



# Retlif Testing Laboratories

101 New Boston Road, Goffstown, NH 03045  
603-497-4600 - Fax: 603-497-5281

CORPORATE OFFICE  
795 Marconi Avenue  
Ronkonkoma, NY 11779  
631-737-1500 Fax 631-737-1497  
(A NY Corporation)

BRANCH LABORATORIES  
3131 Detwiler Road  
Harleysville, PA 19438  
215-256-4133 Fax 215-256-4130

WASHINGTON  
REGULATORY OFFICE  
703-533-1614 Fax 703-533-1612



## REPORT OF MEASUREMENTS

for

## CELLULAR SPECIALTIES, INC. DUAL BAND DIGITAL REPEATER

MODEL: CSI-DSP85-25XH-CP

FCC ID: NVRC SI-DSP25XHCP

IC: 4307A-DSP25XHCP

Company Name: Cellular Specialties, Inc.

Date of Report: December 21, 2010

Test Report No: R-5398N-2

Test Start Date: November 29, 2010

Test Finish Date: December 21, 2010

Test Technician: M. Seamans

Laboratory Supervisor: T. Hannemann

Report Prepared By: J. 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.



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Scott Wentworth  
Branch Manager  
NVLAP Approved Signatory



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Todd Hannemann  
Laboratory Supervisor  
iNARTE Certified ATL-0255-T

### **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.



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Test Report No. R-5398N-2

## CERTIFICATION APPLICATION SUMMARY

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

Equipment under Test (EUT): The EUT is a dual band Digital Repeater System operating in the Cellular and PCS bands.

Model: CSI-DSP85-25XH-CP

FCC ID Number: FCC ID: NVRCSI-DSP25XHCP

IC Certification Number: 4307A-DSP25XHCP

Applicable Test Standards: FCC Parts 2, 22 & 24, RSS-131, Issue 2

Measurement Procedure: ANSI/TIA-603-C-2004  
RSS-131, Issue 2

Device Classification: Mobile

EUT Frequency Range Bands: Cell Band Uplink: 824 MHz to 849 MHz  
Cell Band Downlink: 869 MHz to 894 MHz  
PCS Band Uplink: 1850 MHz to 1910 MHz  
PCS Band Downlink: 1930 MHz to 1990 MHz

Power Output Rating for  
FCC Certification Grant based on  
on Intermodulation Data Composite  
Power:

824MHz to 849MHz (IS-95 CDMA): = 1.05W  
824MHz to 849MHz (W-CDMA): = 1.30W  
824MHz to 849MHz (TDMA): = 1.39W  
869MHz to 894MHz (IS-95 CDMA) = 3.13W  
869MHz to 894MHz (W-CDMA) = 4.16W  
869MHz to 894MHz (TDMA) = 4.42W  
1850MHz to 1910MHz (IS-95 CDMA) = .300W  
1850MHz to 1910MHz (W-CDMA) = .363W  
1850MHz to 1910MHz (TDMA) = .530W  
1930MHz to 1990MHz (IS-95 CDMA) = 2.65W  
1930MHz to 1990MHz (W-CDMA) = 3.24W  
1930MHz to 1990MHz (TDMA) = 4.07W

Modulation Types: TDMA (DXW), CDMA-IS95 (F9W), WCDMA (F9W)

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



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Measurements Required by FCC:

See Report Section 1 (Summary of Test Program)

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

Additional Measurements Required by RSS -131:

- Mean Output Power
- Passband Gain & Bandwidth
- Spurious Emissions (two tone)
- 99% Bandwidth



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## SECTION 1 SUMMARY OF TEST PROGRAM

### 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 three frequencies within each passband (uplink and downlink). Testing was repeated for CDMA (IS95) & W-CDMA modulation types. 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 20GHz. Testing was performed for TDMA, CDMA (IS95) and WCDMA modulation types. The spurious emissions limit is -13dBm as specified in FCC Parts 22 & 24. 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 an 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 – 20GHz. The limit for out of band spurious emissions is -13dBm as specified in Parts 22 & 24. All emissions were below the specified -13dBm limit. See attached test data.



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## RF POWER OUTPUT (Composite Power)

### Measurement Procedure:

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 spurious emissions below the -13dBm limit. The measured output power matched the manufacturer's rated output power. See attached test data.

## 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 CDMA (IS95), WCDMA & TDMA Modulation types. At the maximum specified input power levels all intermodulation products were at -13dBm or below. See attached test data.

## FREQUENCY STABILITY MEASUREMENTS

### Measurement Procedure:

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 uplink and downlink Cell and PCS bands stayed within the assigned frequency band. See attached test data.



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## MEAN POWER OUTPUT (RSS-131)

### Measurement Procedure:

Two signals were injected, in turn, to each uplink and downlink frequency band via a two way power combiner so that the two input signals were equal in magnitude. A spectrum analyzer was connected to the test sample output. The frequencies of the two input signals were adjusted so that they and the 3<sup>rd</sup> order intermodulation frequencies were within the passband of the test sample. The level of the input signals were increased until either of the intermodulation products equaled -13dBm. The mean output power (P<sub>mean</sub>) was calculated using the formula (P<sub>mean</sub> = P<sub>01</sub> + 3dB). Testing was performed using CW signals. The P<sub>mean</sub> did not exceed the manufacturers rated output power. See attached test data.

## PASSBAND GAIN & BANDWIDTH (RSS-131)

### Measurement Procedure:

A signal generator output was connected in turn to the uplink and downlink input ports of the EUT. A spectrum analyzer was connected to the output of the EUT. With the internal gain of the test sample set to nominal the 20dB bandwidth (point where the gain has fallen by 20dB) of the EUT was measured and recorded. The gain versus frequency response of the amplifier from the mid-band frequency (f<sub>0</sub>) of the passband up to at least f<sub>0</sub> ± 250% of the 20dB bandwidth was measured and recorded. The passband See Passband Gain & Bandwidth Data.

## SPURIOUS EMISSIONS (RSS-131)

### Measurement Procedure:

Spurious emissions from the EUT were measured using the two tone method specified for the Mean Power Output measurement with the two tones set to the required levels. A spectrum analyzer configured with a resolution bandwidth of 100kHz was used to measure spurious emissions in the frequency range of 30MHz to 5 times the highest passband frequency. All emissions were below the specified -13dBm limit. See attached test data.

## 99% BANDWIDTH (RSS-131)

### Measurement Procedure:

A signal generator output was connected in turn to the uplink and downlink input ports of the EUT. A spectrum analyzer was connected to the output of the EUT. With the internal gain of the test sample set to nominal the 99% bandwidth of the EUT was measured and recorded.



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## SECTION 2 EQUIPMENT LISTS

### Spurious Radiated Emissions

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
3000	EMPIRE DEVICES	TUNED DIPOLE ANTENNA	20 MHz - 200 MHz	T1	12/30/2007	12/30/2010
3001	EMPIRE DEVICES	TUNED DIPOLE ANTENNA	200 MHz - 400 MHz	T2	12/30/2007	12/30/2010
3002	EMPIRE DEVICES	TUNED DIPOLE ANTENNA	400 MHz - 1 GHz	T3	12/30/2007	12/30/2010
3116	MITEQ	PRE-AMPLIFIER	0.1 GHz - 18 GHz	AFS42-35	1/12/2010	1/12/2011
3117	BK PRECISION	DC POWER SUPPLY	0-30 Vdc, 3.0 A	1630	Calibrate Before Use	
3258	EMCO	DOUBLE RIDGE GUIDE	1 - 18 GHz	3115	1/14/2010	1/14/2011
3430	MCS	HORN ANTENNA	18 GHz - 26.5 GHz	K-5039	1/14/2010	1/14/2011
4003A	EMCO	DOUBLE RIDGE GUIDE	1 - 18 GHz	3105	Inspect Before Use	
4029	RETLIF	OPEN AREA TEST SITE	3 / 10 Meters	RNH	8/21/2009	8/21/2012
4029B	RETLIF	TEST SITE ATTENUATION	3 / 10 Meters	RNH	6/25/2009	12/25/2010
5053	EMCO	BICONILOG ANTENNA	26 MHz - 3 GHz	3142C	4/21/2010	4/21/2011
5070	ROHDE & SCHWARZ	EMI TEST RECEIVER	20 Hz - 40 GHz	ESIB40	1/14/2009	3/14/2011
5072	MITEQ	PRE-AMPLIFIER	18 GHz-40 GHz	JS4-18004000-30	12/30/2009	12/30/2010
5107	AGILENT / HP	SIGNAL GENERATOR	100 kHz - 20 GHz	N5183A	2/25/2010	2/25/2011

### Mean Power Output

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
1345	NARDA	ATTENUATOR	DC - 18GHz	776B-30	8/10/2010	8/10/2011
5070	ROHDE & SCHWARZ	EMI TEST RECEIVER	20 Hz - 40 GHz	ESIB40	1/14/2009	3/14/2011
5133	NARDA	10DB ATTENUATOR	DC - 12.4 GHz	757C-10	8/10/2010	8/10/2011
5137	NARDA	10DB ATTENUATOR	DC - 11 GHz	768-10	10/8/2010	10/8/2011

### RF Power Output

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
1345	NARDA	ATTENUATOR	DC - 18GHz	776B-30	8/10/2010	8/10/2011
5070	ROHDE & SCHWARZ	EMI TEST RECEIVER	20 Hz - 40 GHz	ESIB40	1/14/2009	3/14/2011
5133	NARDA	10DB ATTENUATOR	DC - 12.4 GHz	757C-10	8/10/2010	8/10/2011
5137	NARDA	10DB ATTENUATOR	DC - 11 GHz	768-10	10/8/2010	10/8/2011



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### Frequency Stability

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
1345	NARDA	ATTENUATOR	DC - 18GHz	776B-30	8/10/2010	8/10/2011
4997	OMEGA	DIGITAL THERMOMETER		UNKNOWN	8/11/2010	8/11/2011
5013	POWERSTAT	VARIAC	0-140 V, 10 A, 60 Hz	116B	No Calibration Required	
5049B	FLUKE	DIGITAL MULTIMETER	True RMS Multimeter	111	8/9/2010	8/9/2011
5077	ASSOCIATED ENVIRONME	TEMPERATURE CHAMBER	-50 to 150°C	ZFD-531	8/11/2010	8/11/2011
5133	NARDA	10DB ATTENUATOR	DC - 12.4 GHz	757C-10	8/10/2010	8/10/2011
5137	NARDA	10DB ATTENUATOR	DC - 11 GHz	768-10	10/8/2010	10/8/2011
R425B	AGILENT / HP	SPECTRUM ANALYZER	100 Hz - 26.5 GHz	E7405A;A	5/28/2010	5/28/2011

### Occupied Bandwidth

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
1345	NARDA	ATTENUATOR	DC - 18GHz	776B-30	8/10/2010	8/10/2011
5070	ROHDE & SCHWARZ	EMI TEST RECEIVER	20 Hz - 40 GHz	ESIB40	1/14/2009	3/14/2011
5133	NARDA	10DB ATTENUATOR	DC - 12.4 GHz	757C-10	8/10/2010	8/10/2011
5137	NARDA	10DB ATTENUATOR	DC - 11 GHz	768-10	10/8/2010	10/8/2011

### Spurious Emissions Antenna Ports

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
1345	NARDA	ATTENUATOR	DC - 18GHz	776B-30	8/10/2010	8/10/2011
5070	ROHDE & SCHWARZ	EMI TEST RECEIVER	20 Hz - 40 GHz	ESIB40	1/14/2009	3/14/2011
5133	NARDA	10DB ATTENUATOR	DC - 12.4 GHz	757C-10	8/10/2010	8/10/2011
5137	NARDA	10DB ATTENUATOR	DC - 11 GHz	768-10	10/8/2010	10/8/2011

### Passband Gain and Bandwidth

EN	Manufacturer	Description	Range	Model No.	Cal Date	Due Date
1345	NARDA	ATTENUATOR	DC - 18GHz	776B-30	8/10/2010	8/10/2011
5070	ROHDE & SCHWARZ	EMI TEST RECEIVER	20 Hz - 40 GHz	ESIB40	1/14/2009	3/14/2011
5133	NARDA	10DB ATTENUATOR	DC - 12.4 GHz	757C-10	8/10/2010	8/10/2011
5137	NARDA	10DB ATTENUATOR	DC - 11 GHz	768-10	10/8/2010	10/8/2011



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**SETUP PHOTOGRAPH  
SPURIOUS RADIATED EMISSIONS**



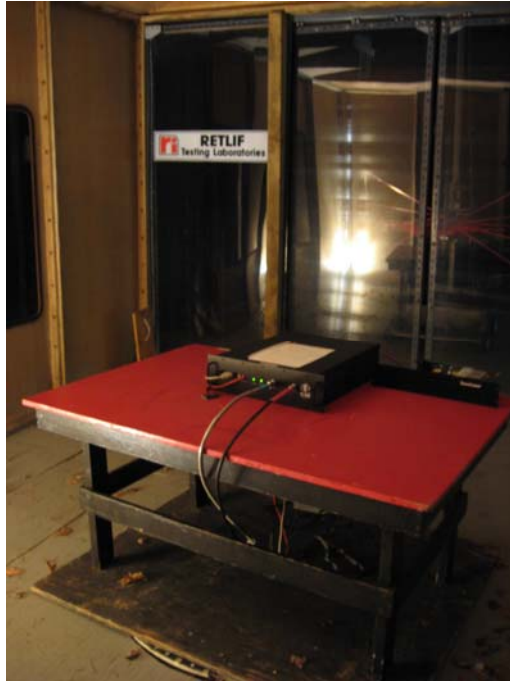
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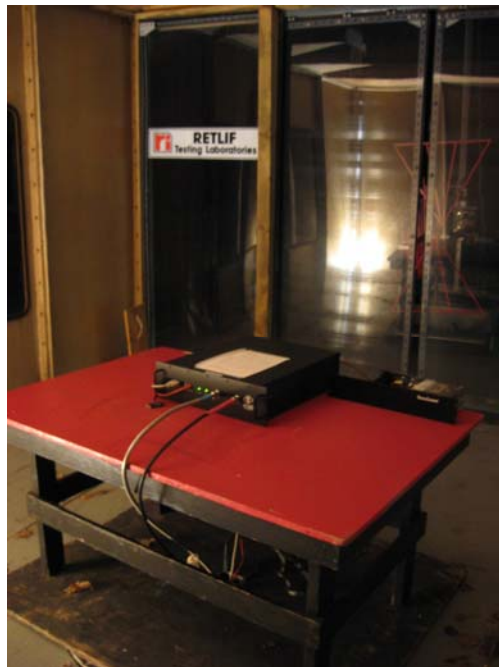
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**SETUP PHOTOGRAPHS  
SPURIOUS RADIATED EMISSIONS**



