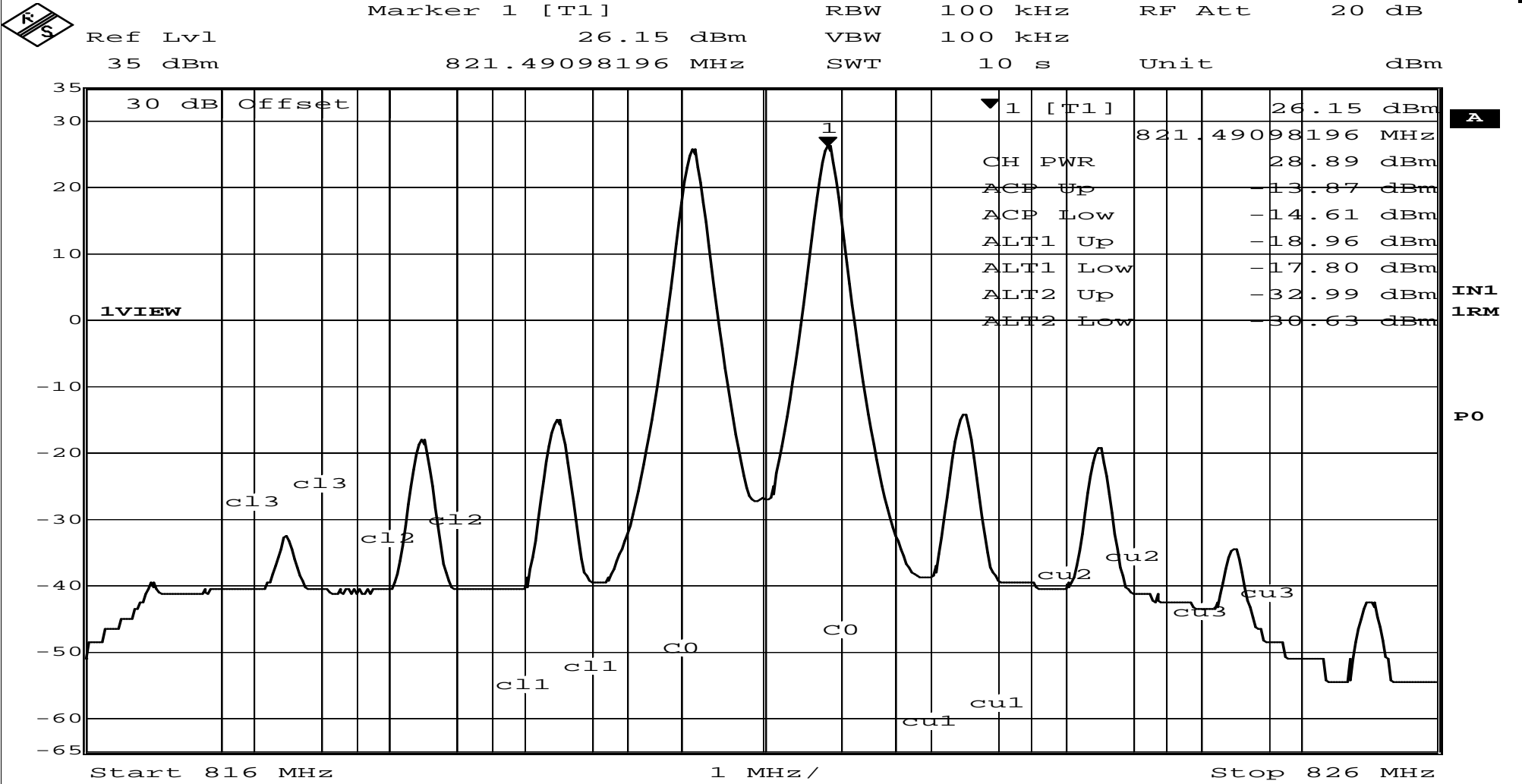


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EMISSIONS DATA SHEET

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Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink (806-824MHz)		

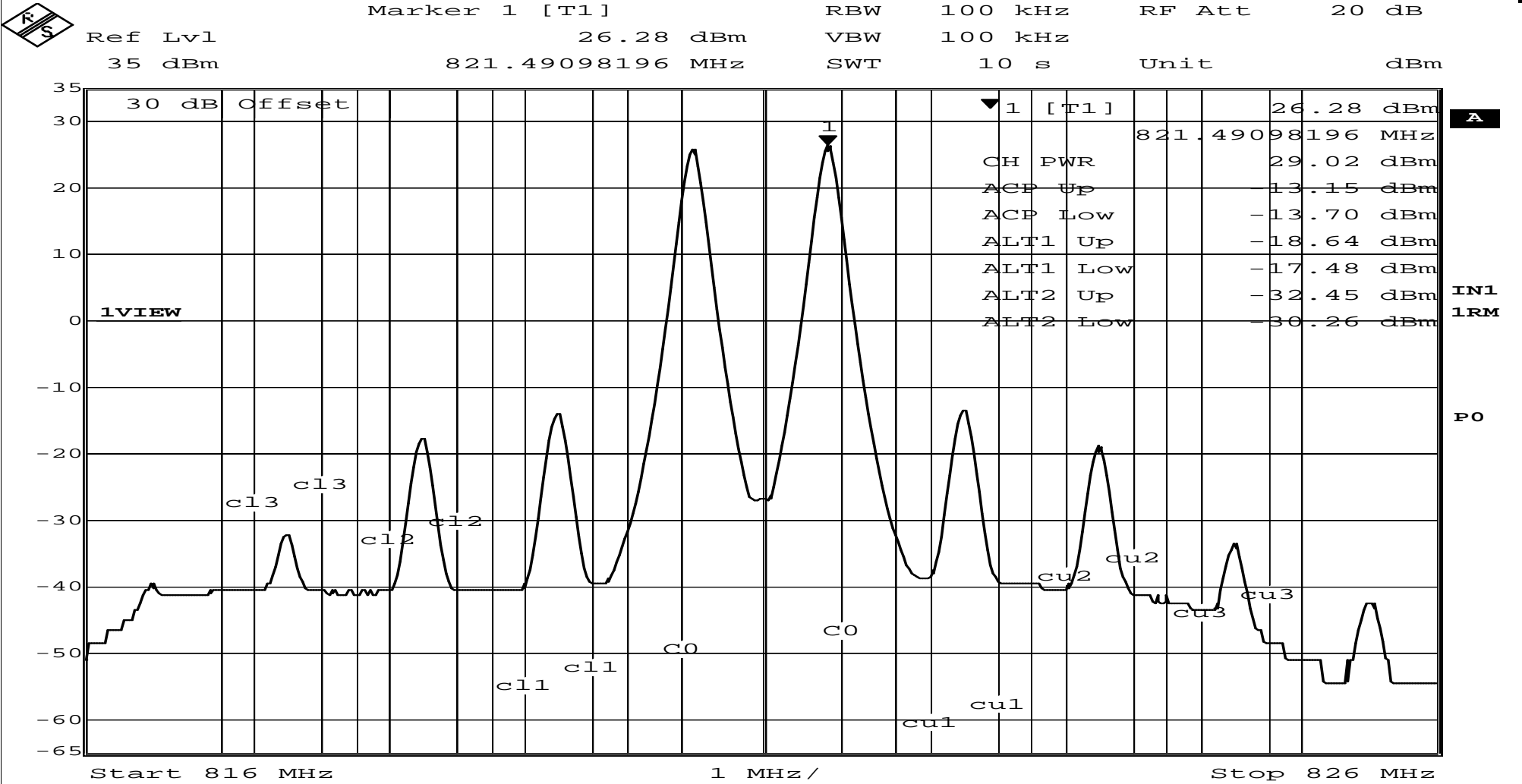


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	FM - Uplink (806-824MHz)		

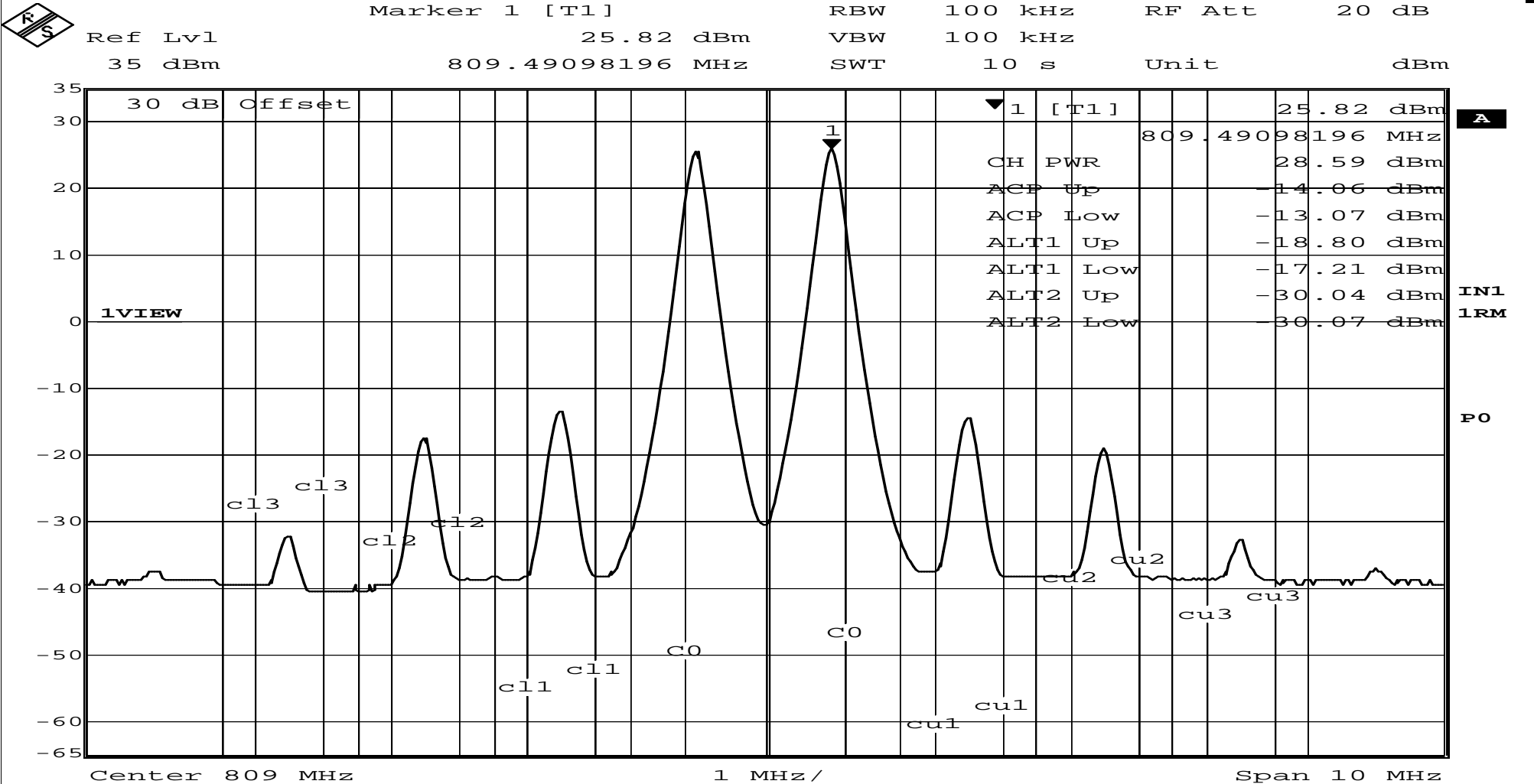


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	FM - Uplink (806-824MHz)		