Horizontal Antenna Polarization, 30 to 1000 MHz



Vertical Antenna Polarization, 30 to 1000 MHz



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**SETUP PHOTOGRAPHS  
SPURIOUS RADIATED EMISSIONS**



Horizontal Antenna Polarization, 1 to 18 GHz



Vertical Antenna Polarization, 1 to 18 GHz



**Retlif Testing Laboratories**

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**SETUP PHOTOGRAPHS  
SPURIOUS RADIATED EMISSIONS**



Horizontal Polarization, 18 to 20 GHz



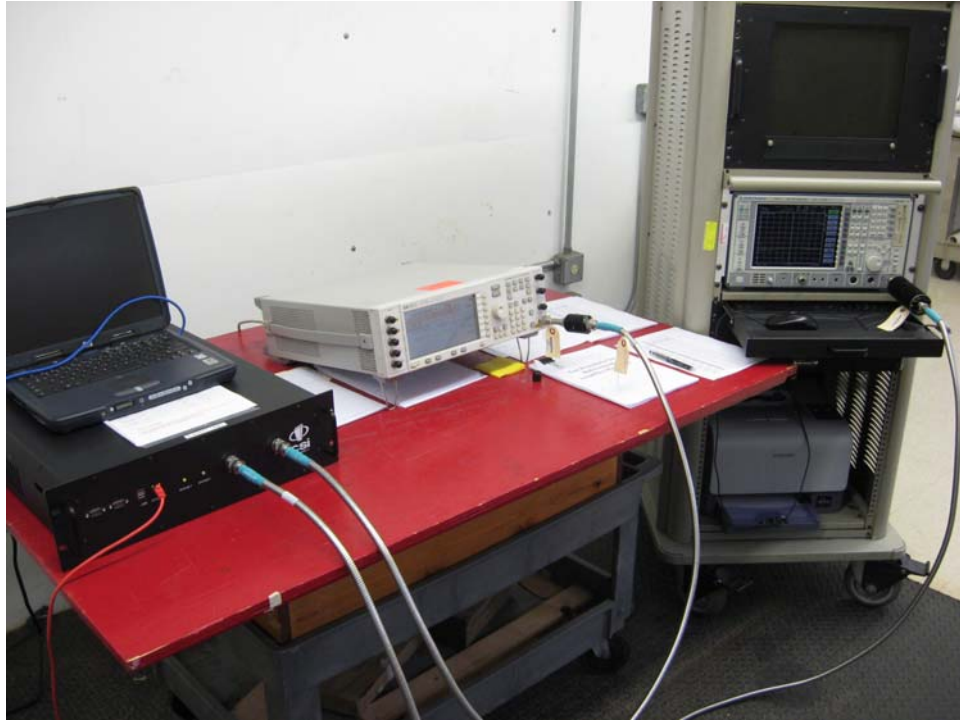
Vertical Polarization, 18 to 20 GHz



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**SETUP PHOTOGRAPH  
OCCUPIED BANDWIDTH**



Test Setup



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Test Report No. R-5398N-2

**SETUP PHOTOGRAPH**  
**SPURIOUS EMISSIONS AT ANTENNA TERMINALS, RF POWER OUTPUT,**  
**INTERMODULATION CHARACTERISTICS, PASSBAND GAIN, MEAN POWER**



Test Setup



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Test Report No. R-5398N-2

**SETUP PHOTOGRAPH  
FREQUENCY STABILITY**



Test Setup



Test Setup



**Retlif Testing Laboratories**

Test Report No. R-5398N-2





# RETLIF TESTING LABORATORIES

## TABULAR DATA SHEET

<b>Test Method:</b>	RF Power Output		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R-5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	FCC Part 2 Paragraph: 2.1046		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	11/30/2010
<b>Notes:</b>	Frequency Range    Cell Band: 824-849 MHz    PCS Band: 1850-1910 MHz    Modulation: CDMA IS-95		

Test Frequency	Measured Level	Level								
MHz	dBm	mW								
(Uplink) Low										
828.00	30.55	1135.01								
(Uplink) Mid										
836.50	30.54	1132.40								
(Uplink) High										
845.00	30.23	1054.39								
(Uplink) Low										
1854.00	27.02	503.5								
(Uplink) Mid										
1880.00	26.27	423.6								
(Uplink) High										
1906.00	24.77	299.9								





# RETLIF TESTING LABORATORIES

## TABULAR DATA SHEET

<b>Test Method:</b>	RF Power Output		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R-5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	FCC Part 2 Paragraph: 2.1046		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	11/30/2010
<b>Notes:</b>	Frequency Range    Cell Band: 869-894 MHz    PCS Band: 1930-1990 MHz    Modulation: CDMA IS-95		

Test Frequency	Measured Level	Level								
MHz	dBm	mW								
(Downlink) Low										
873.00	34.95	3126.08								
(Downlink) Mid										
881.50	35.55	3589.22								
(Downlink) High										
890.00	35.56	3597.49								
(Downlink) Low										
1934.00	34.24	2654.6								
(Downlink) Mid										
1960.00	34.89	3083.2								
(Downlink) High										
1986.00	34.47	2799.0								

# RETLIF TESTING LABORATORIES

## TABULAR DATA SHEET

<b>Test Method:</b>	RF Power Output		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R-5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	FCC Part 2 Paragraph: 2.1046		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	11/30/2010
<b>Notes:</b>	Frequency Range    Cell Band: 869-894 MHz    PCS Band: 1930-1990 MHz    Modulation: WCDMA		

Test Frequency	Measured Level	Level								
MHz	dBm	mW								
(Downlink) Low										
875.00	36.19	4159.11								
(Downlink) Mid										
881.50	36.44	4405.55								
(Downlink) High										
888.00	36.75	4731.51								
(Downlink) Low										
1936.00	35.10	3235.9								
(Downlink) Mid										
1960.00	35.74	3749.7								
(Downlink) High										
1984.00	35.90	3890.5								

# RETLIF TESTING LABORATORIES

## TABULAR DATA SHEET

<b>Test Method:</b>	Mean Power		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R-5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	RSS-131 Paragraph: 4.3		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	12/17/2010
<b>Notes:</b>	Frequency Range    Cellband: 824-849 MHz    PCSband: 1850-1910 MHz    Modulation: CW		

Test Frequency	Measured Level (p1)	Add 3dB	Mean Power						
MHz	dBm	dB	dBm						
(Uplink) Low									
826.00	28.87	3.00	31.87						
(Uplink) Mid									
836.50	29.25	3.00	32.25						
(Uplink) High									
847.00	29.59	3.00	32.59						
(Uplink) Low									
1852.00	26.39	3.0	29.39						
(Uplink) Mid									
1880.00	25.21	3.0	28.21						
(Uplink) High									
1908.00	25.09	3.0	28.09						

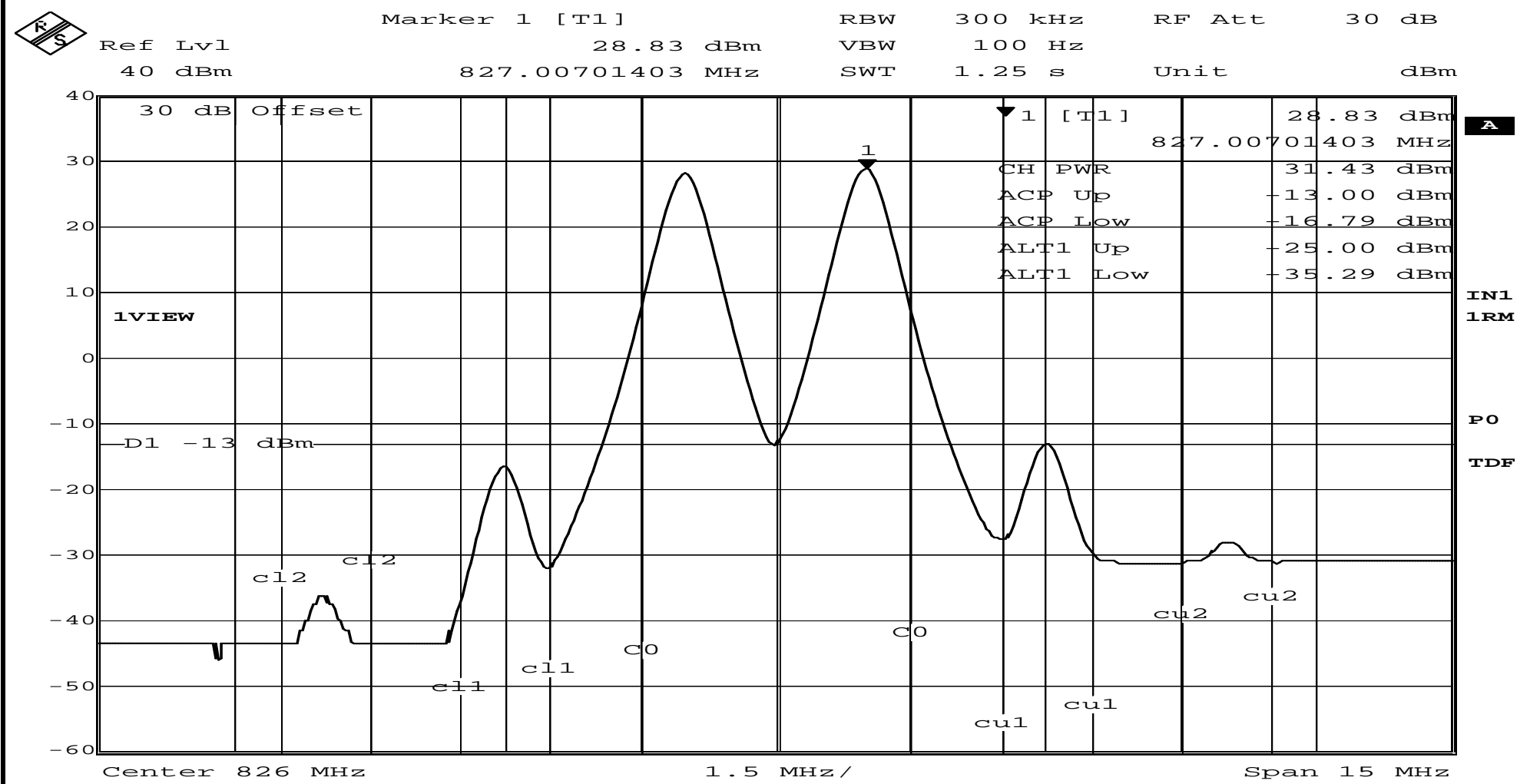




# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink (824-849MHz)		



Date: 29.NOV.2010 14:23:10

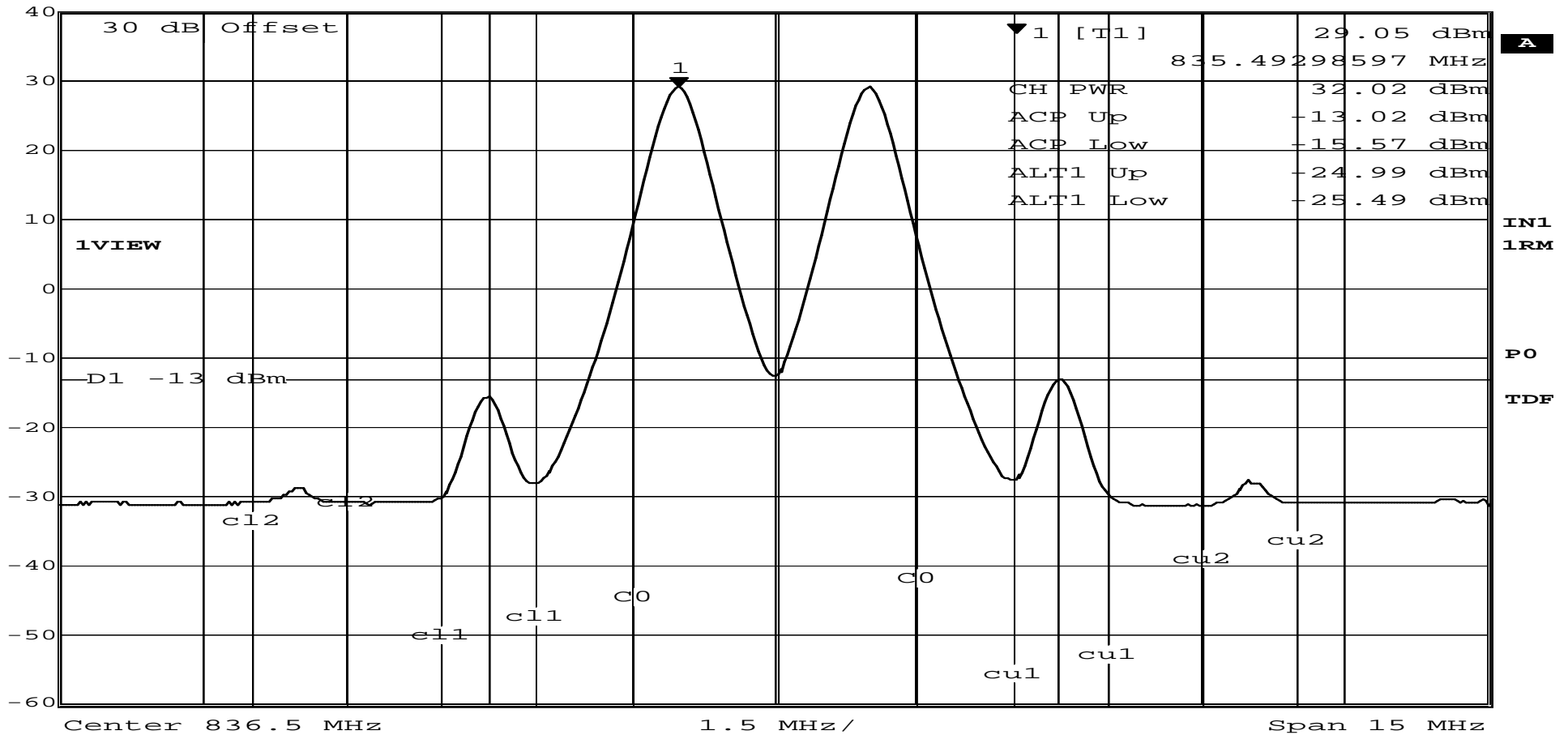
# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink (824-849MHz)		



Marker 1 [T1]      RBW 300 kHz      RF Att 30 dB  
 Ref Lvl 29.05 dBm      VBW 100 Hz  
 40 dBm      835.49298597 MHz      SWT 1.25 s      Unit dBm

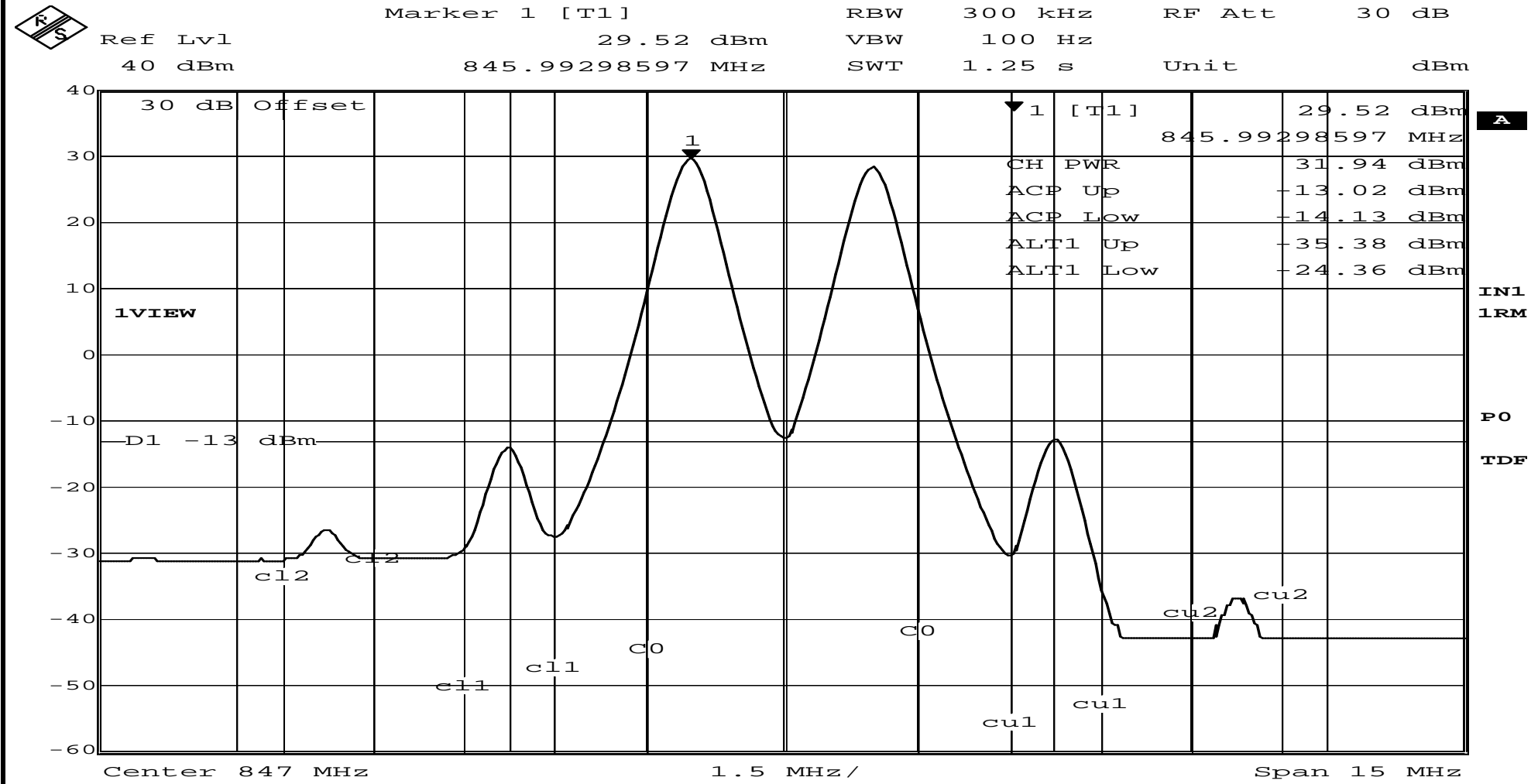


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# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink (824-849MHz)		

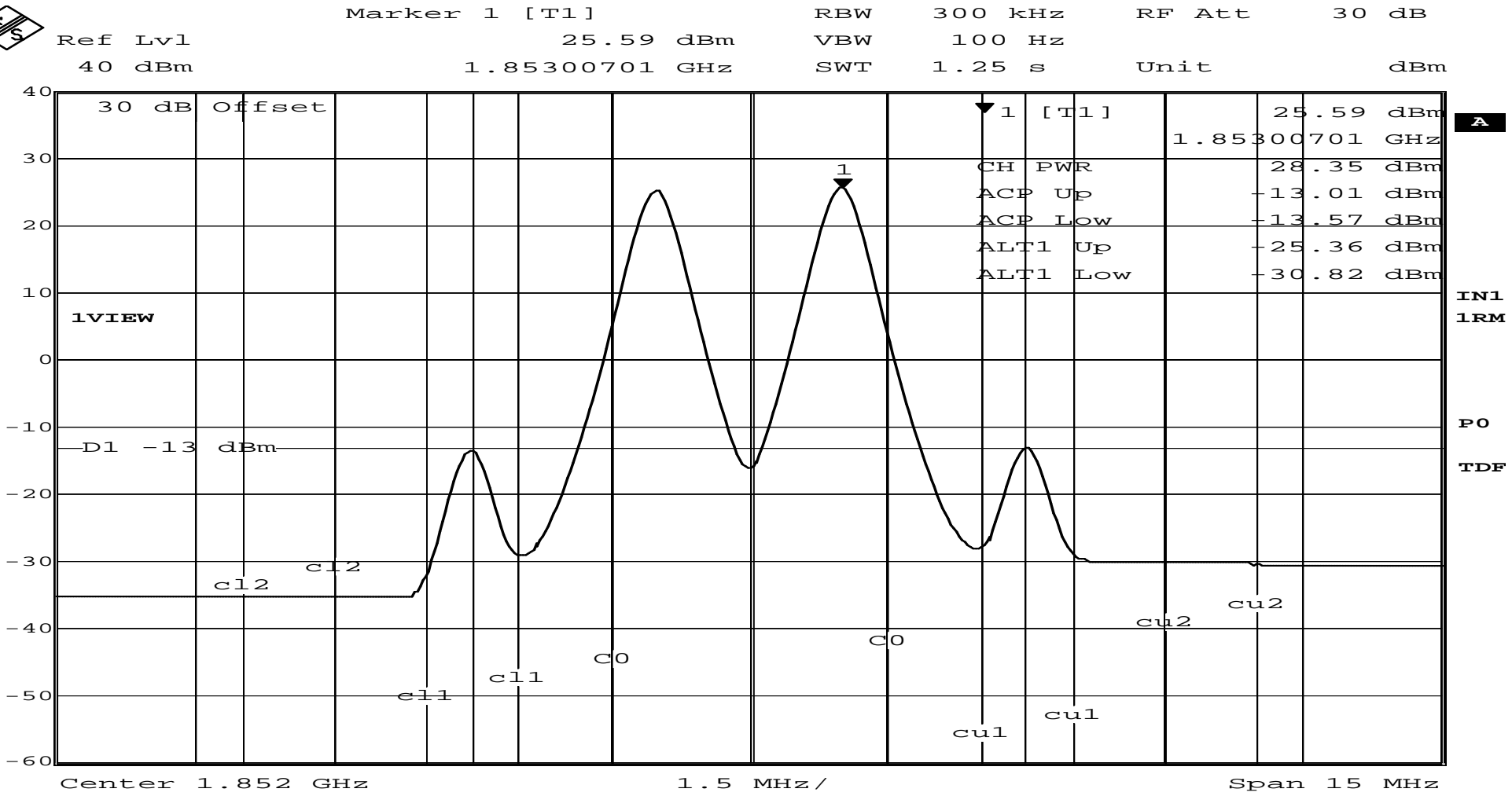


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# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink (1850-1910MHz)		

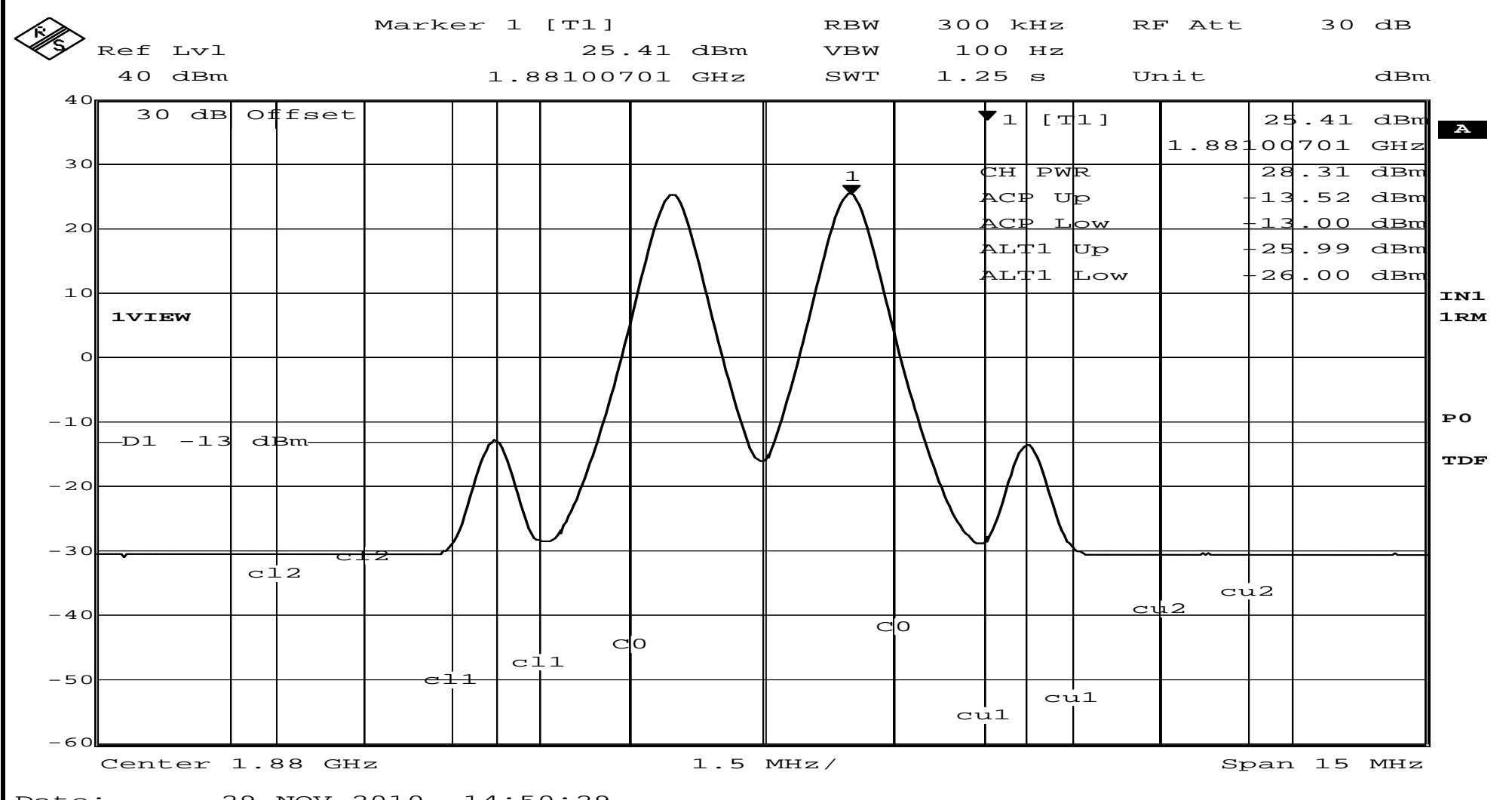


Date: 29.NOV.2010 14:49:16

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

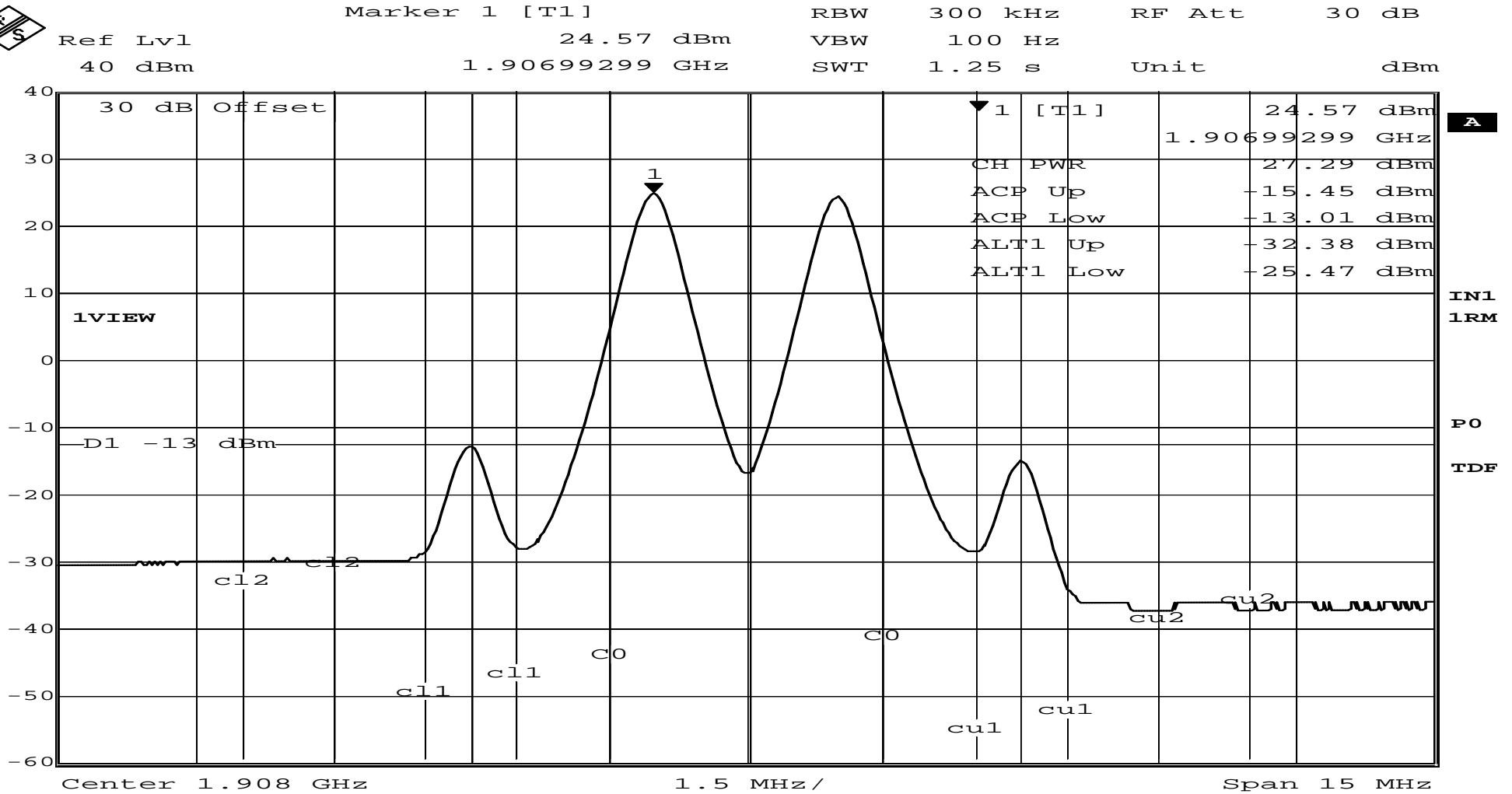
Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink (1850-1910MHz)		



# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics			
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater	
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A	
Test Specification:	FCC Part 2	Paragraph:	2.1047	
Operating Mode:	Amplifying input signal			
Notes:	TDMA - Uplink (1850-1910MHz)			
Job No:	R-5398N-2		Technician:	M.Seamans
Date:	11/30/2010			