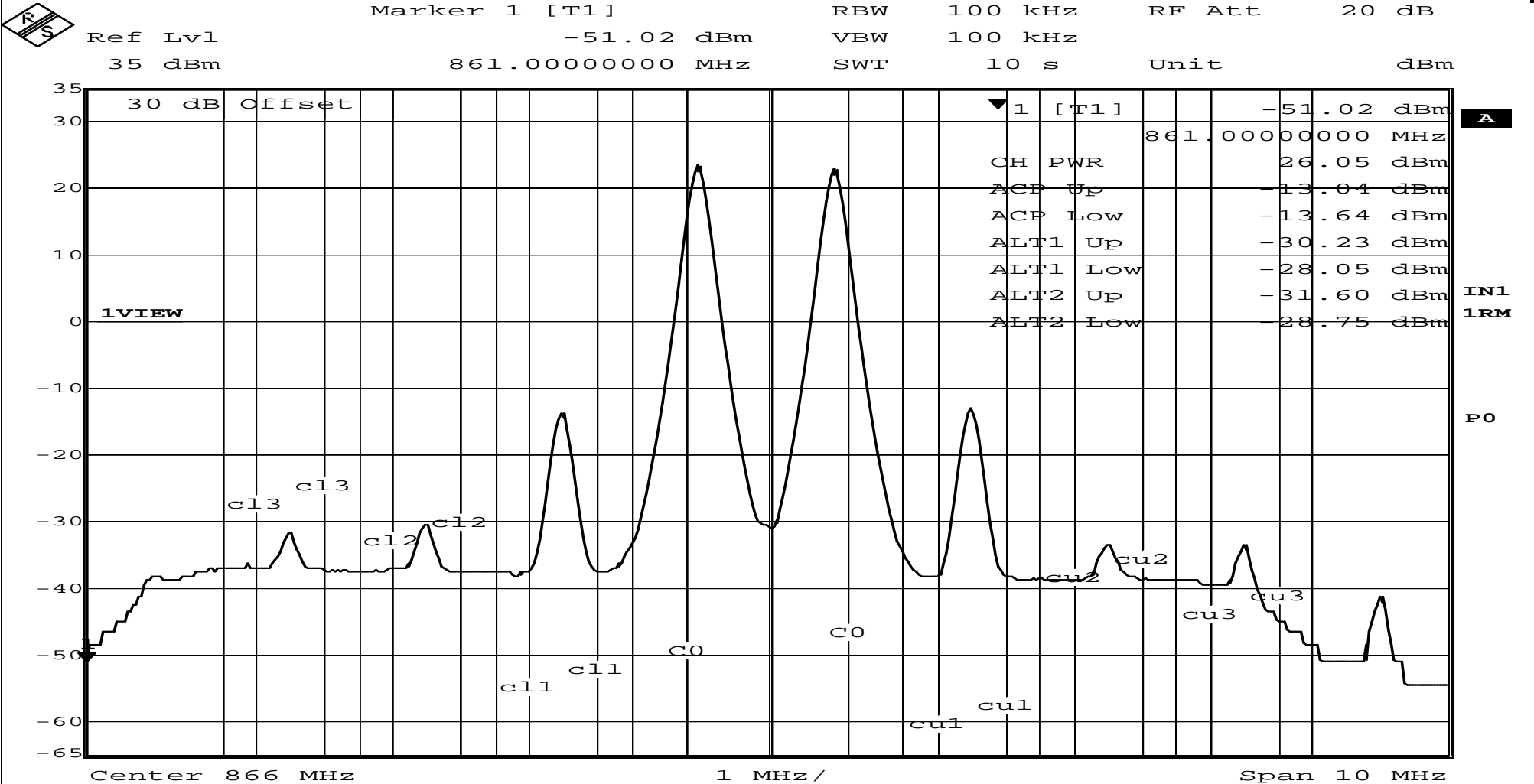


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	FM - Downlink (851-869MHz)		

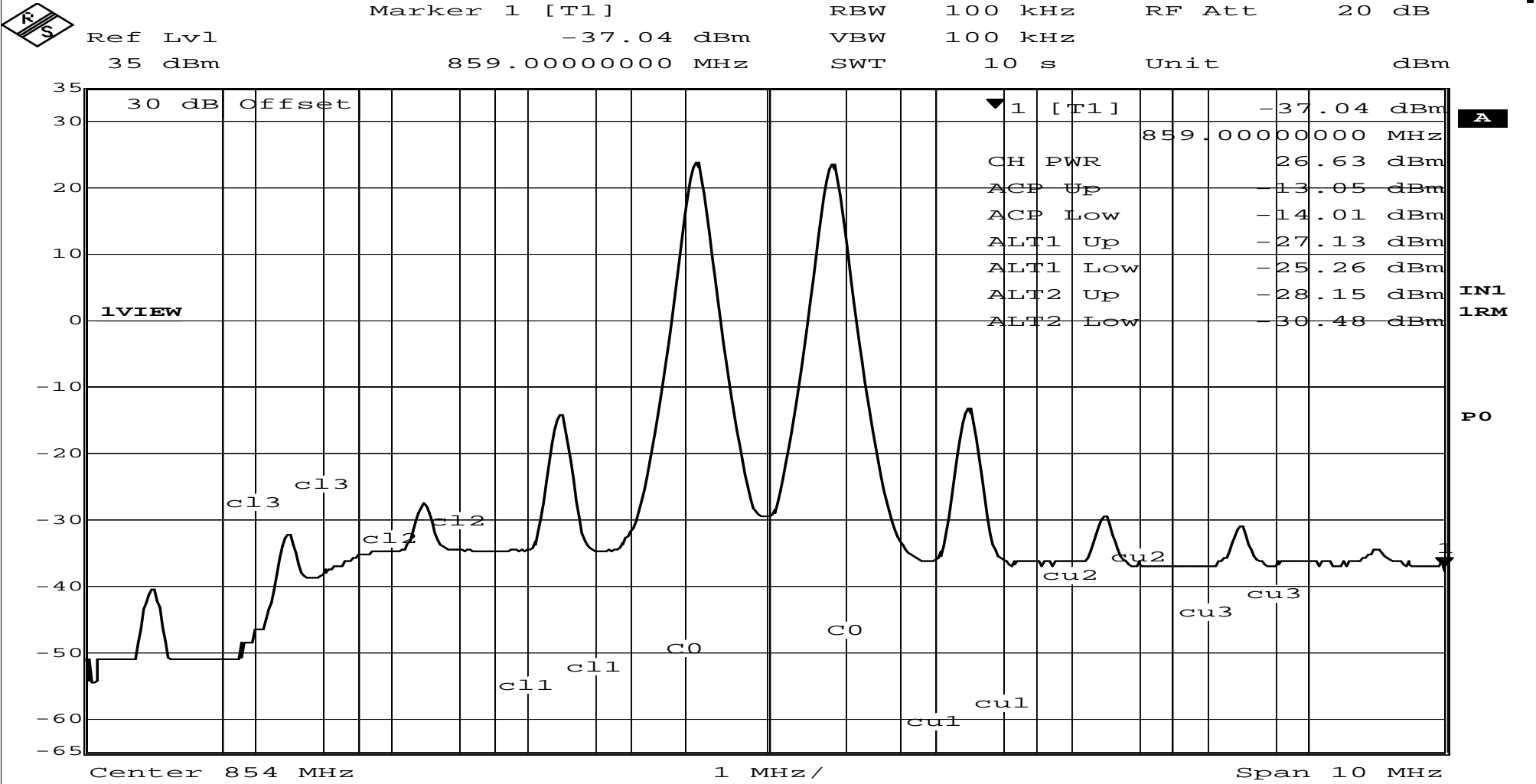


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Job No:	R-5307N		
Model No:	SMR-700/800	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph:	2.1047
Date:	3/11/2010		
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink (851-869MHz)		

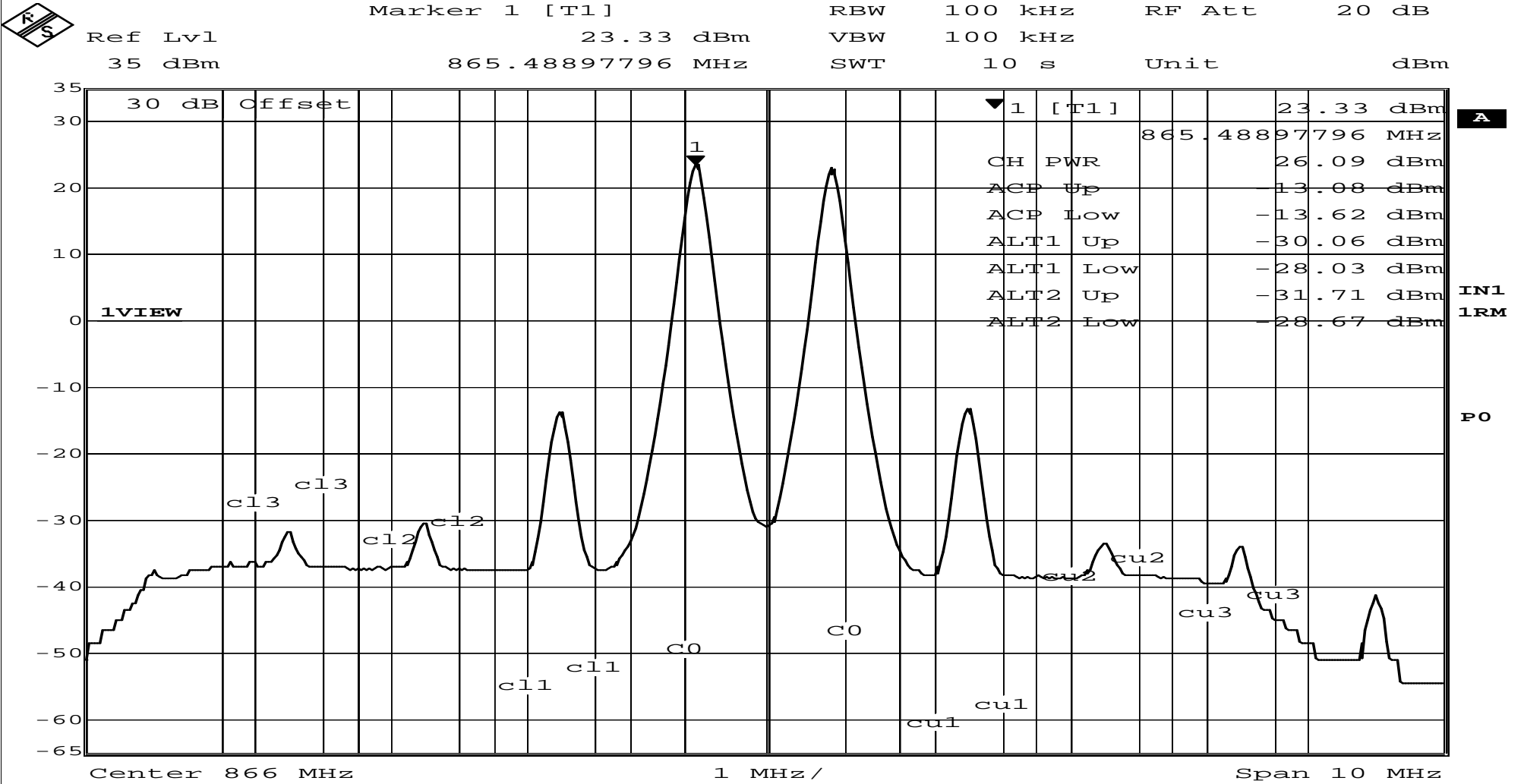


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink (851-869MHz)		