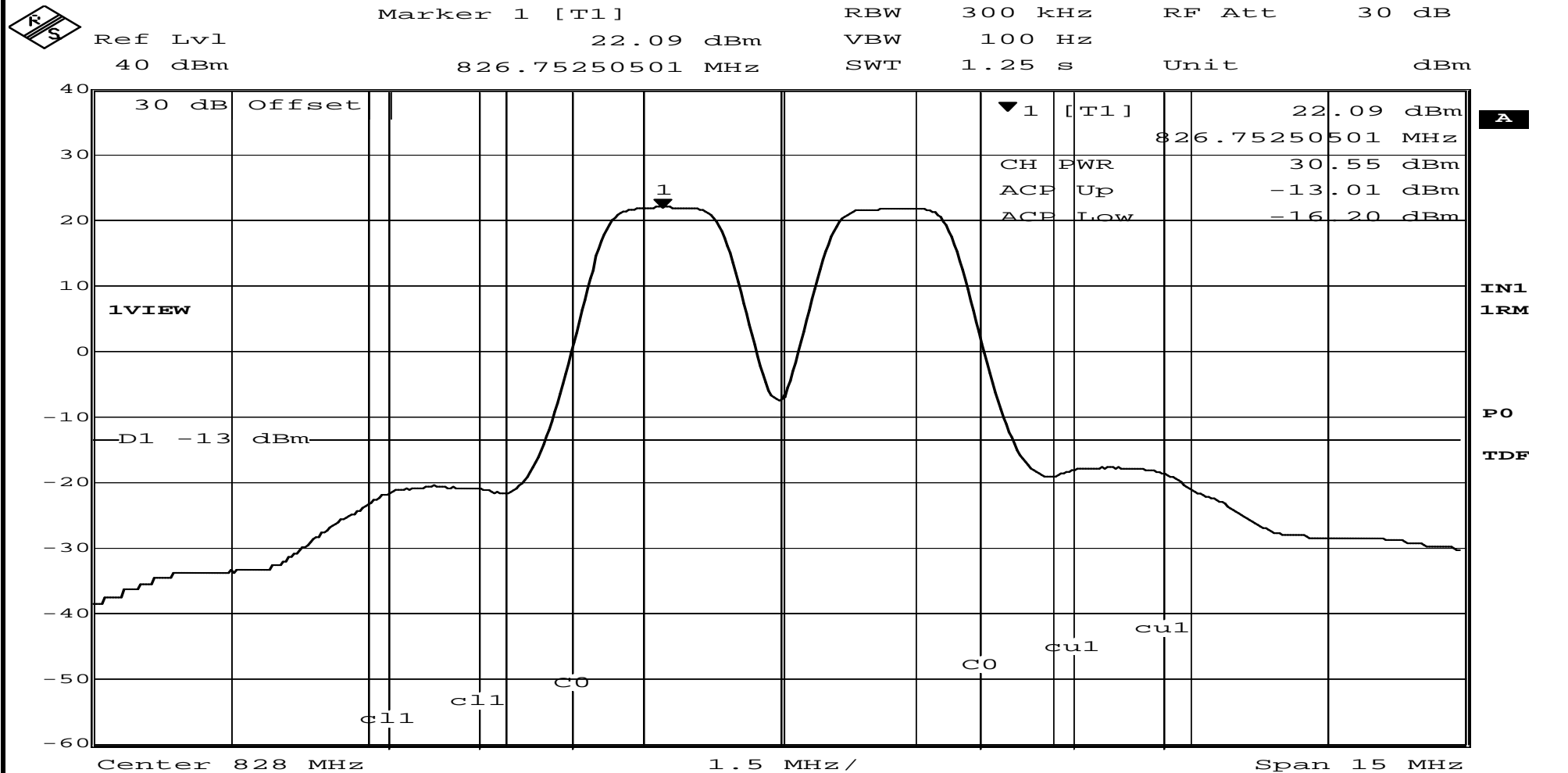


Date: 29.NOV.2010 14:53:02

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5398N-2		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink (824-849MHz)		

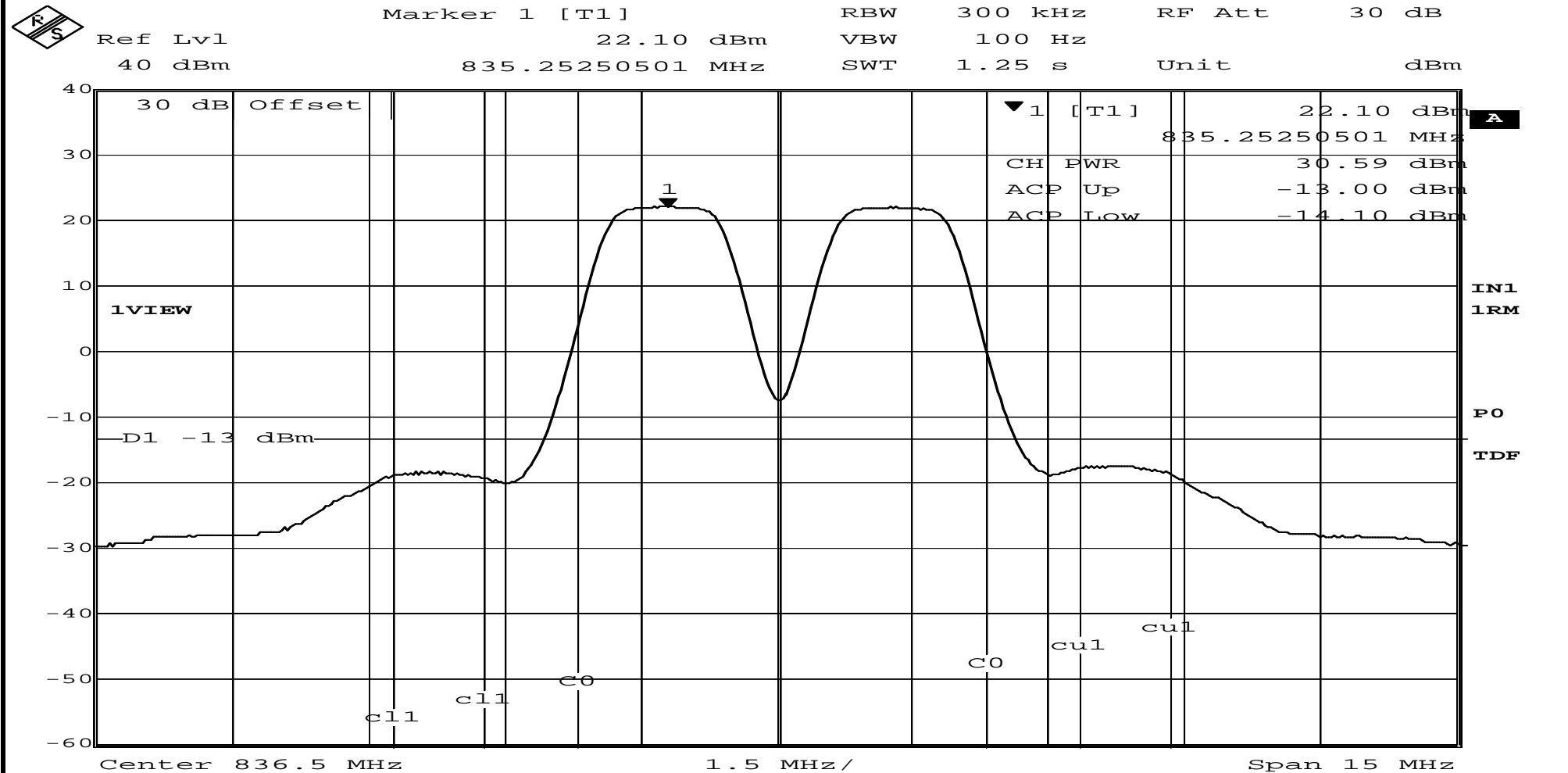


Date: 30.NOV.2010 09:09:40

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5398N-2		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink (824-849MHz)		



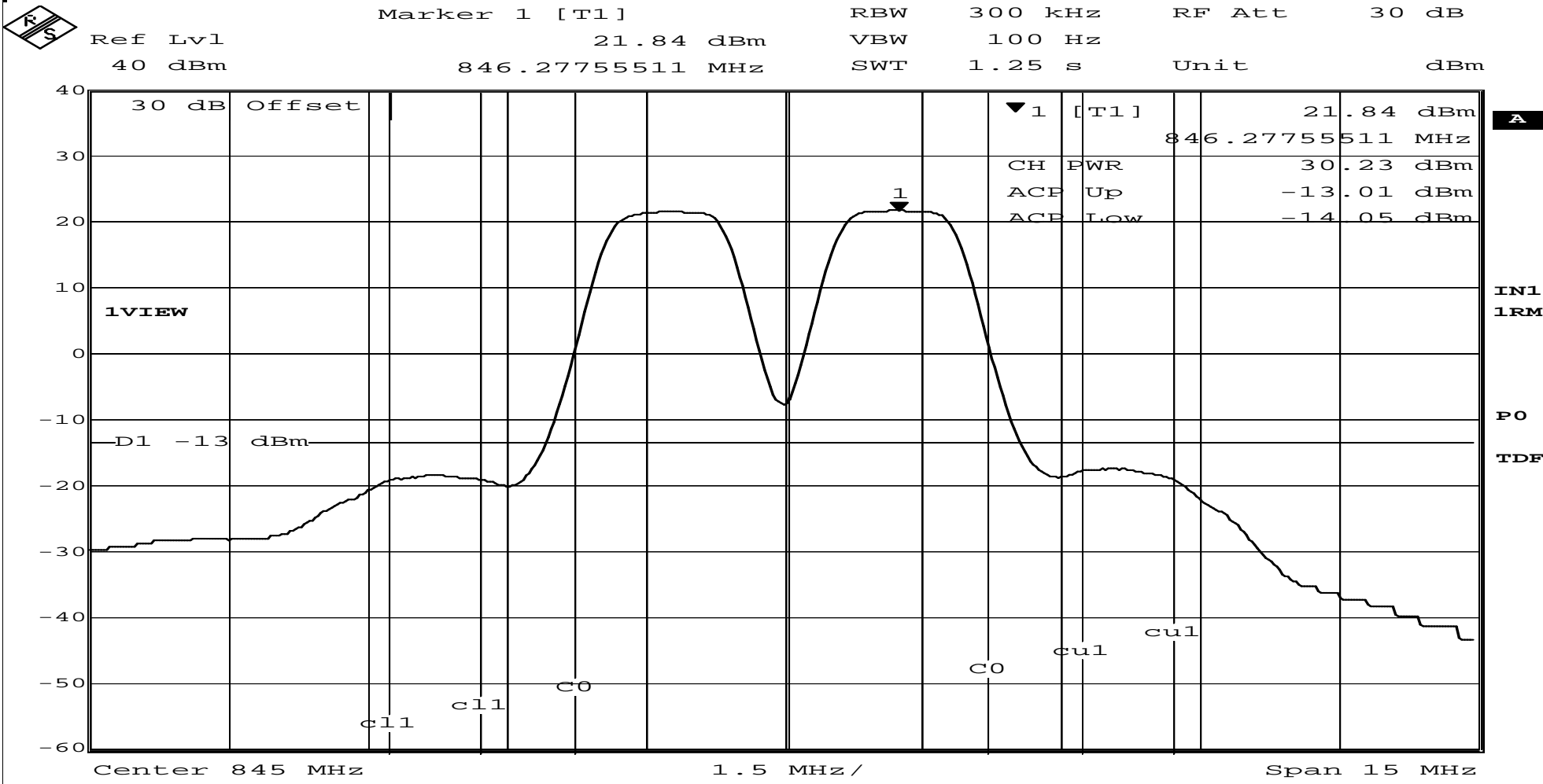
Date: 30.NOV.2010 09:11:06



# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink (824-849MHz)		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	11/30/2010		

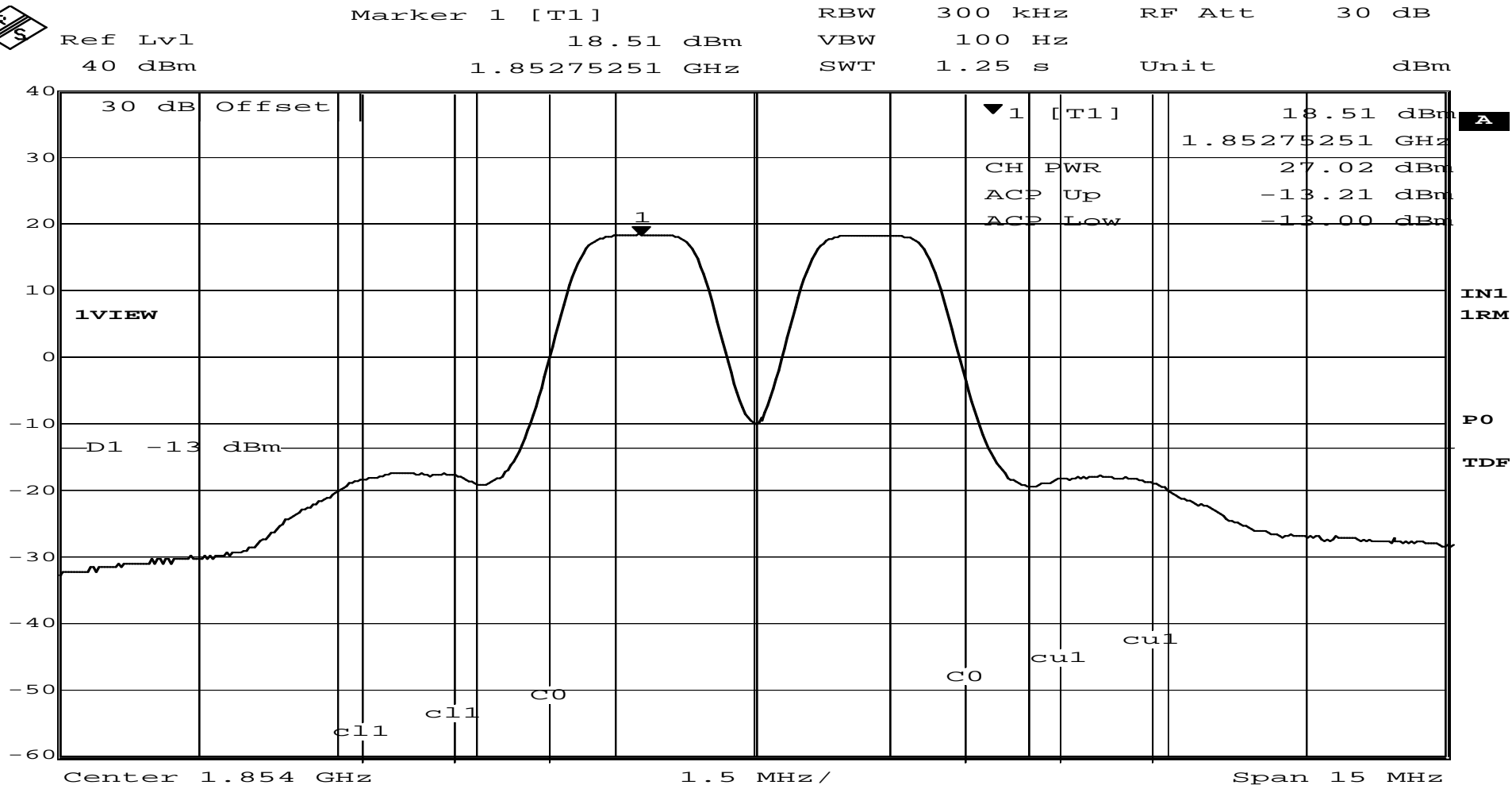


Date: 30.NOV.2010 09:13:06

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics			
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater	
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A	
Test Specification:	FCC Part 2	Paragraph:	2.1047	
Operating Mode:	Amplifying input signal			
Notes:	CDMA IS-95 - Uplink (1850-1910MHz)			
Job No:	R-5398N-2		Technician:	M.Seamans
Date:	11/30/2010			



Date: 30.NOV.2010 09:18:14

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink (1850-1910MHz)		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	11/30/2010		



Marker 1 [T1]