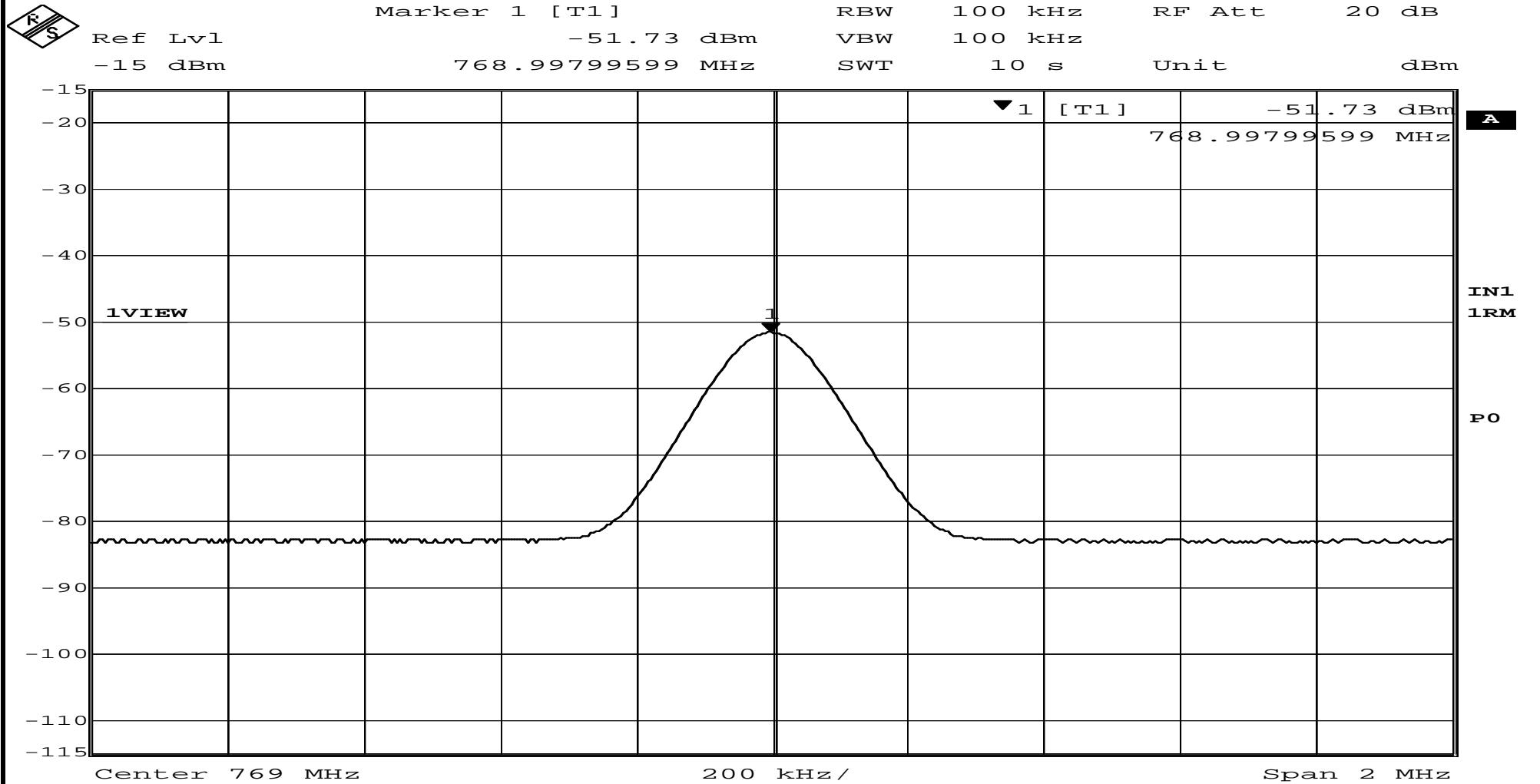


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Input at 769 MHz		

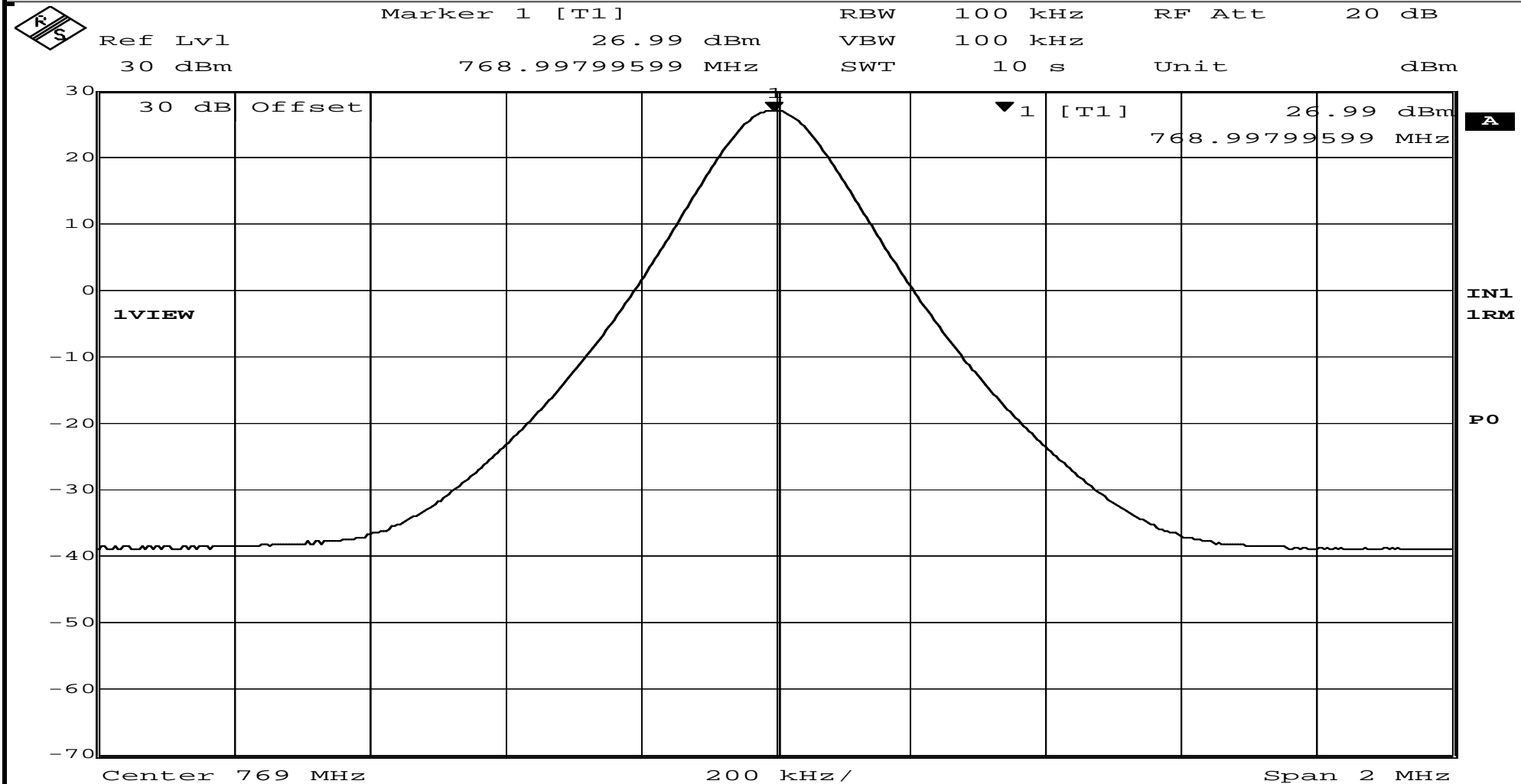


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	FM - Downlink - Output at 769 MHz		



Date: 11.MAR.2010 17:30:33

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	FM - Downlink - Input at 769 MHz		



Marker 1 [T1]

RBW 100 kHz RF Att 20 dB

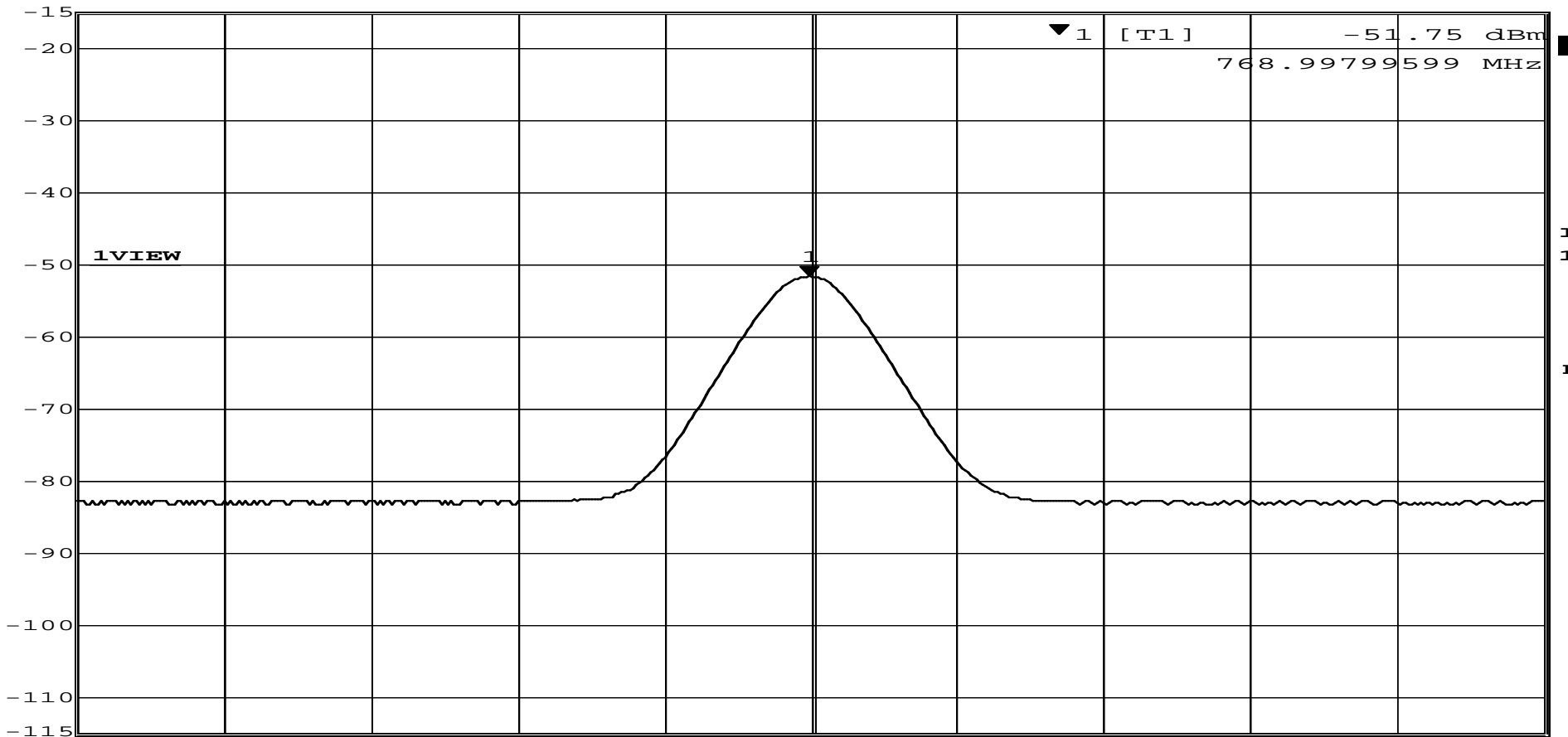
Ref Lvl -51.75 dBm

VBW 100 kHz

-15 dBm 768.99799599 MHz

SWT 10 s

Unit dBm



Center 769 MHz

200 kHz/

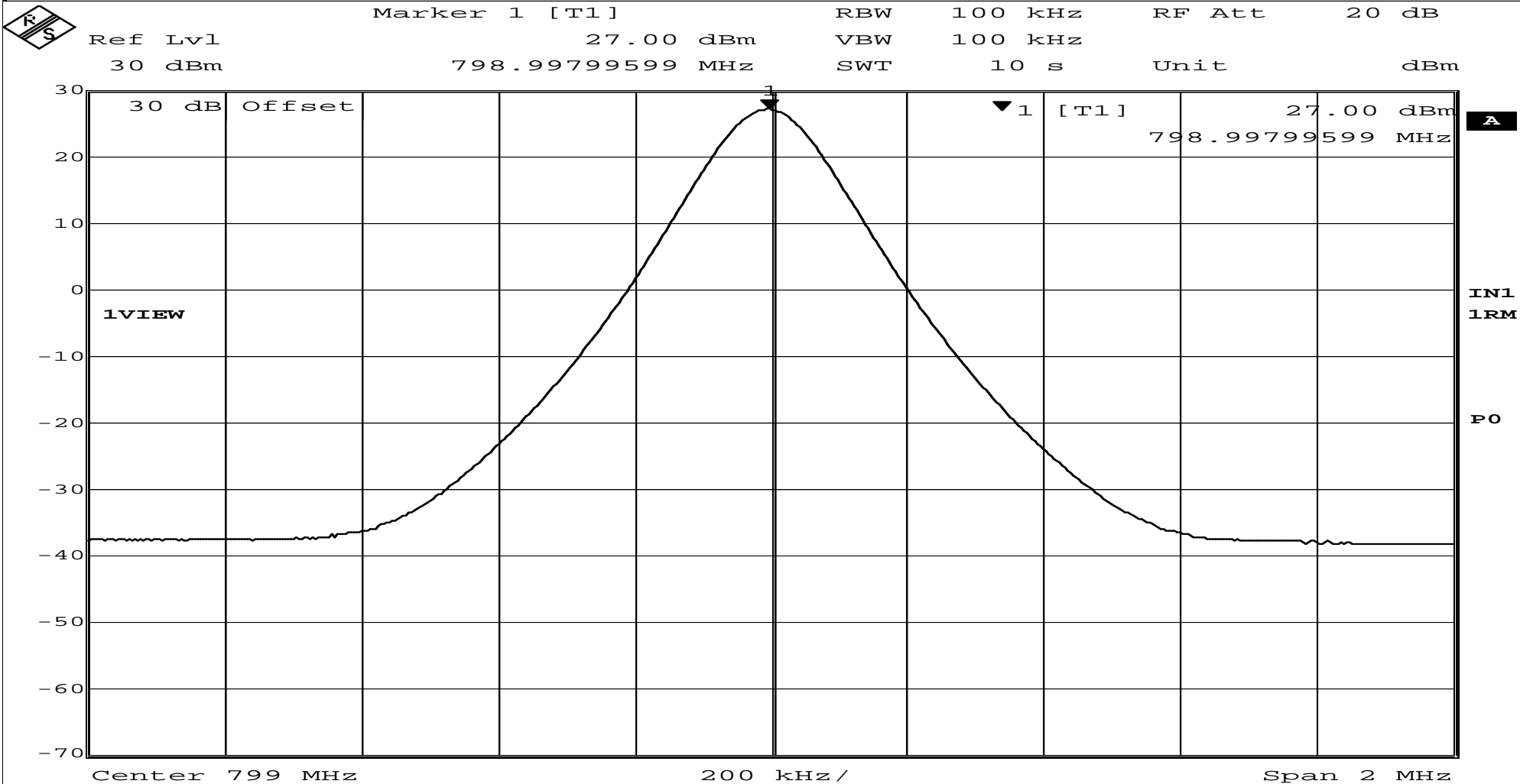
Span 2 MHz

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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	FM - Uplink - Output at 799 MHz		

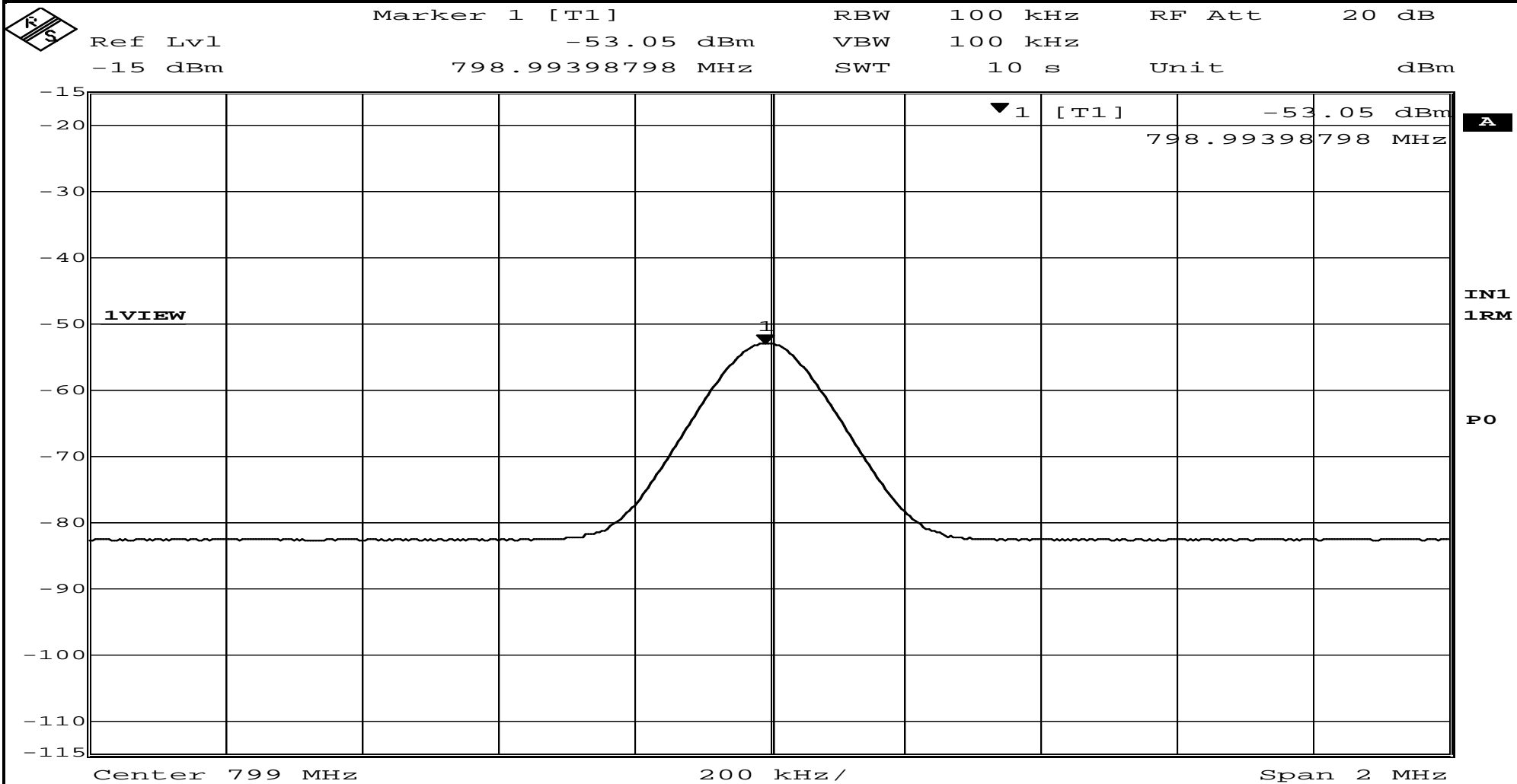


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	FM - Uplink - Input at 799 MHz		

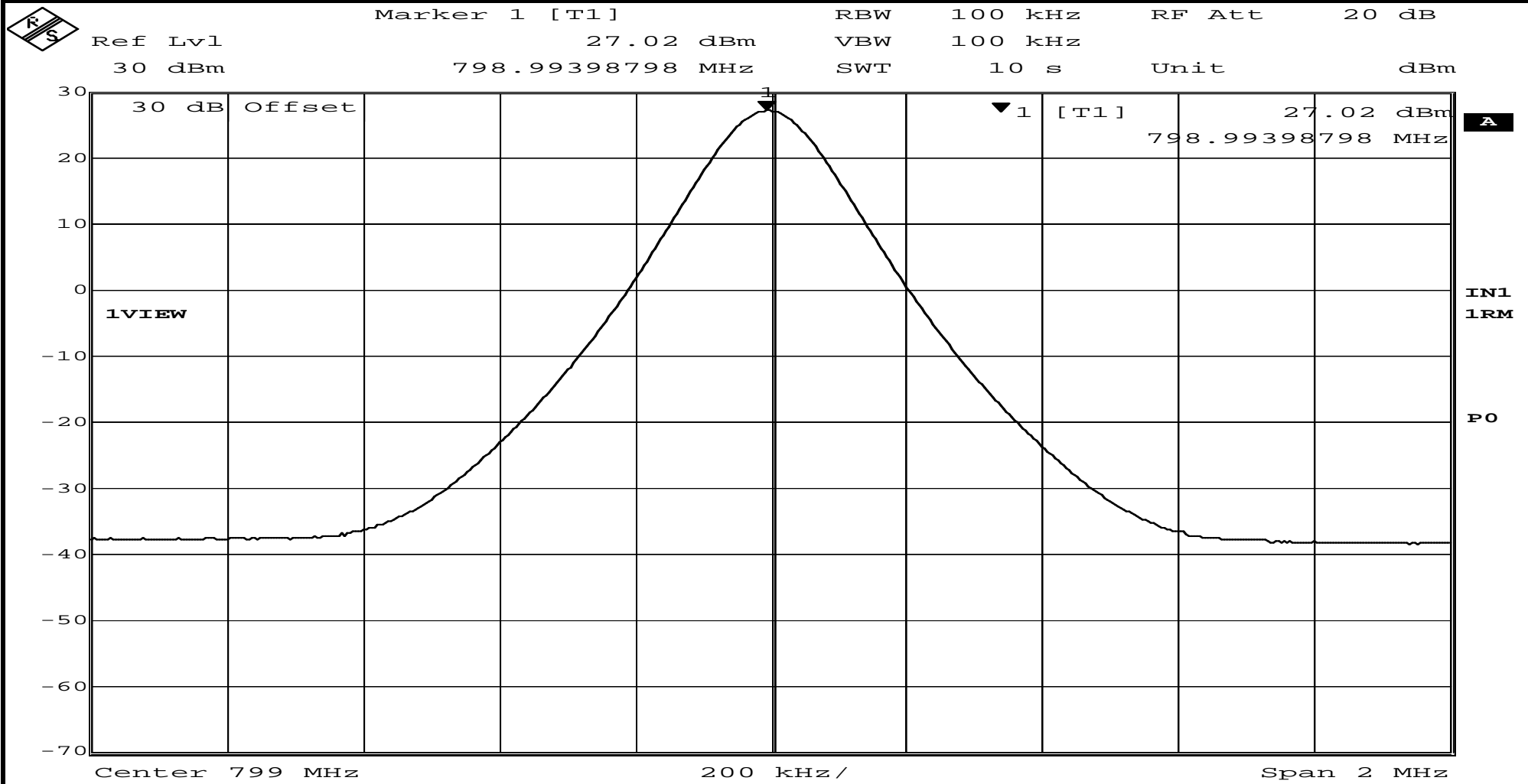


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RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 3/11/2010
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Output at 799 MHz		