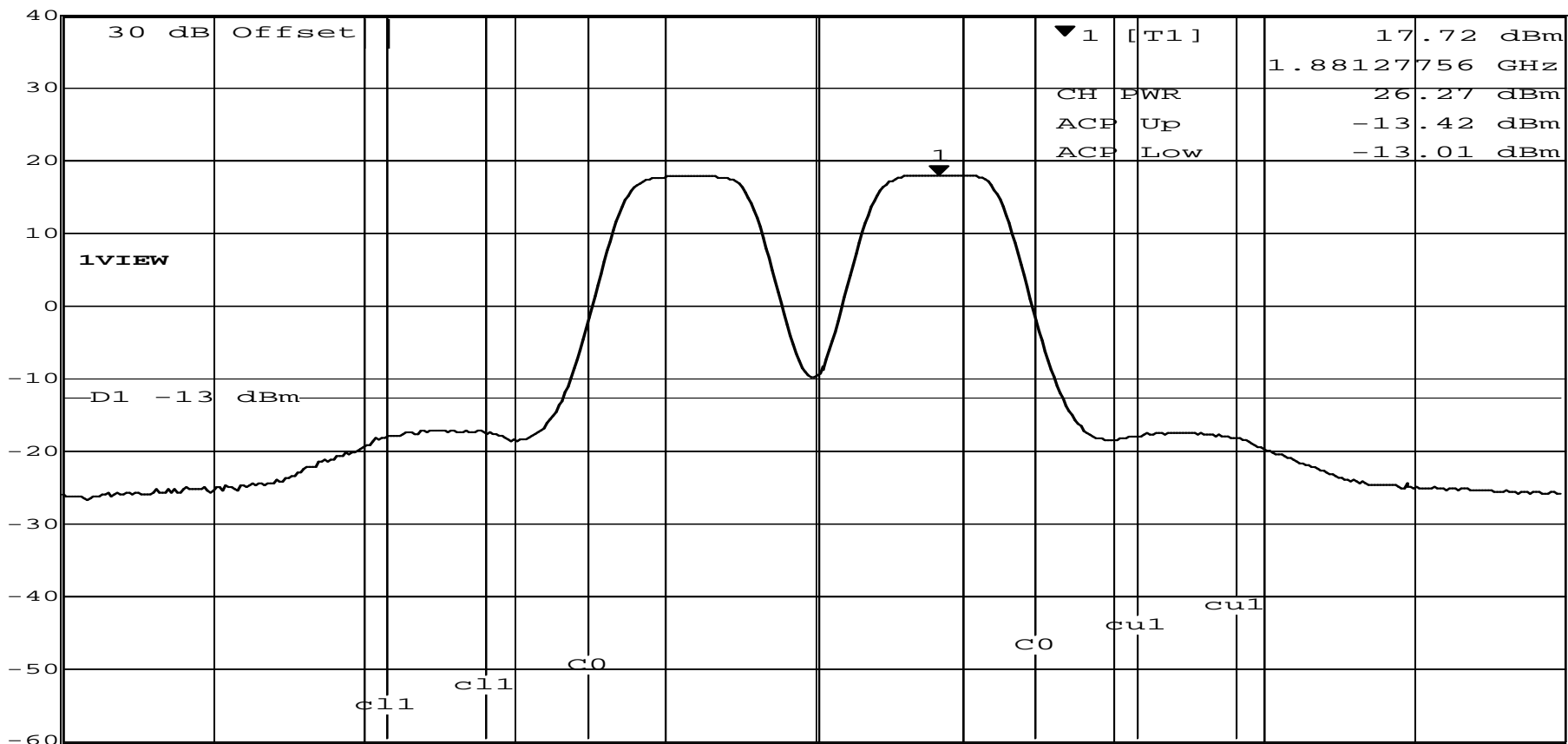
RBW 300 kHz RF Att 30 dB

Ref Lvl 17.72 dBm

VBW 100 Hz

40 dBm 1.88127756 GHz

SWT 1.25 s Unit dBm



▼ 1 [T1]	17.72 dBm
	1.88127756 GHz
CH PWR	26.27 dBm
ACP Up	-13.42 dBm
ACP Low	-13.01 dBm

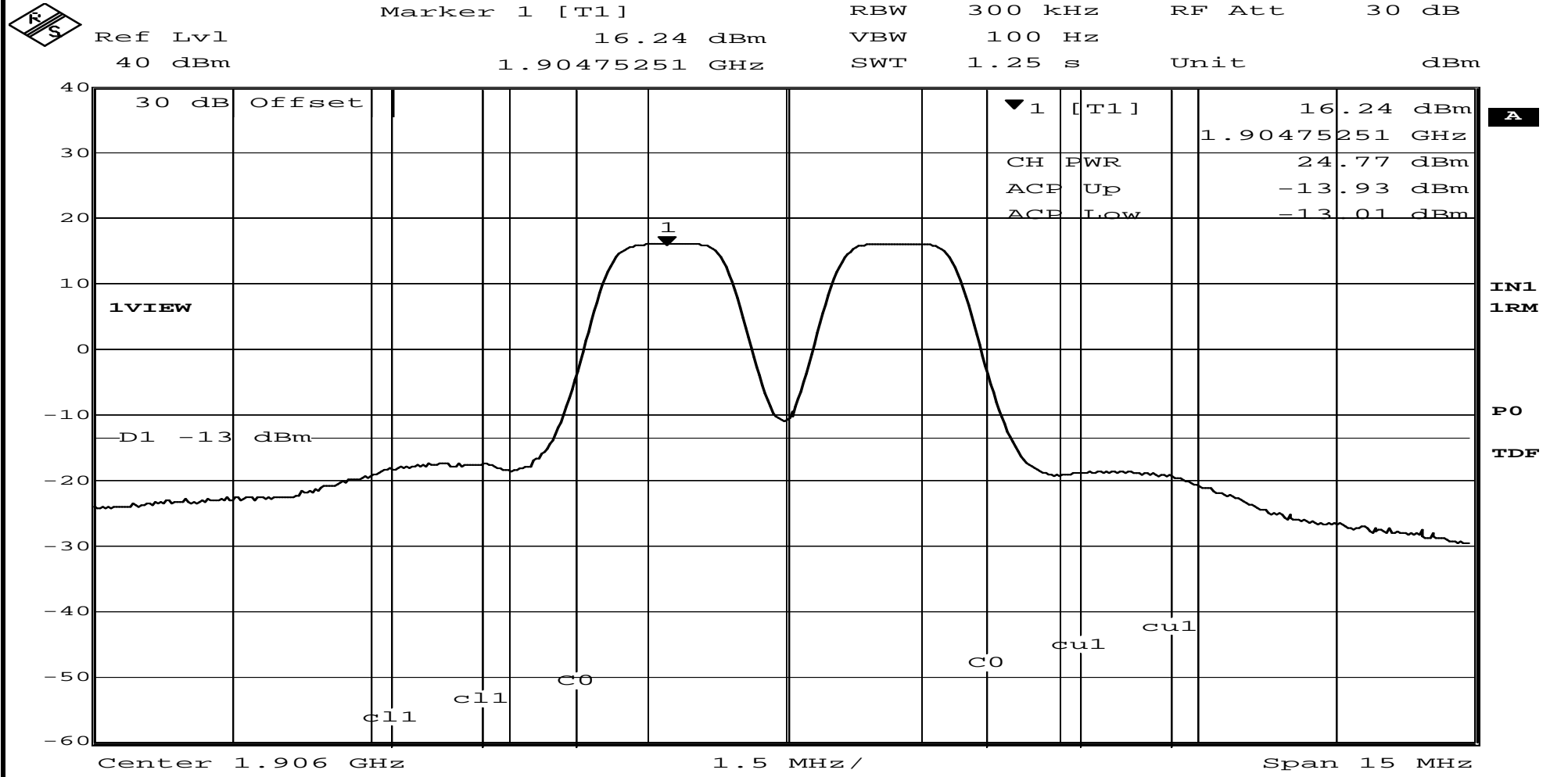
Center 1.88 GHz 1.5 MHz / Span 15 MHz

Date: 30.NOV.2010 09:20:20

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink (1850-1910MHz)		

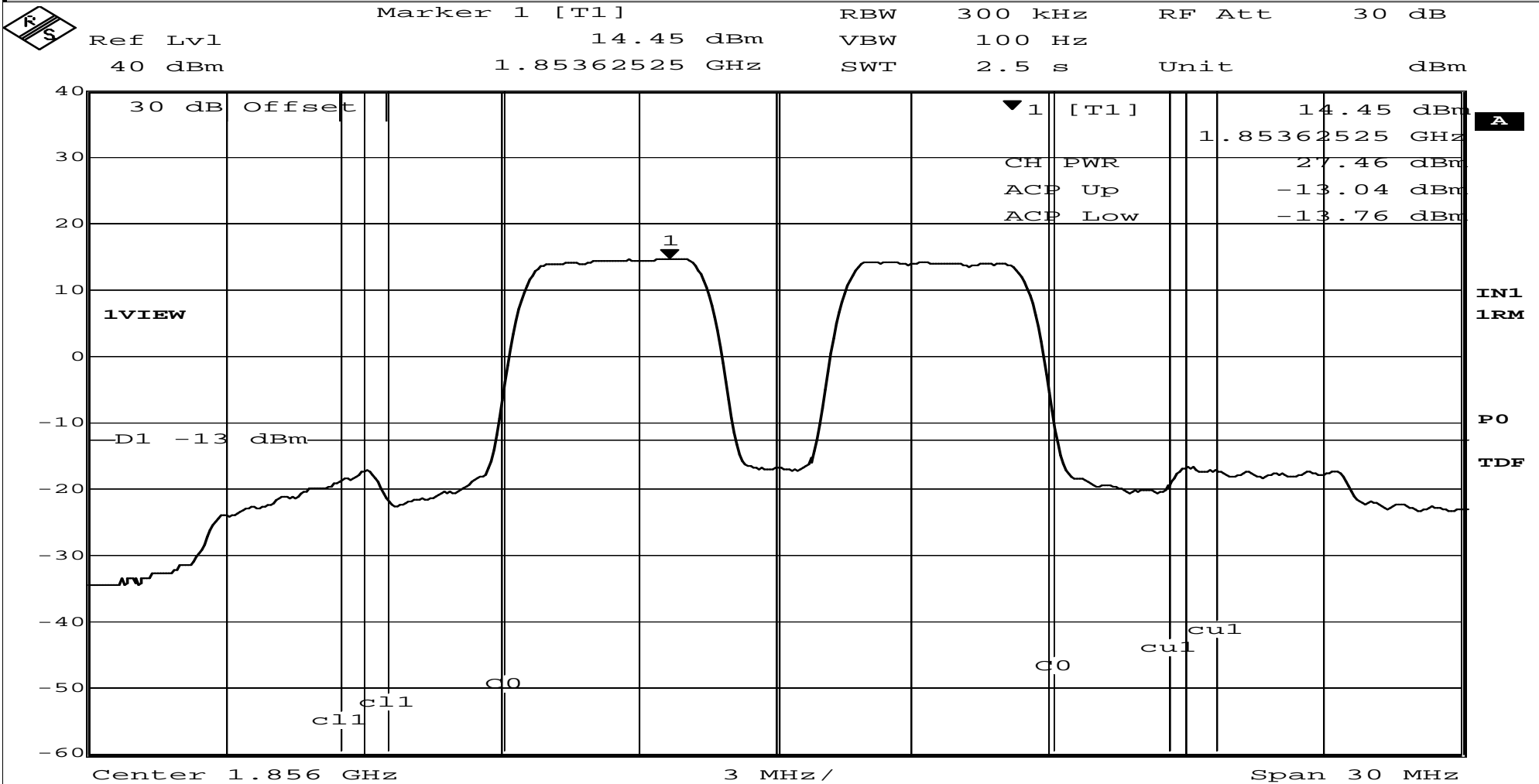


Date: 30.NOV.2010 09:23:04

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink (1850-1910MHz)		



Date: 30.NOV.2010 10:44:16

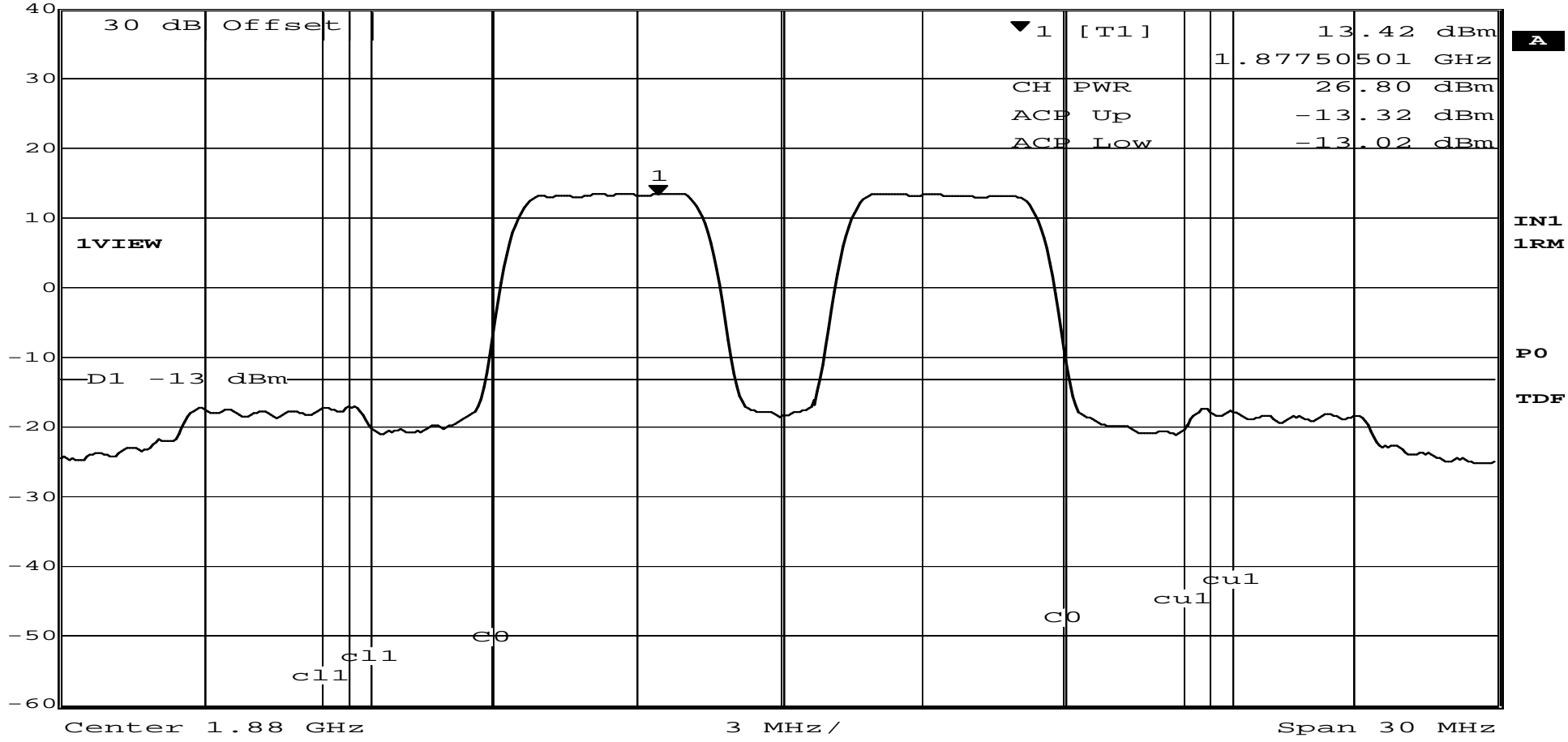
# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics			
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater	
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A	
Test Specification:	FCC Part 2	Paragraph:	2.1047	
Operating Mode:	Amplifying input signal			
Notes:	WCDMA - Uplink (1850-1910MHz)			
Job No:	R-5398N-2		Technician:	M.Seamans
Date:	11/30/2010			



	Marker 1 [T1]	RBW	300 kHz	RF Att	30 dB
Ref Lvl	13.42 dBm	VBW	100 Hz		
40 dBm	1.87750501 GHz	SWT	2.5 s	Unit	dBm