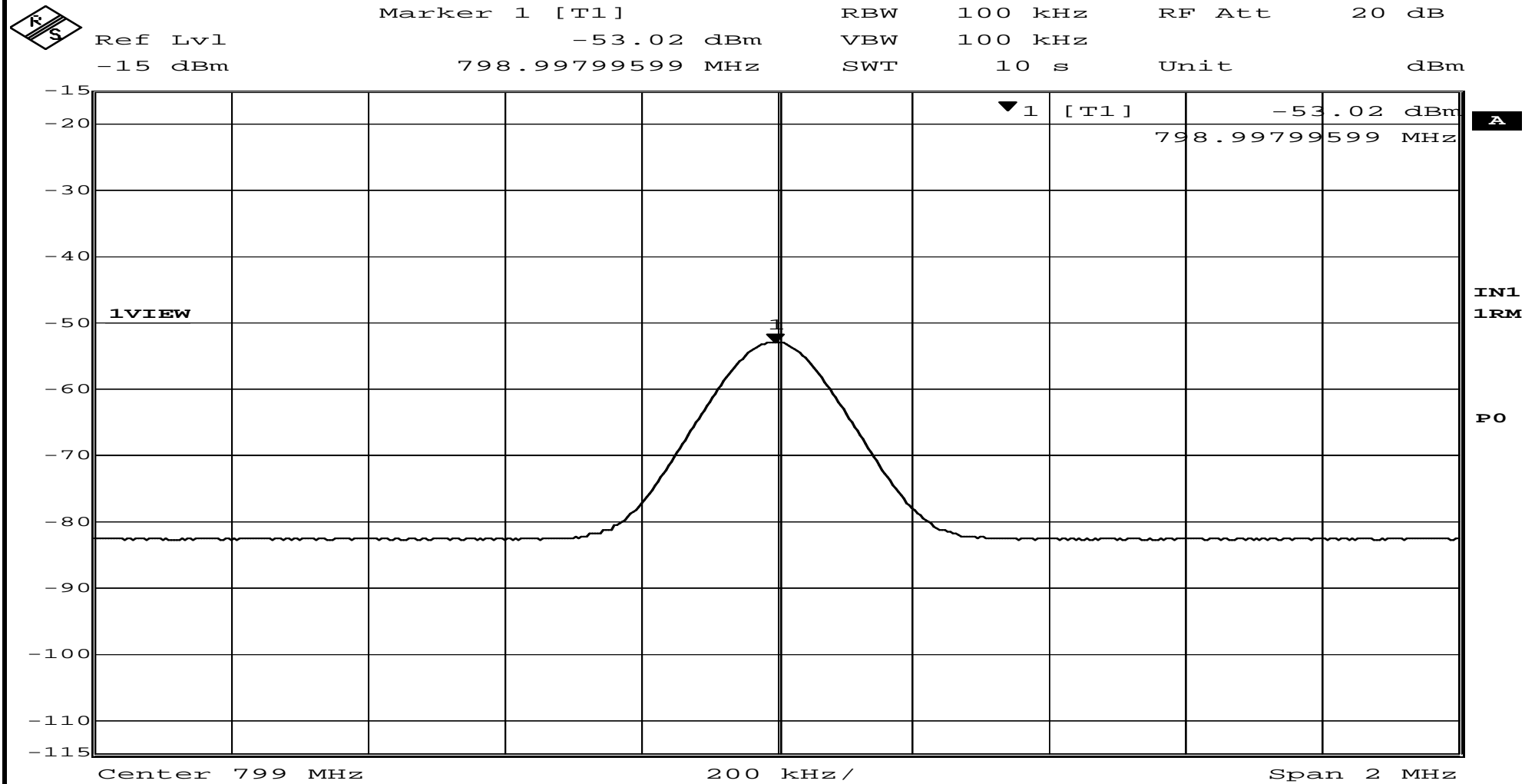


Date: 11.MAR.2010 17:47:40

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Input at 799 MHz		

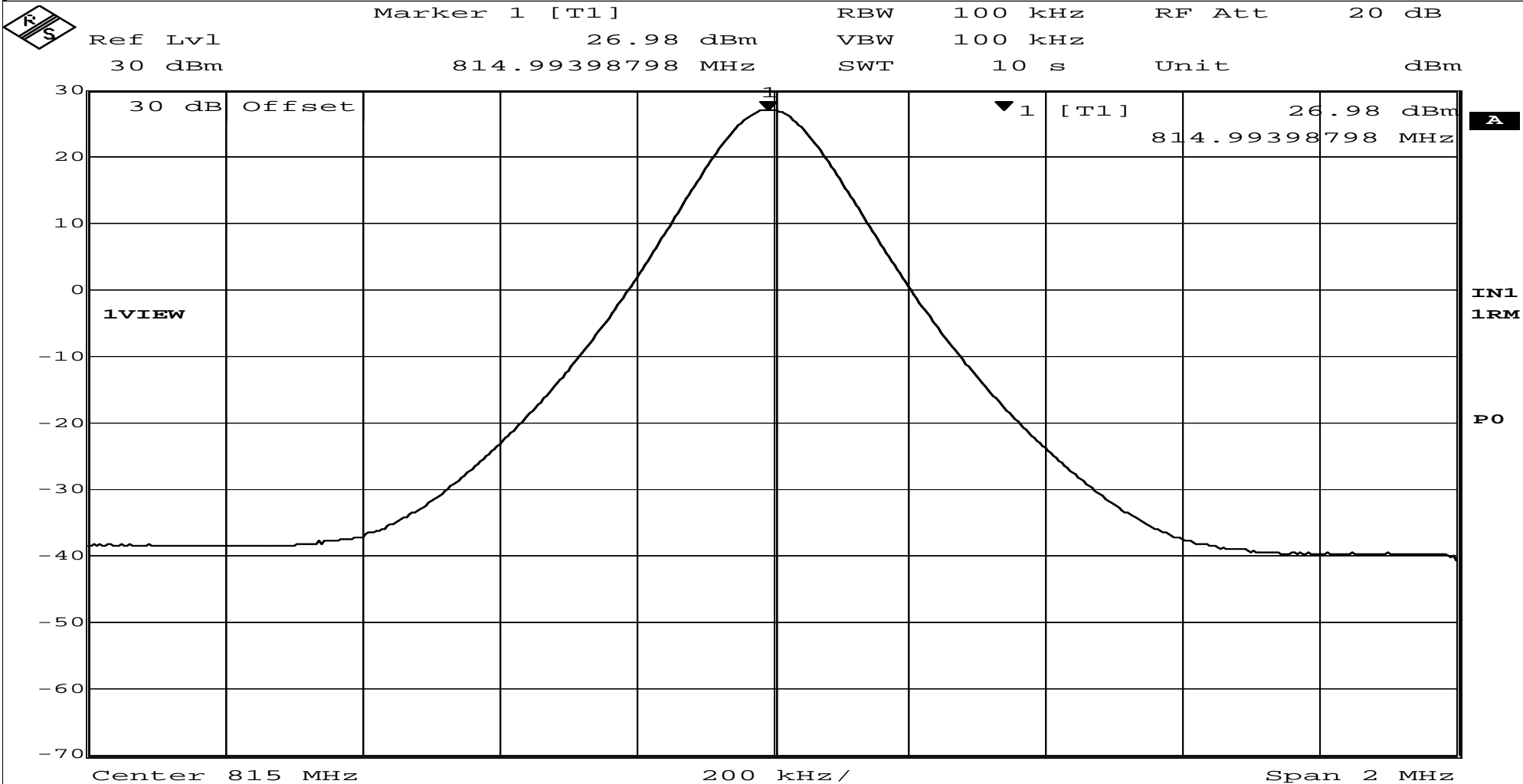


Date: 11.MAR.2010 17:49:13

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 3/11/2010
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Output at 815 MHz		

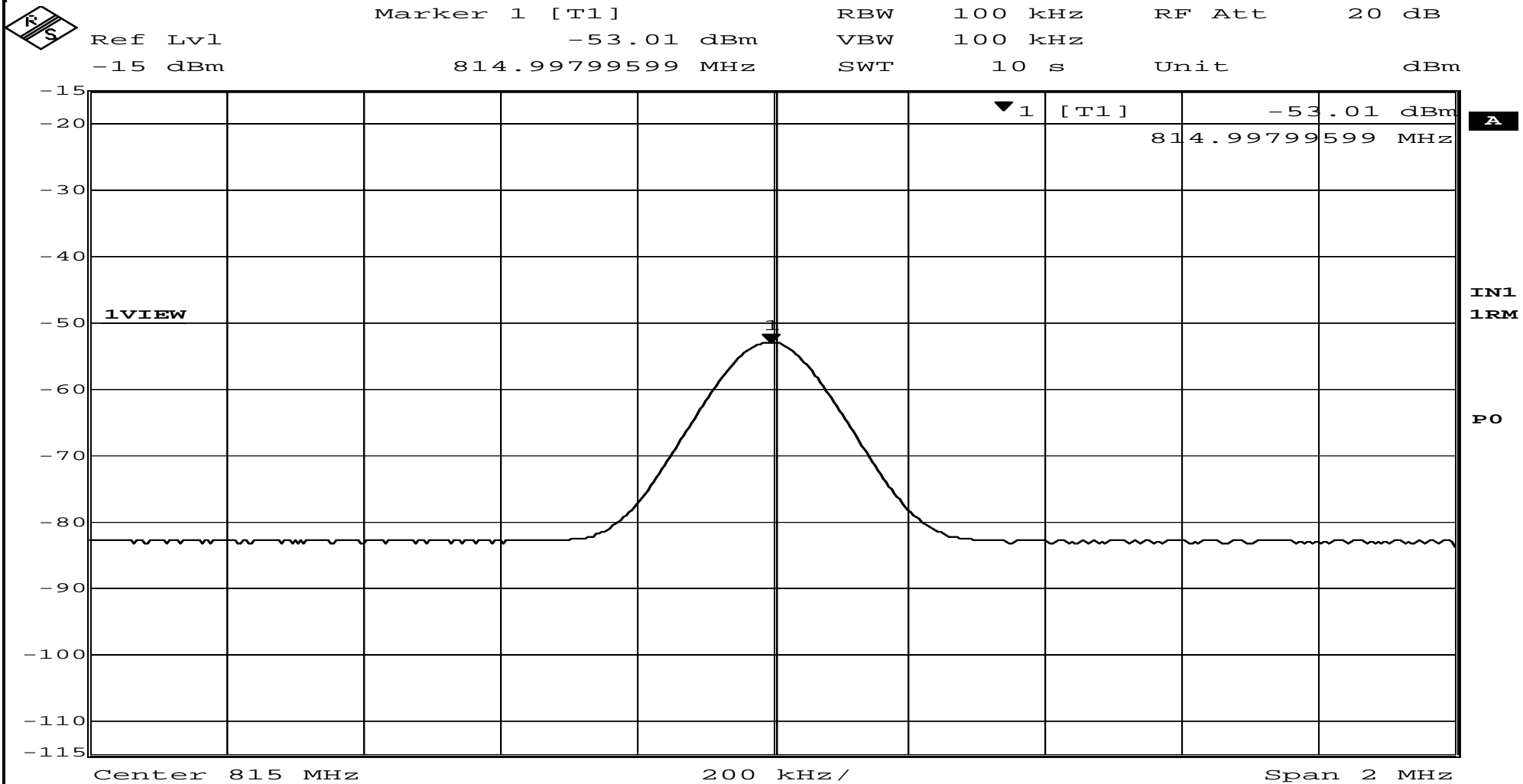


Date: 11.MAR.2010 17:43:56

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Input at 815 MHz		

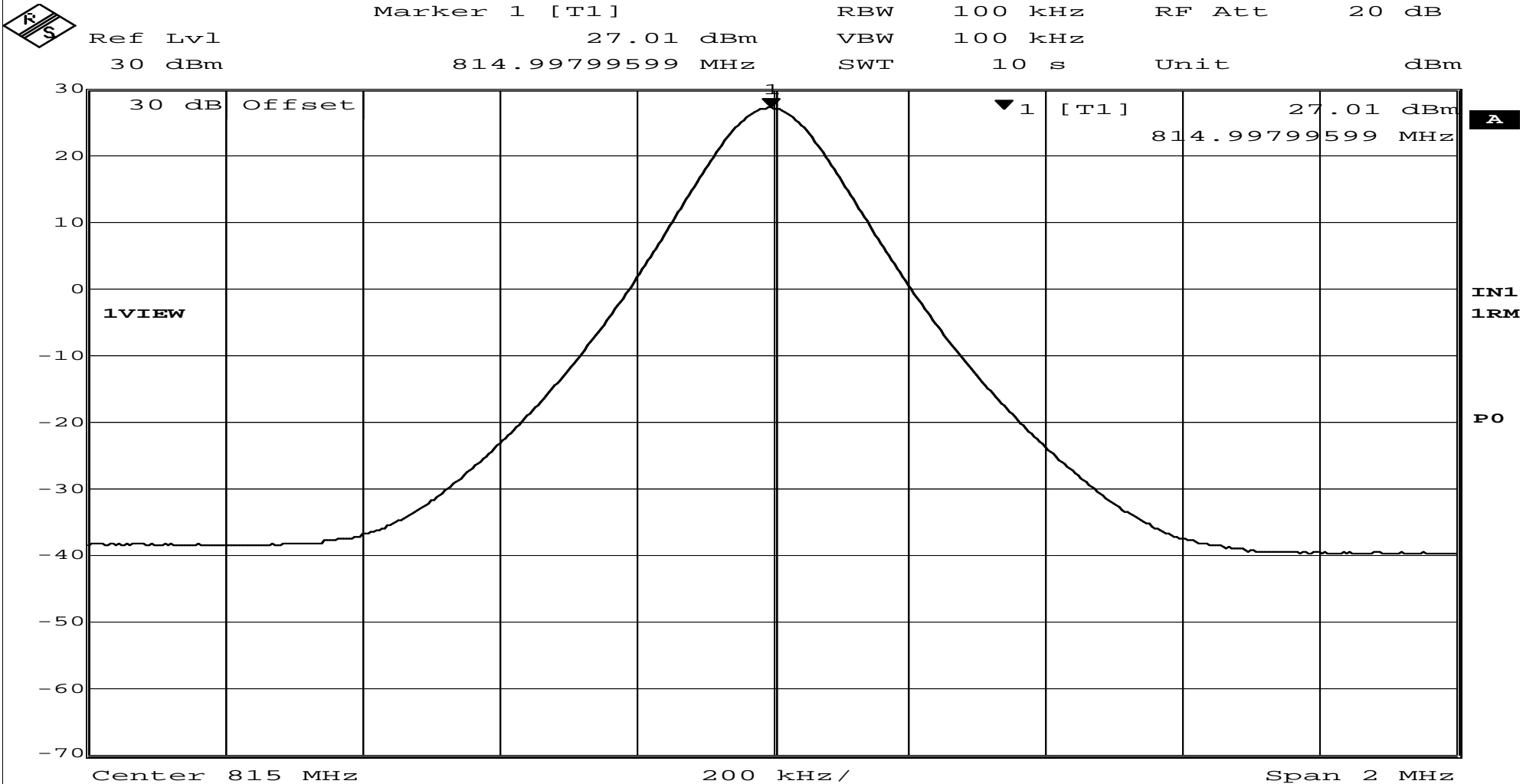


Date: 11.MAR.2010 17:45:37

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 3/11/2010
Operating Mode:	Amplifying input signal		
Notes:	FM - Uplink - Output at 815 MHz		

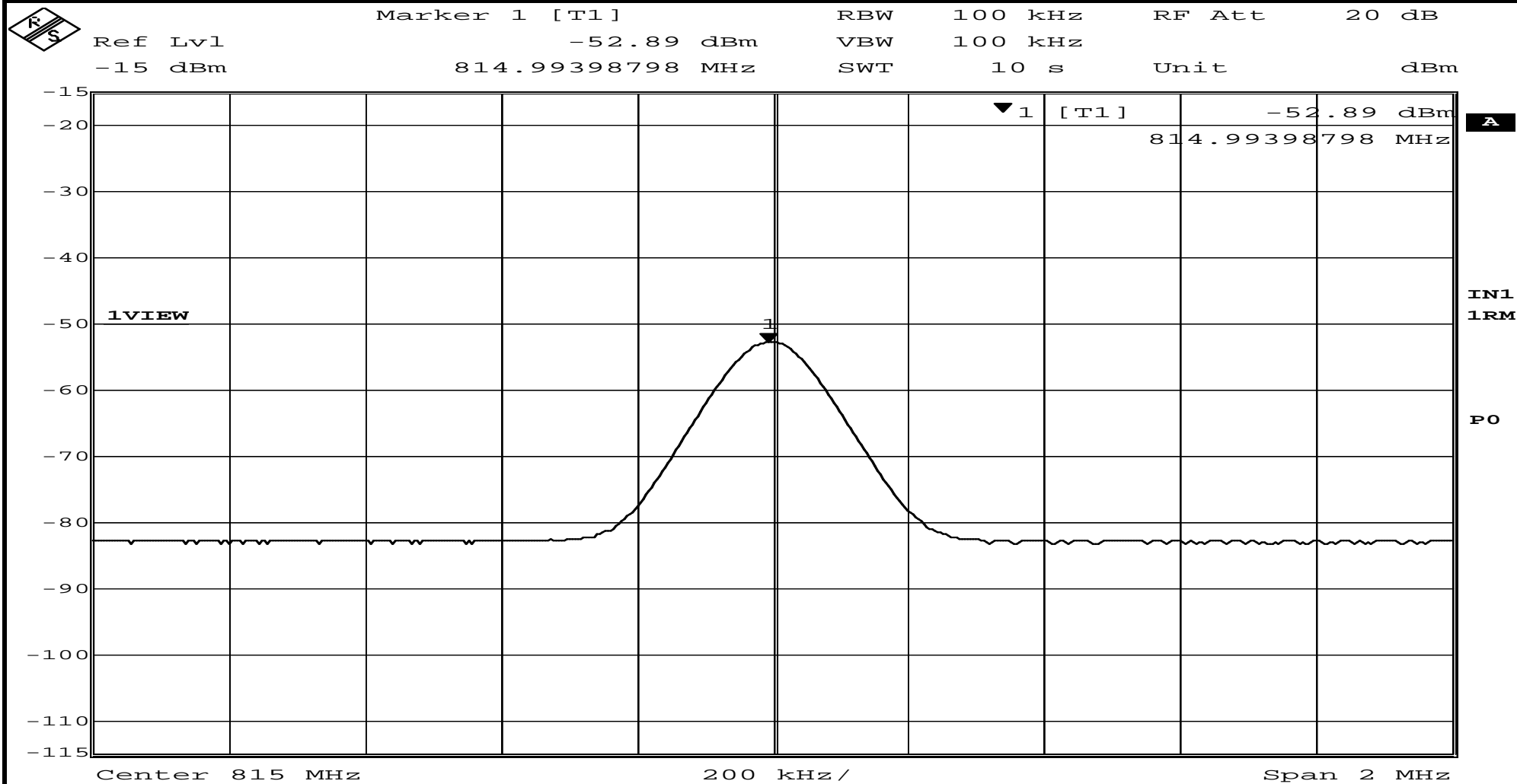


Date: 11.MAR.2010 17:51:50

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	FM - Uplink - Input at 815 MHz		

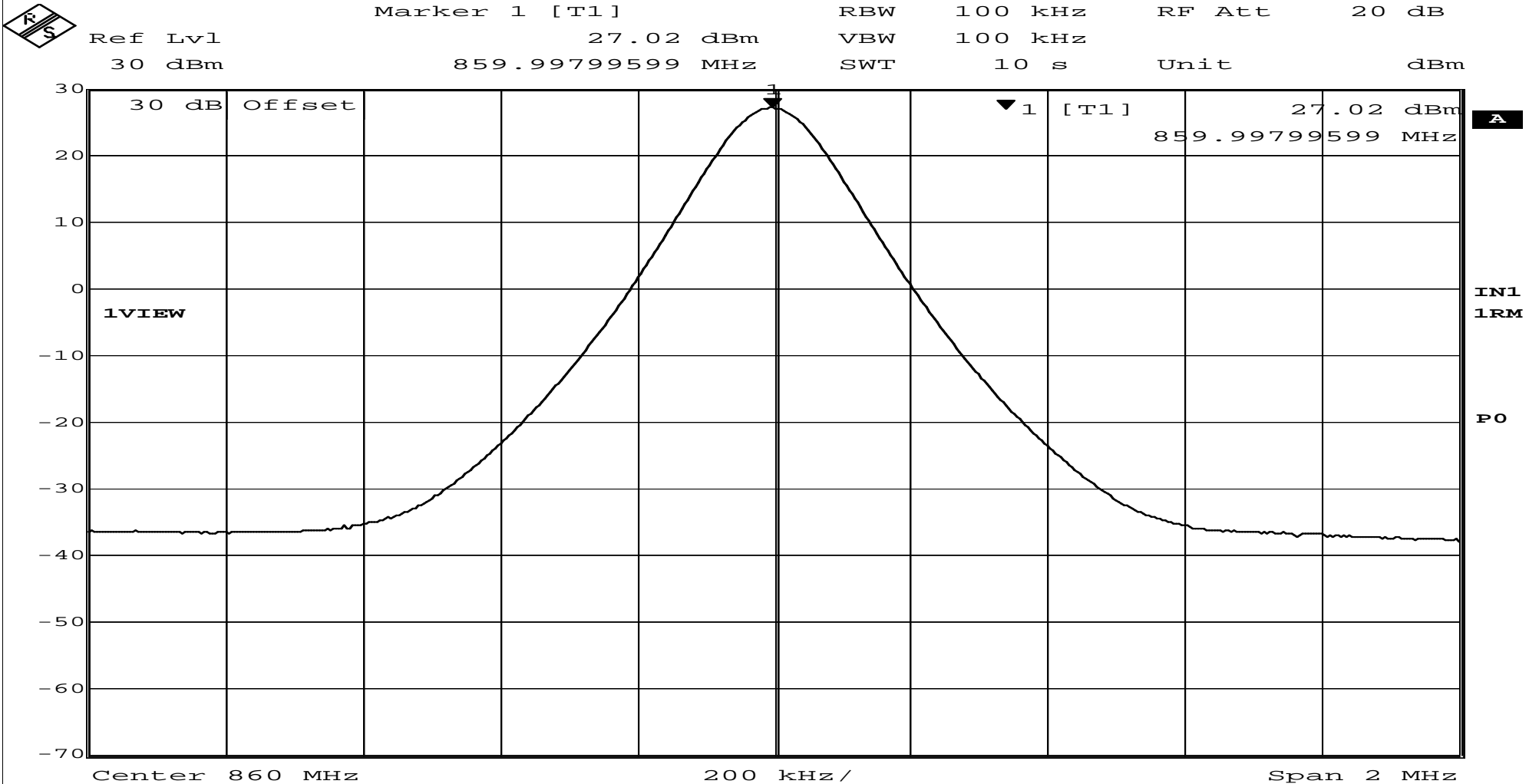


Date: 11.MAR.2010 17:53:17

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	FM - Downlink - Output at 860 MHz		