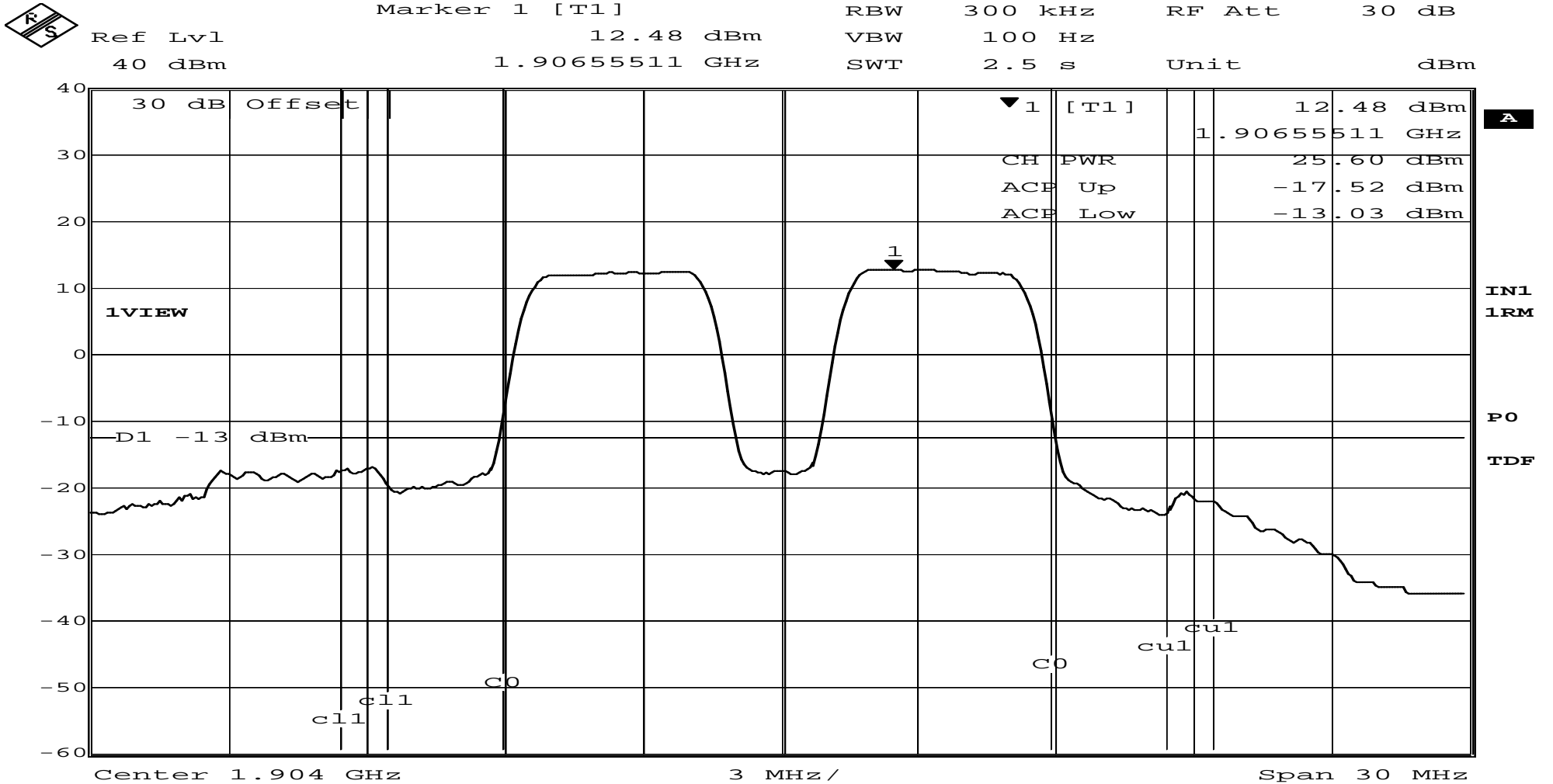


Date: 30.NOV.2010 10:45:28

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5398N-2		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph:	2.1047
Date:	11/30/2010		
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink (1850-1910MHz)		

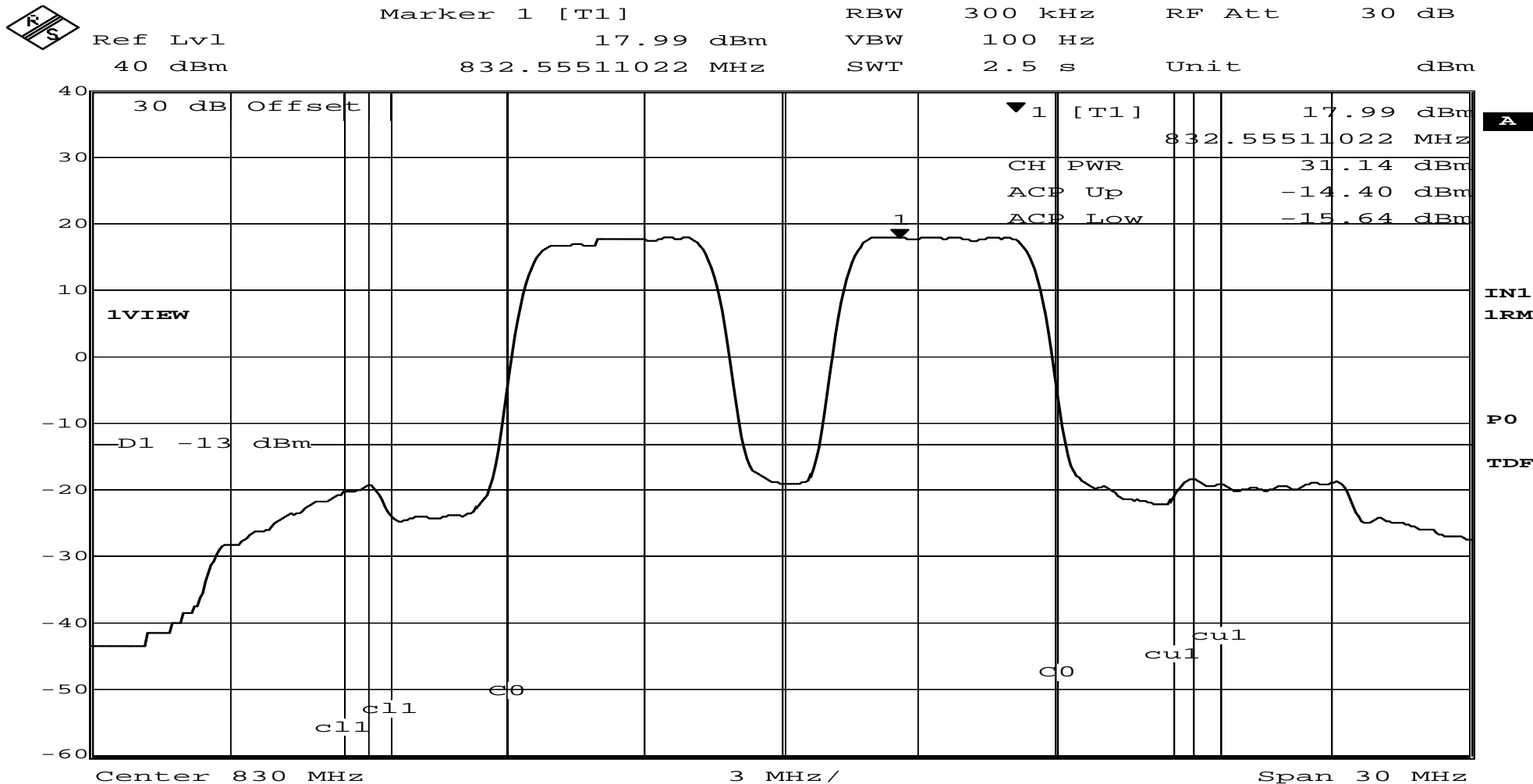


Date: 30.NOV.2010 10:46:35

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5398N-2		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink (824-849MHz)		



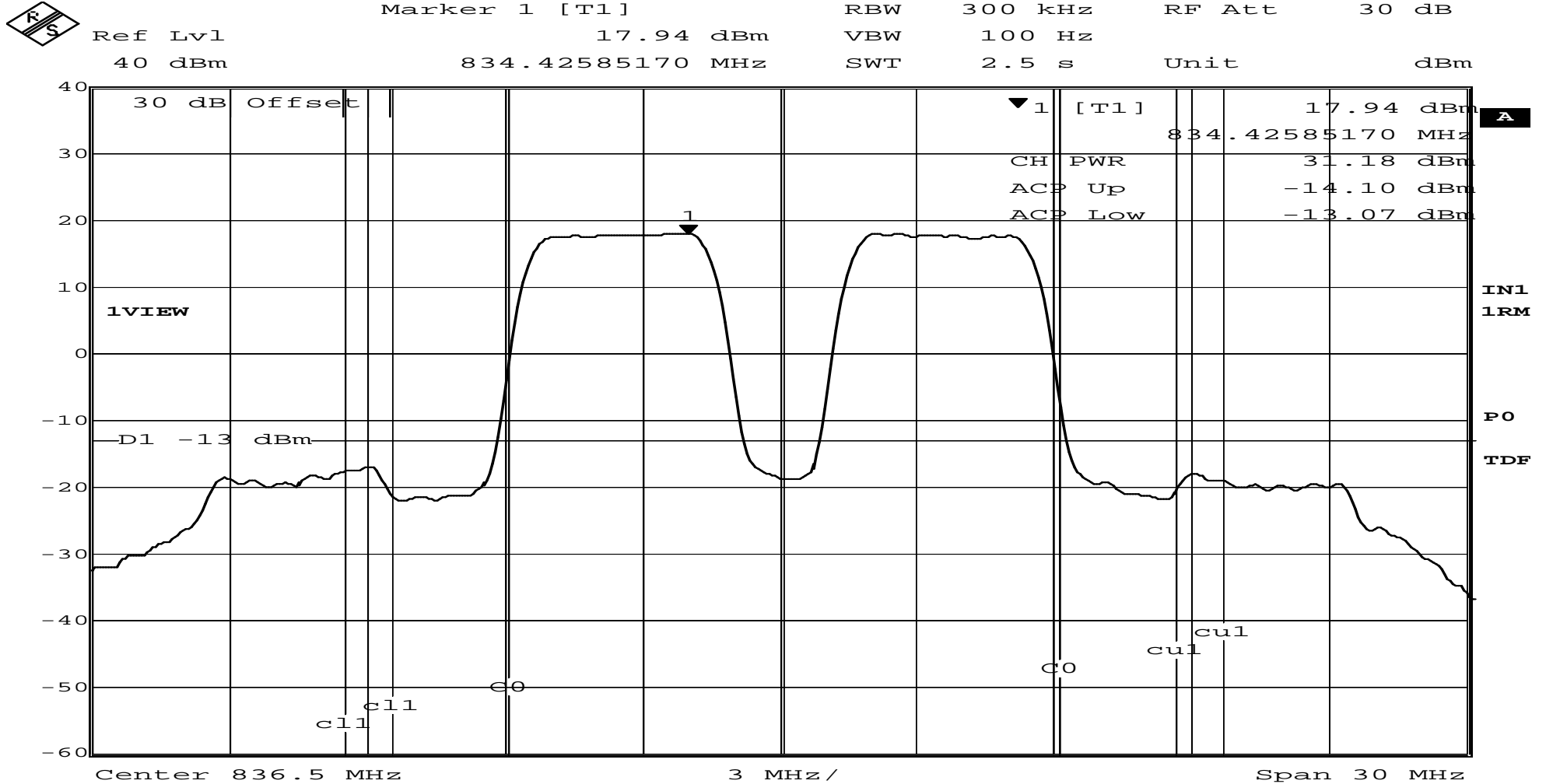
Date: 30.NOV.2010 10:40:24



# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5398N-2		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink (824-849MHz)		



Date: 30.NOV.2010 10:41:23

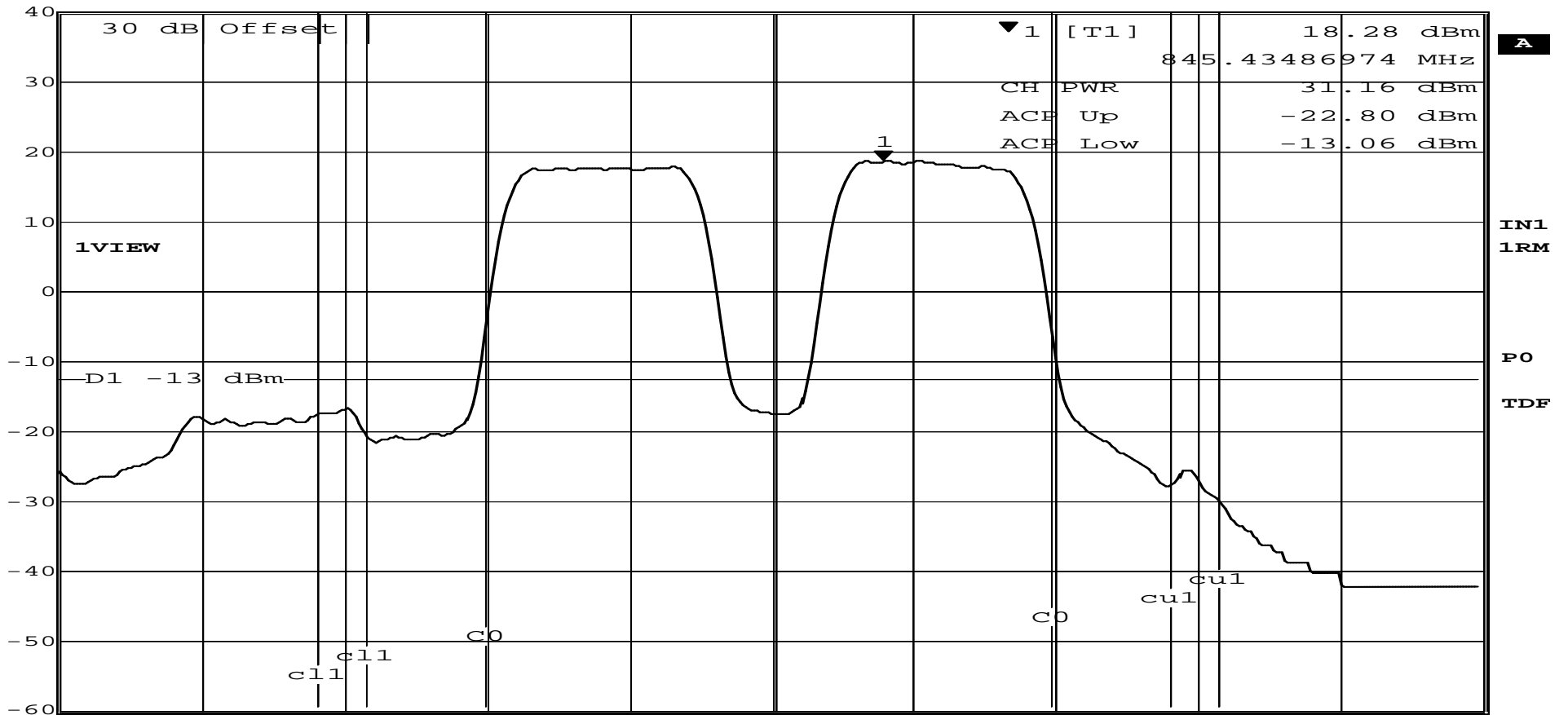
# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5398N-2		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink (824-849MHz)		



Marker 1 [T1]      RBW 300 kHz      RF Att 30 dB  
 Ref Lvl 18.28 dBm      VBW 100 Hz  
 40 dBm      845.43486974 MHz      SWT 2.5 s      Unit dBm