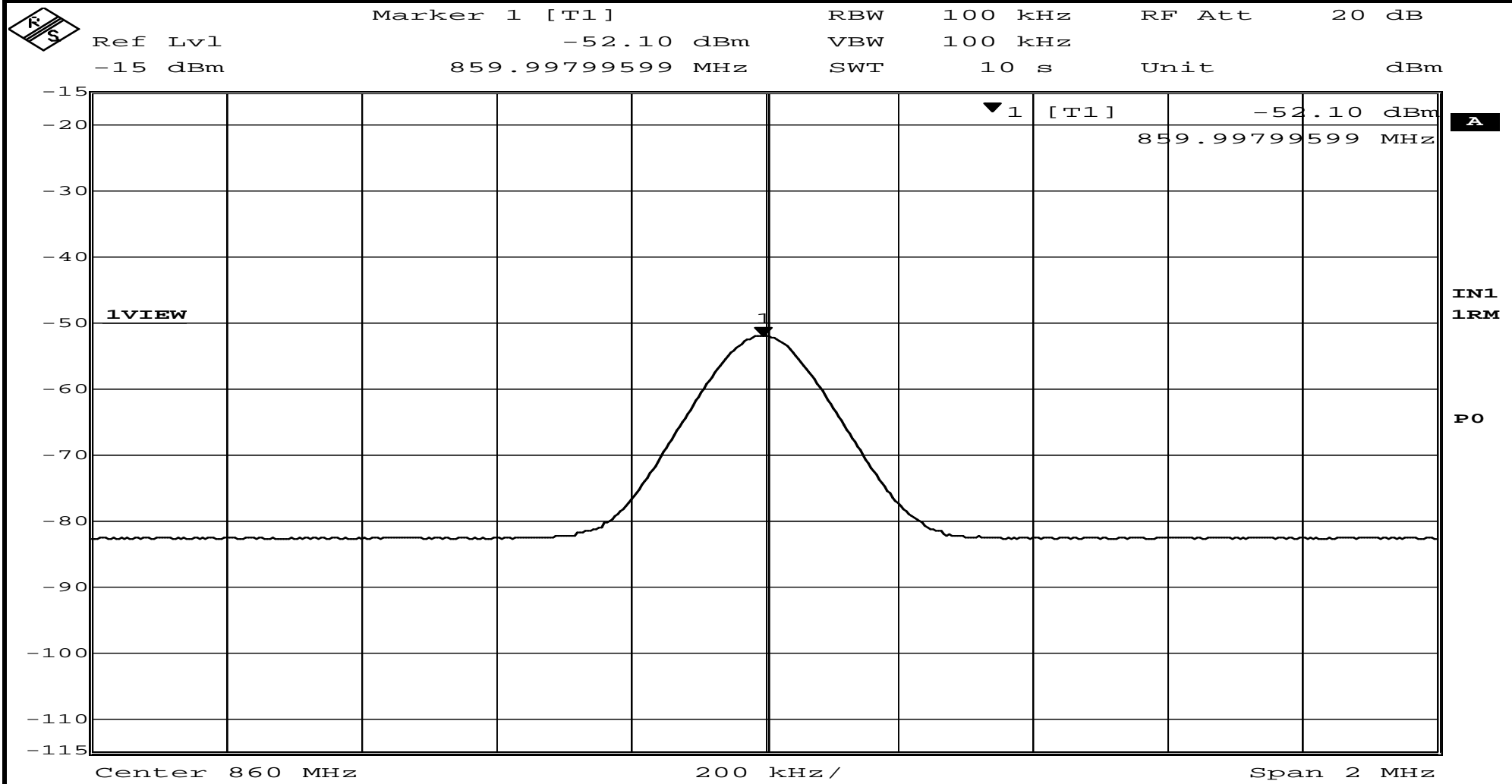


Date: 11.MAR.2010 17:56:49

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	FM - Downlink - Input at 860 MHz		

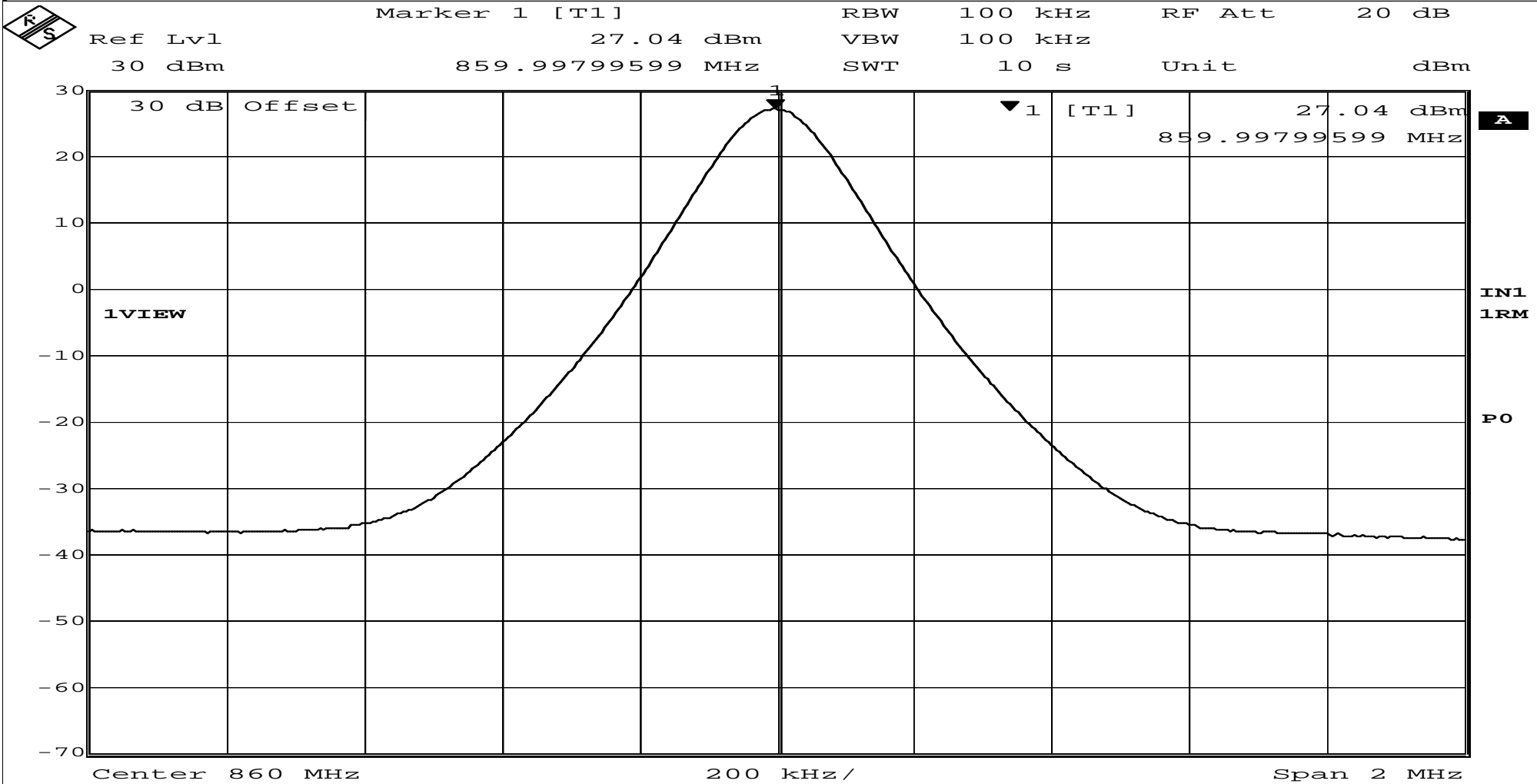


Date: 11.MAR.2010 17:58:23

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Output at 860 MHz		
Job No:	R-5307N		Technician:
		M.Seamans	

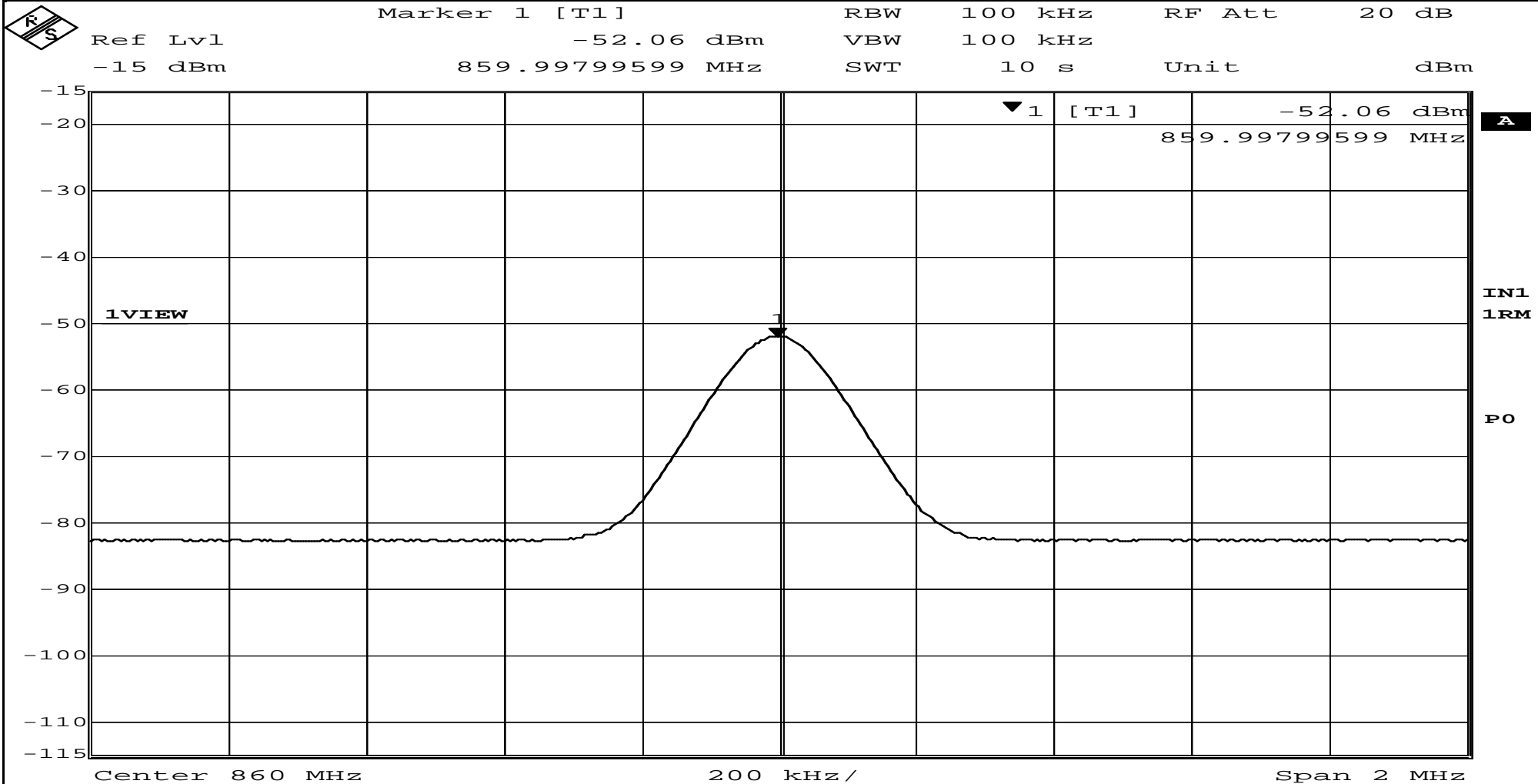


Date: 11.MAR.2010 18:00:21

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Repeater
Job No:	R-5307N		
Model No:	SMR-700/800	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
3/11/2010			
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Output at 860 MHz		