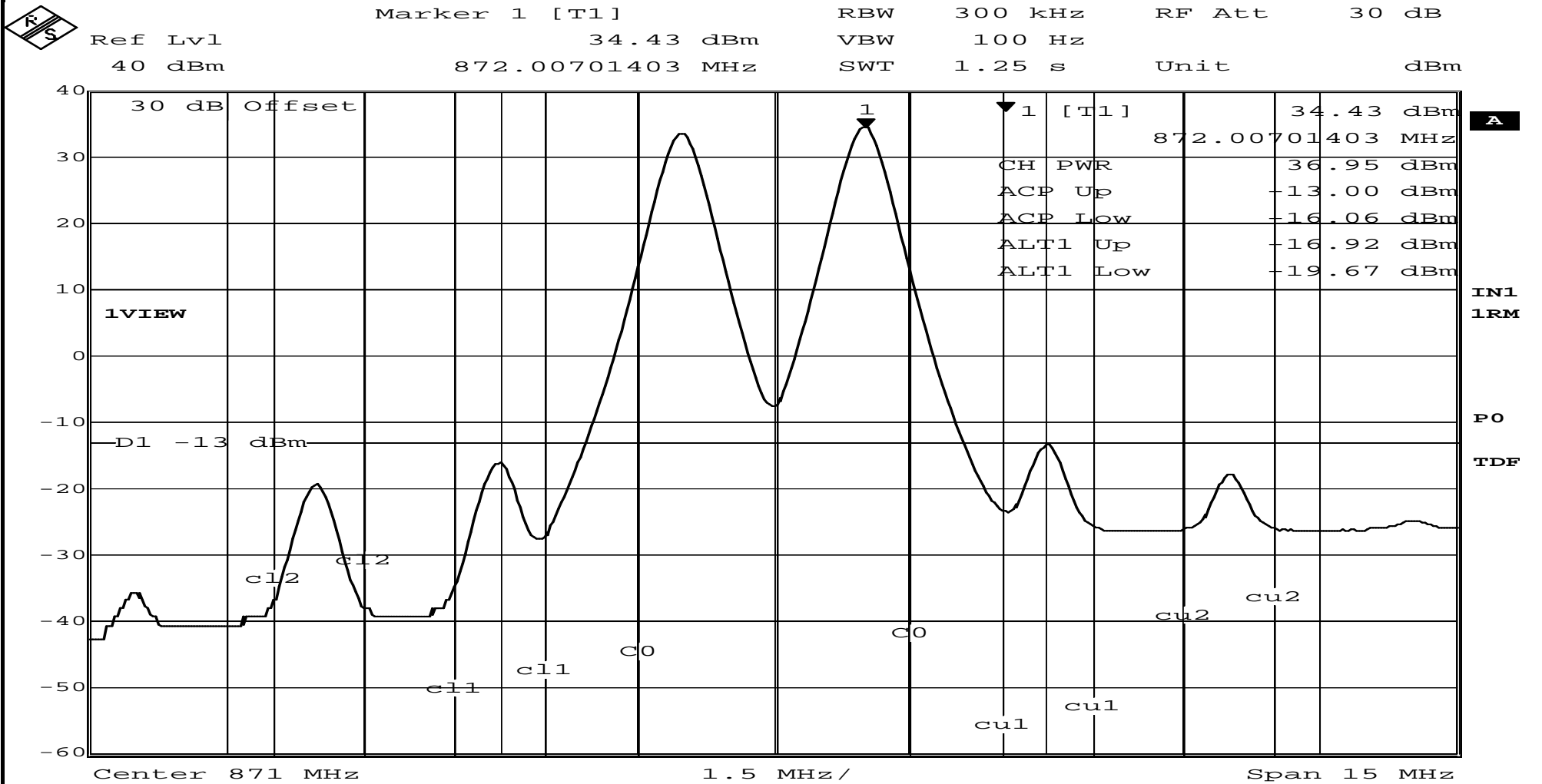
Center 843 MHz      3 MHz/      Span 30 MHz

Date: 30.NOV.2010 10:42:23

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5398N-2		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink (869-894MHz)		

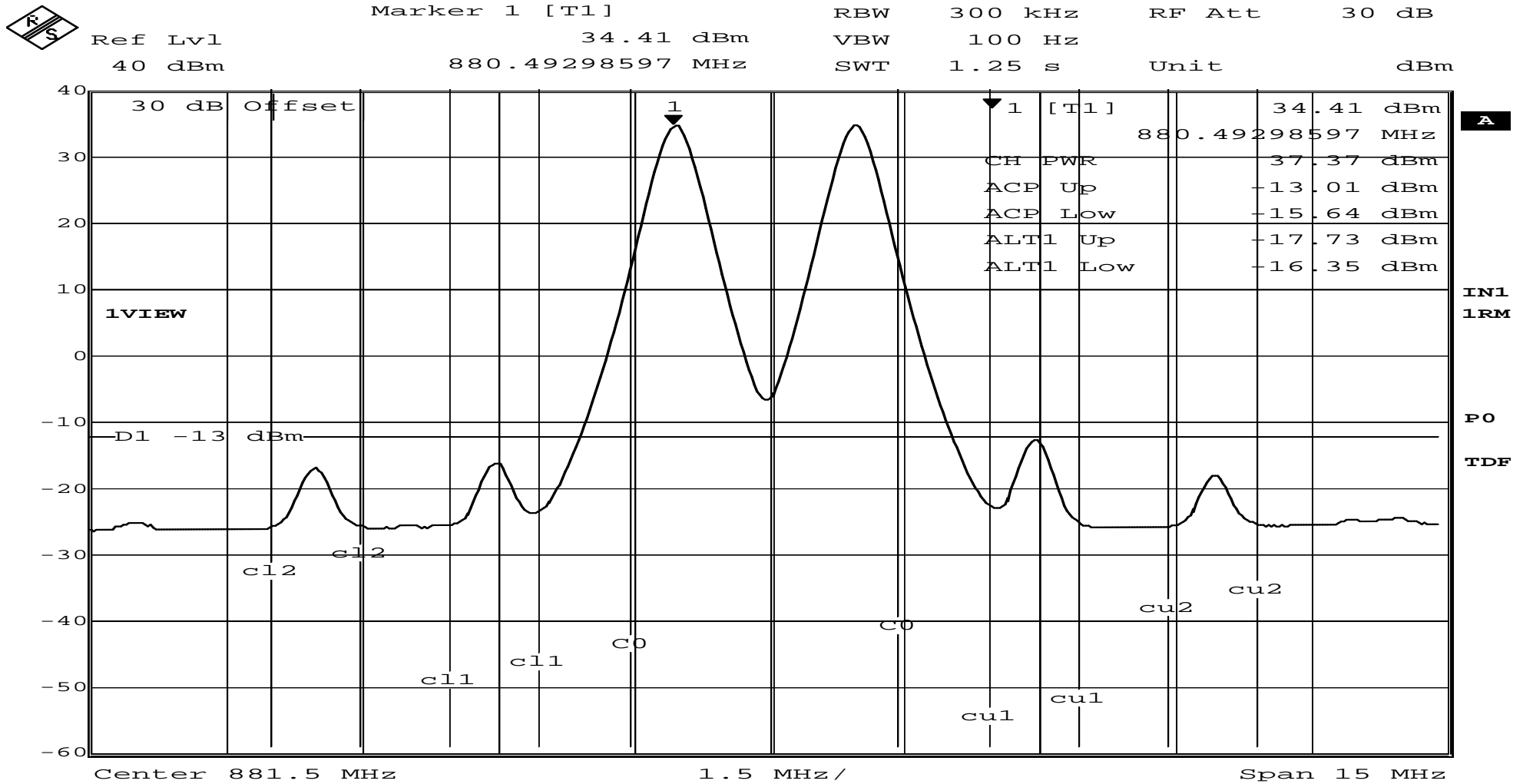


Date: 29.NOV.2010 14:14:47

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5398N-2		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
11/30/2010			
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink (869-894MHz)		

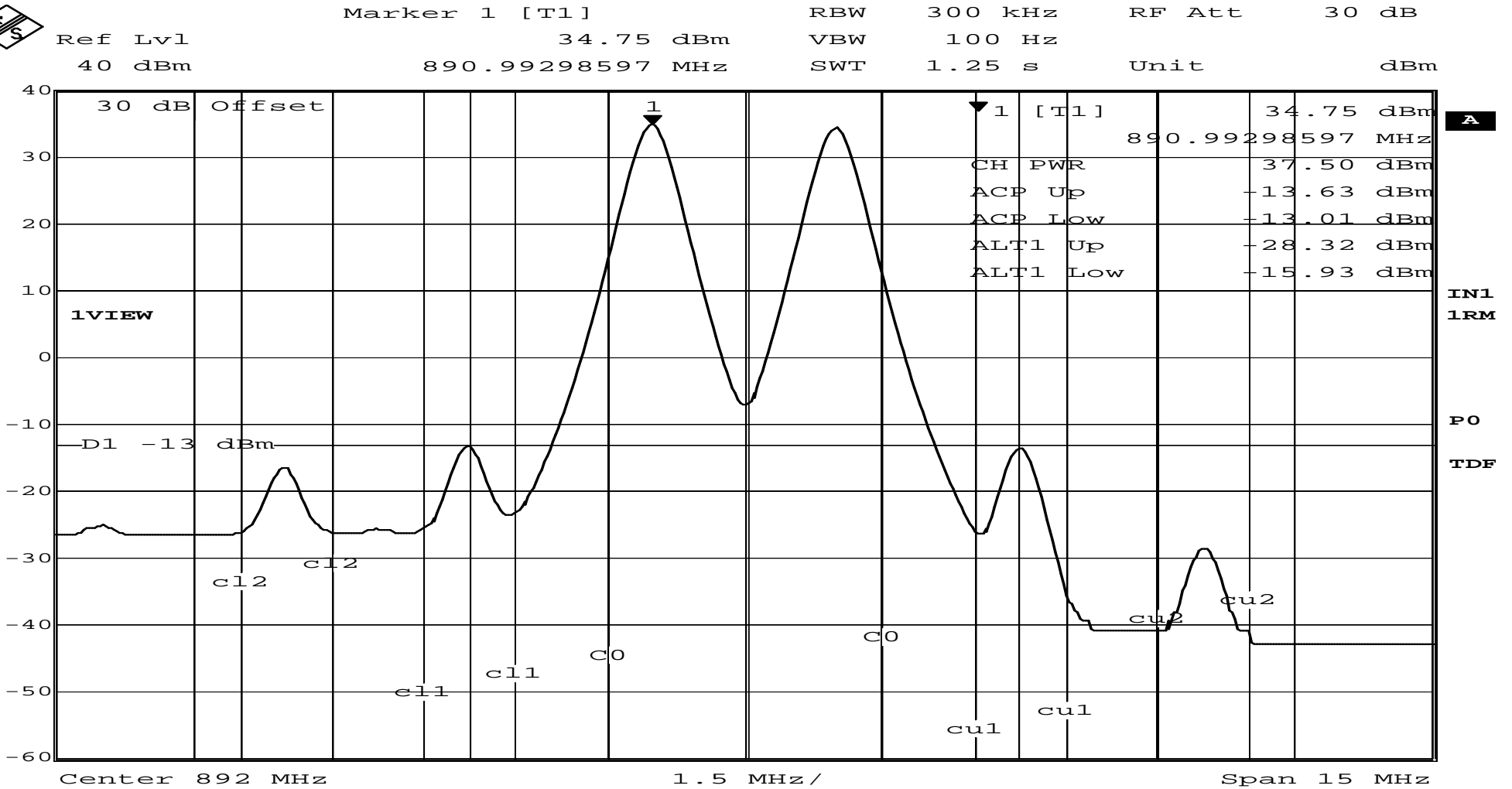


Date: 29.NOV.2010 14:13:04

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5398N-2		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
11/30/2010			
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink (869-894MHz)		

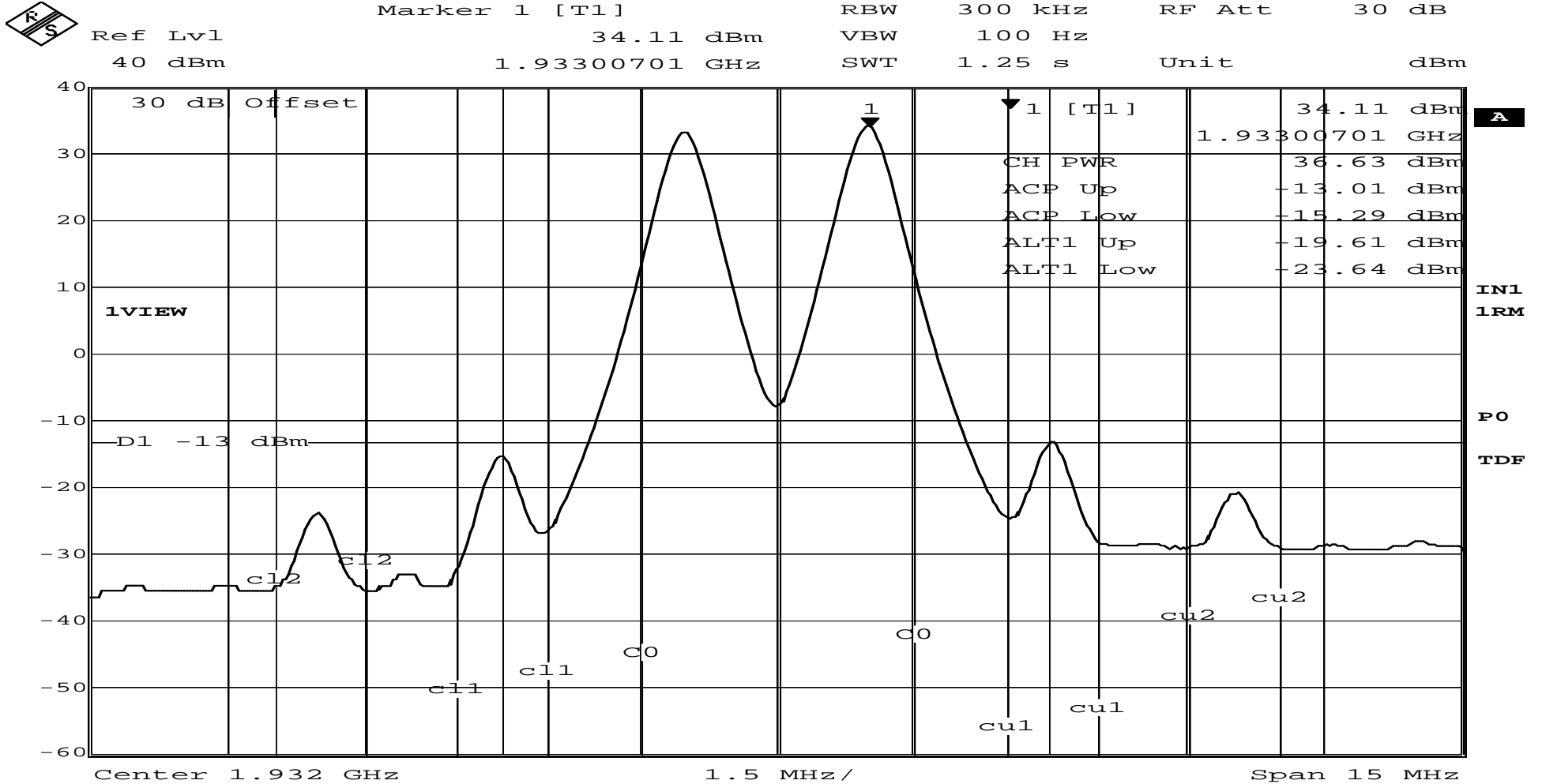


Date: 29.NOV.2010 14:10:51

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date: 11/30/2010
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink (1930-1990MHz)		