Date: 11.MAR.2010 18:01:39

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Spurious Emissions at the Antenna Terminals 30 MHz to 9 GHz		
Customer:	Cellular Specialties, Inc.	Job No:	R-5307N
Test Sample:	Dual Band Repeater		
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2 Paragraph: 2.1051		
Operating Mode:	Amplifying input signal		
Technician:	M.Seamans	Date:	3/15/2010
Notes:	Uplink Frequency: 793-805 MHz Downlink Frequency: 763-775 MHz FM modulation *-33.00dBm is the Noise floor of instrument		

Uplink Input Signal	Test Frequency	Frequencies	Reading	Limit	Downlink Input Signal	Test Frequency	Frequencies	Reading	Limit	
dBm	MHz	MHz	dBm	dBm	dBm	MHz	MHz	dBm	dBm	
-52.00	764.00				-52.00	794.00				
		1528.00	-33.00	-13.0			1588.00	-33.00	-13.0	
		2292.00	-33.00				2382.00	-33.00		
		3056.00	-33.00				3176.00	-33.00		
		3820.00	-33.00				3970.00	-33.00		
		4584.00	-33.00				4764.00	-33.00		
		5348.00	-33.00				5558.00	-33.00		
		6112.00	-33.00				6352.00	-33.00		
		6876.00	-33.00				7146.00	-33.00		
-52.00	764.00	7640.00	-33.00	-13.0	-52.00	794.00	7940.00	-33.00	-13.0	
-52.00	769.00				-52.00	799.00				
		1538.00	-33.00	-13.0			1598.00	-33.00	-13.0	
		2307.00	-33.00				2397.00	-33.00		
		3076.00	-33.00				3196.00	-33.00		
		3845.00	-33.00				3995.00	-33.00		
		4614.00	-33.00				4794.00	-33.00		
		5383.00	-33.00				5593.00	-33.00		
		6152.00	-33.00				6392.00	-33.00		
		6921.00	-33.00				7191.00	-33.00		
-52.00	769.00	7690.00	-33.00	-13.0	-52.00	799.00	7990.00	-33.00	-13.0	
-52.00	774.00				-52.00	804.00				
		1548.00	-33.00	-13.0			1788.00	-33.00	-13.0	
		2322.00	-33.00				2682.00	-33.00		
		3096.00	-33.00				3576.00	-33.00		
		3870.00	-33.00				4470.00	-33.00		
		4644.00	-33.00				5364.00	-33.00		
		5418.00	-33.00				6258.00	-33.00		
		6192.00	-33.00				7152.00	-33.00		
		6966.00	-33.00				8046.00	-33.00		
-52.00	774.00	7740.00	-33.00	-13.0	-52.00	804.00	8940.00	-33.00	-13.0	

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Spurious Emissions at the Antenna Terminals 30 MHz to 9 GHz		
Customer:	Cellular Specialties, Inc.	Job No:	R-5307N
Test Sample:	Dual Band Repeater		
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2 Paragraph: 2.1051		
Operating Mode:	Amplifying input signal		
Technician:	M.Seamans	Date:	3/15/2010
Notes:	Uplink Frequency: 793-805 MHz Downlink Frequency: 763-775 MHz TDMA modulation *-33.00dBm is the Noise floor of instrument		

Uplink Input Signal	Test Frequency	Frequencies	Reading	Limit	Downlink Input Signal	Test Frequency	Frequencies	Reading	Limit	
dBm	MHz	MHz	dBm	dBm	dBm	MHz	MHz	dBm	dBm	
-52.00	764.00				-52.00	794.00				
		1528.00	-33.00	-13.0			1588.00	-33.00	-13.0	
		2292.00	-33.00				2382.00	-33.00		
		3056.00	-33.00				3176.00	-33.00		
		3820.00	-33.00				3970.00	-33.00		
		4584.00	-33.00				4764.00	-33.00		
		5348.00	-33.00				5558.00	-33.00		
		6112.00	-33.00				6352.00	-33.00		
		6876.00	-33.00				7146.00	-33.00		
-52.00	764.00	7640.00	-33.00	-13.0	-52.00	794.00	7940.00	-33.00	-13.0	
-52.00	769.00				-52.00	799.00				
		1538.00	-33.00	-13.0			1598.00	-33.00	-13.0	
		2307.00	-33.00				2397.00	-33.00		
		3076.00	-33.00				3196.00	-33.00		
		3845.00	-33.00				3995.00	-33.00		
		4614.00	-33.00				4794.00	-33.00		
		5383.00	-33.00				5593.00	-33.00		
		6152.00	-33.00				6392.00	-33.00		
		6921.00	-33.00				7191.00	-33.00		
-52.00	769.00	7690.00	-33.00	-13.0	-52.00	799.00	7990.00	-33.00	-13.0	
-52.00	774.00				-52.00	804.00				
		1548.00	-33.00	-13.0			1788.00	-33.00	-13.0	
		2322.00	-33.00				2682.00	-33.00		
		3096.00	-33.00				3576.00	-33.00		
		3870.00	-33.00				4470.00	-33.00		
		4644.00	-33.00				5364.00	-33.00		
		5418.00	-33.00				6258.00	-33.00		
		6192.00	-33.00				7152.00	-33.00		
		6966.00	-33.00				8046.00	-33.00		
-52.00	774.00	7740.00	-33.00	-13.0	-52.00	804.00	8940.00	-33.00	-13.0	

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Spurious Emissions at the Antenna Terminals 30 MHz to 9 GHz		
Customer:	Cellular Specialties, Inc.	Job No:	R-5307N
Test Sample:	Dual Band Repeater		
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2 Paragraph: 2.1051		
Operating Mode:	Amplifying input signal		
Technician:	M.Seamans	Date:	3/15/2010
Notes:	Uplink Frequency: 806-824 MHz Downlink Frequency: 851-869 MHz FM modulation *-33.00dBm is the Noise floor of instrument		

Uplink Input Signal	Test Frequency	Frequencies	Reading	Limit	Downlink Input Signal	Test Frequency	Frequencies	Reading	Limit	
dBm	MHz	MHz	dBm	dBm	dBm	MHz	MHz	dBm	dBm	
-52.00	807.00				-52.00	852.00				
		1614.00	-33.00	-13.0			1704.00	-33.00	-13.0	
		2421.00	-33.00				2556.00	-33.00		
		3228.00	-33.00				3408.00	-33.00		
		4035.00	-33.00				4260.00	-33.00		
		4842.00	-33.00				5112.00	-33.00		
		5649.00	-33.00				5964.00	-33.00		
		6456.00	-33.00				6816.00	-33.00		
		7263.00	-33.00				7668.00	-33.00		
-52.00	807.00	8070.00	-33.00	-13.0	-52.00	852.00	8520.00	-33.00	-13.0	
-52.00	815.00				-52.00	860.00				
		1630.00	-33.00	-13.0			1720.00	-33.00	-13.0	
		2445.00	-33.00				2580.00	-33.00		
		3260.00	-33.00				3440.00	-33.00		
		4075.00	-33.00				4300.00	-33.00		
		4890.00	-33.00				5160.00	-33.00		
		5705.00	-33.00				6020.00	-33.00		
		6520.00	-33.00				6880.00	-33.00		
		7335.00	-33.00				7740.00	-33.00		
-52.00	815.00	8150.00	-33.00	-13.0	-52.00	860.00	8600.00	-33.00	-13.0	
-52.00	823.00				-52.00	868.00				
		1646.00	-33.00	-13.0			1736.00	-33.00	-13.0	
		2469.00	-33.00				2604.00	-33.00		
		3292.00	-33.00				3472.00	-33.00		
		4115.00	-33.00				4340.00	-33.00		
		4938.00	-33.00				5208.00	-33.00		
		5761.00	-33.00				6076.00	-33.00		
		6584.00	-33.00				6944.00	-33.00		
		7407.00	-33.00				7812.00	-33.00		
-52.00	823.00	8230.00	-33.00	-13.0	-52.00	868.00	8680.00	-33.00	-13.0	

RETLIF TESTING LABORATORIES

EMISSIONS DATA SHEET

Test Method:	Spurious Emissions at the Antenna Terminals 30 MHz to 9 GHz		
Customer:	Cellular Specialties, Inc.	Job No:	R-5307N
Test Sample:	Dual Band Repeater		
Model No:	SMR-700/800	Serial No:	N/A
Test Specification:	FCC Part 2 Paragraph: 2.1051		
Operating Mode:	Amplifying input signal		
Technician:	M.Seamans	Date:	3/15/2010
Notes:	Uplink Frequency: 806-824 MHz Downlink Frequency: 851-869 MHz TDMA modulation *-33.00dBm is the Noise floor of instrument		

Uplink Input Signal	Test Frequency	Frequencies	Reading	Limit	Downlink Input Signal	Test Frequency	Frequencies	Reading	Limit	
dBm	MHz	MHz	dBm	dBm	dBm	MHz	MHz	dBm	dBm	
-52.00	807.00				-52.00	852.00				
		1614.00	-33.00	-13.0			1704.00	-33.00	-13.0	
		2421.00	-33.00				2556.00	-33.00		
		3228.00	-33.00				3408.00	-33.00		
		4035.00	-33.00				4260.00	-33.00		
		4842.00	-33.00				5112.00	-33.00		
		5649.00	-33.00				5964.00	-33.00		
		6456.00	-33.00				6816.00	-33.00		
		7263.00	-33.00				7668.00	-33.00		
-52.00	807.00	8070.00	-33.00	-13.0	-52.00	852.00	8520.00	-33.00	-13.0	
-52.00	815.00				-52.00	860.00				
		1630.00	-33.00	-13.0			1720.00	-33.00	-13.0	
		2445.00	-33.00				2580.00	-33.00		
		3260.00	-33.00				3440.00	-33.00		
		4075.00	-33.00				4300.00	-33.00		
		4890.00	-33.00				5160.00	-33.00		
		5705.00	-33.00				6020.00	-33.00		
		6520.00	-33.00				6880.00	-33.00		
		7335.00	-33.00				7740.00	-33.00		
-52.00	815.00	8150.00	-33.00	-13.0	-52.00	860.00	8600.00	-33.00	-13.0	
-52.00	823.00				-52.00	868.00				
		1646.00	-33.00	-13.0			1736.00	-33.00	-13.0	
		2469.00	-33.00				2604.00	-33.00		
		3292.00	-33.00				3472.00	-33.00		
		4115.00	-33.00				4340.00	-33.00		
		4938.00	-33.00				5208.00	-33.00		
		5761.00	-33.00				6076.00	-33.00		
		6584.00	-33.00				6944.00	-33.00		
		7407.00	-33.00				7812.00	-33.00		
-52.00	823.00	8230.00	-33.00	-13.0	-52.00	868.00	8680.00	-33.00	-13.0	