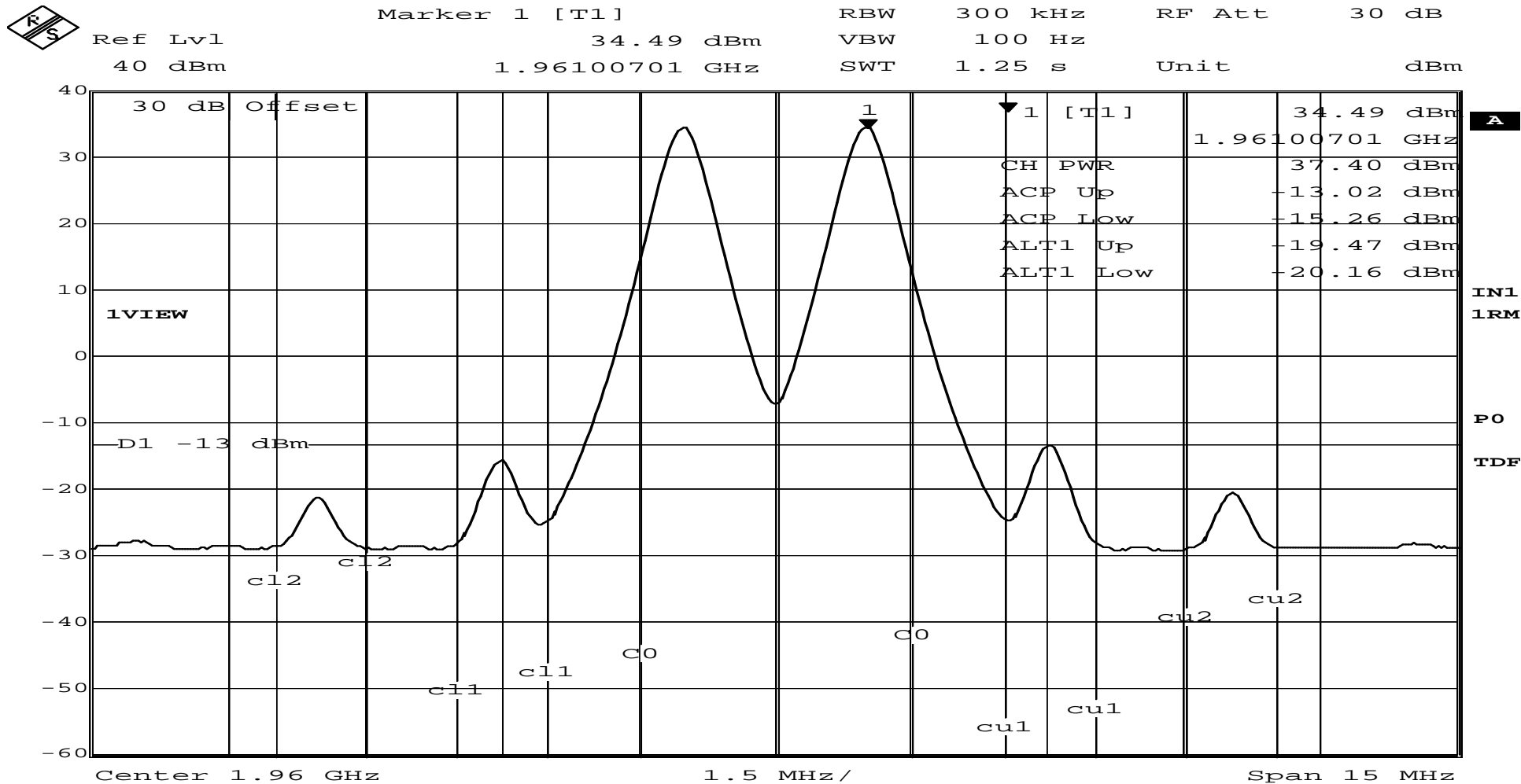


Date: 29.NOV.2010 14:06:57

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics			
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater	
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A	
Test Specification:	FCC Part 2	Paragraph:	2.1047	
Operating Mode:	Amplifying input signal			
Notes:	TDMA - Downlink (1930-1990MHz)			
Job No:	R-5408N		Technician:	M.Seamans
Date:	11/30/2010			

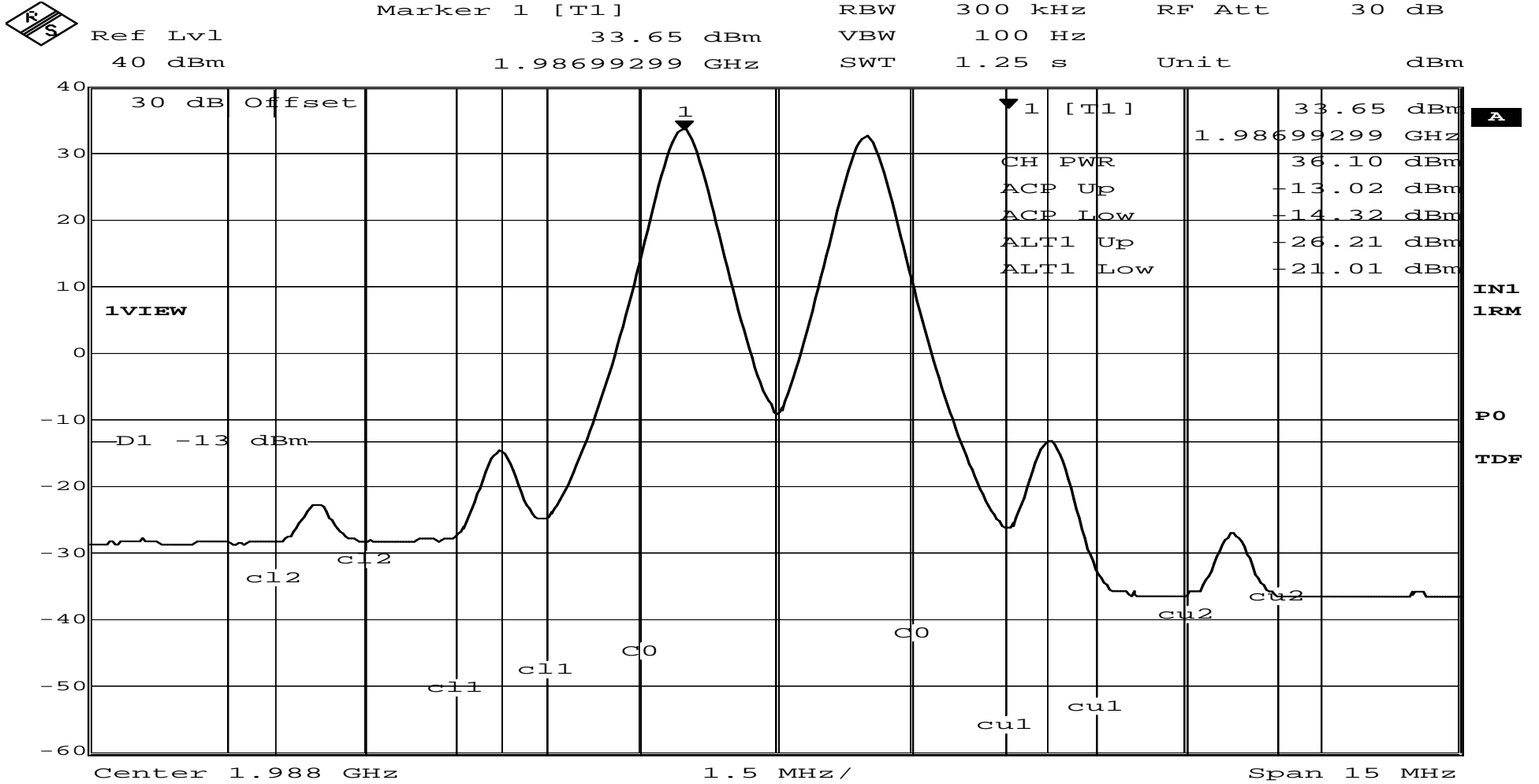


Date: 29.NOV.2010 14:05:12

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink (1930-1990MHz)		
Job No:	R-5408N	Technician:	M.Seamans
Date:	11/30/2010		



Date: 29.NOV.2010 14:01:32



# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics			
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater	
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A	
Test Specification:	FCC Part 2	Paragraph:	2.1047	
Operating Mode:	Amplifying input signal			
Notes:	CDMA IS-95 - Downlink (869-894MHz)			
Job No:	R-5408N		Technician:	M.Seamans
Date:	11/30/2010			



Marker 1 [T1]

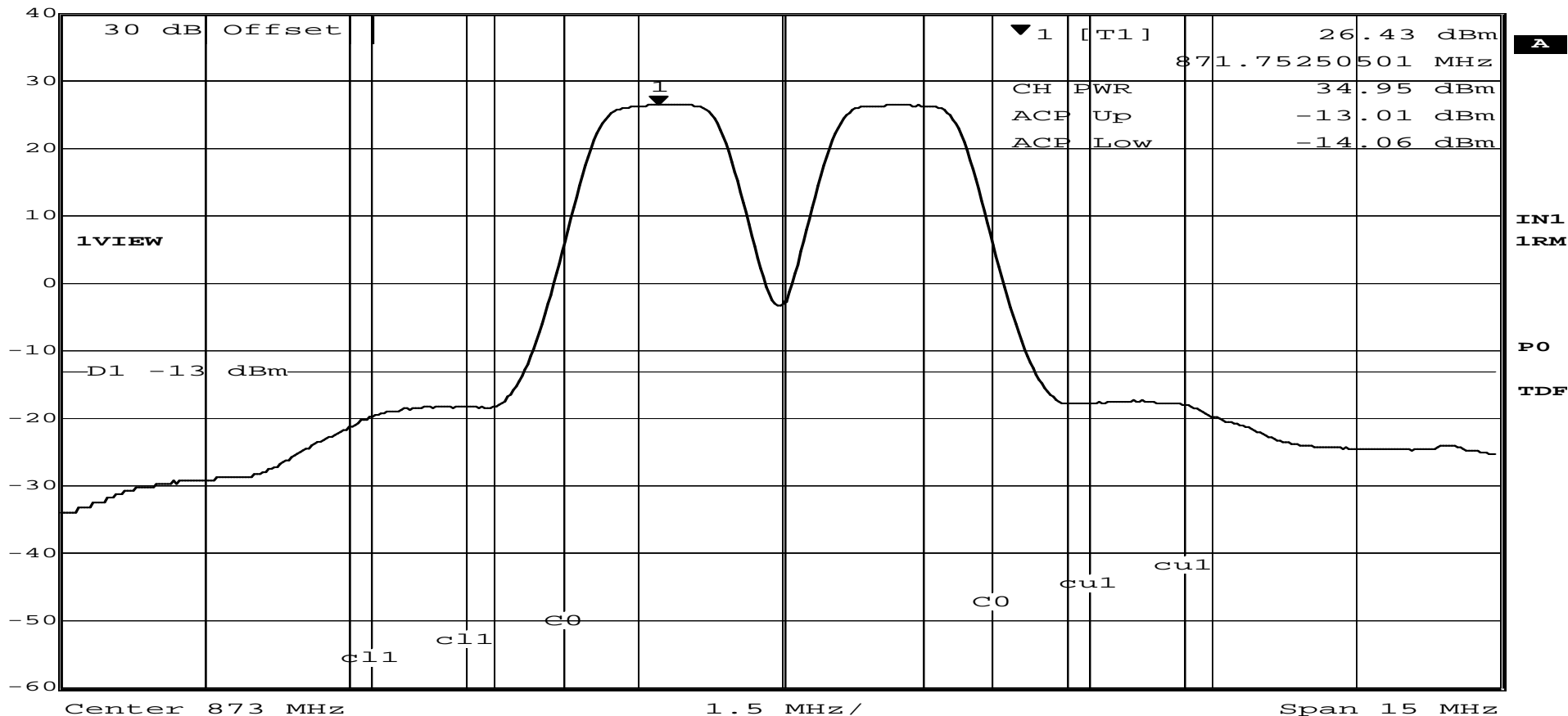
RBW 300 kHz RF Att 30 dB

Ref Lvl 26.43 dBm

VBW 100 Hz

40 dBm 871.75250501 MHz

SWT 1.25 s Unit dBm

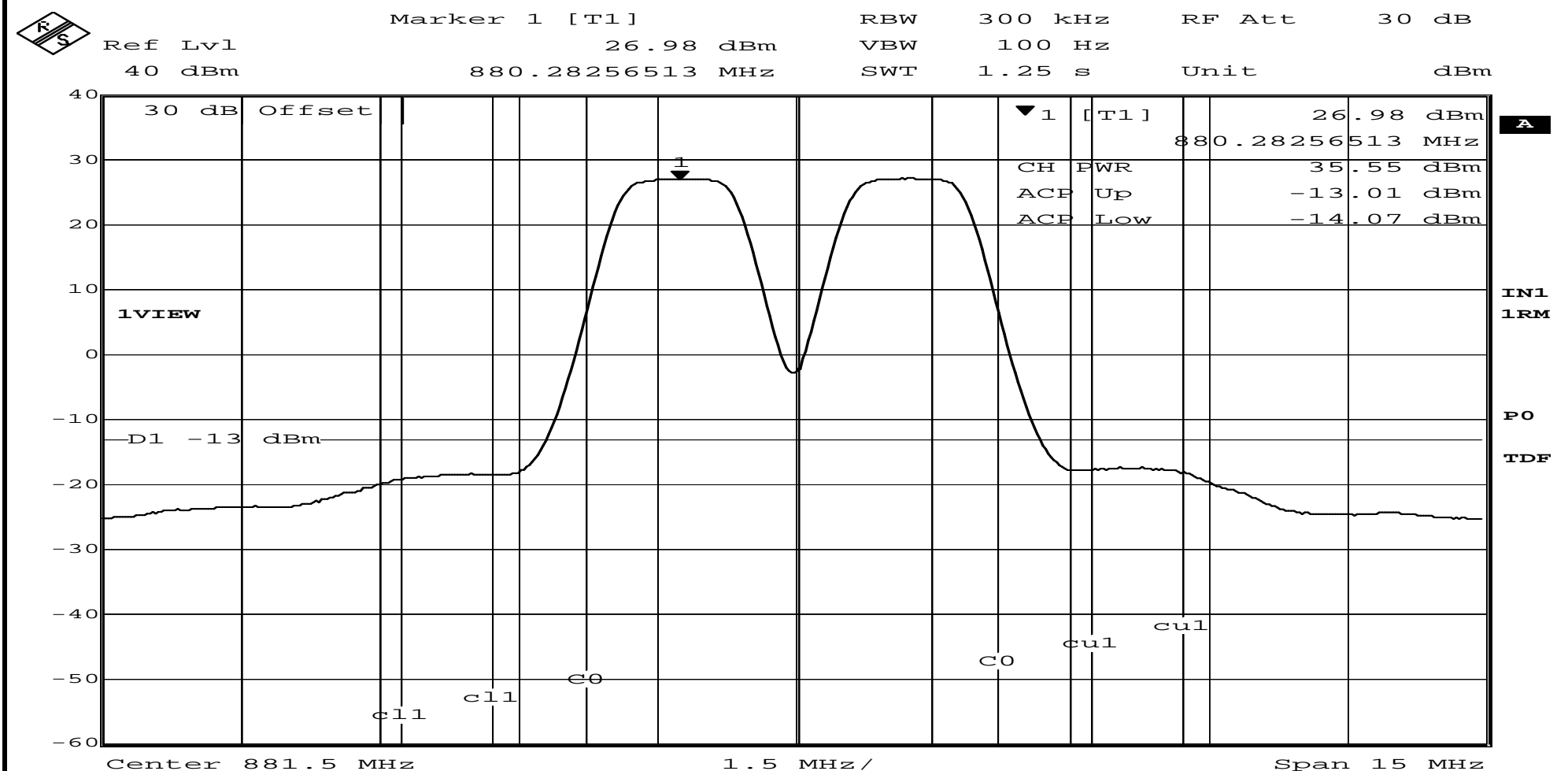


Date: 30.NOV.2010 09:51:21

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink (869-894MHz)		

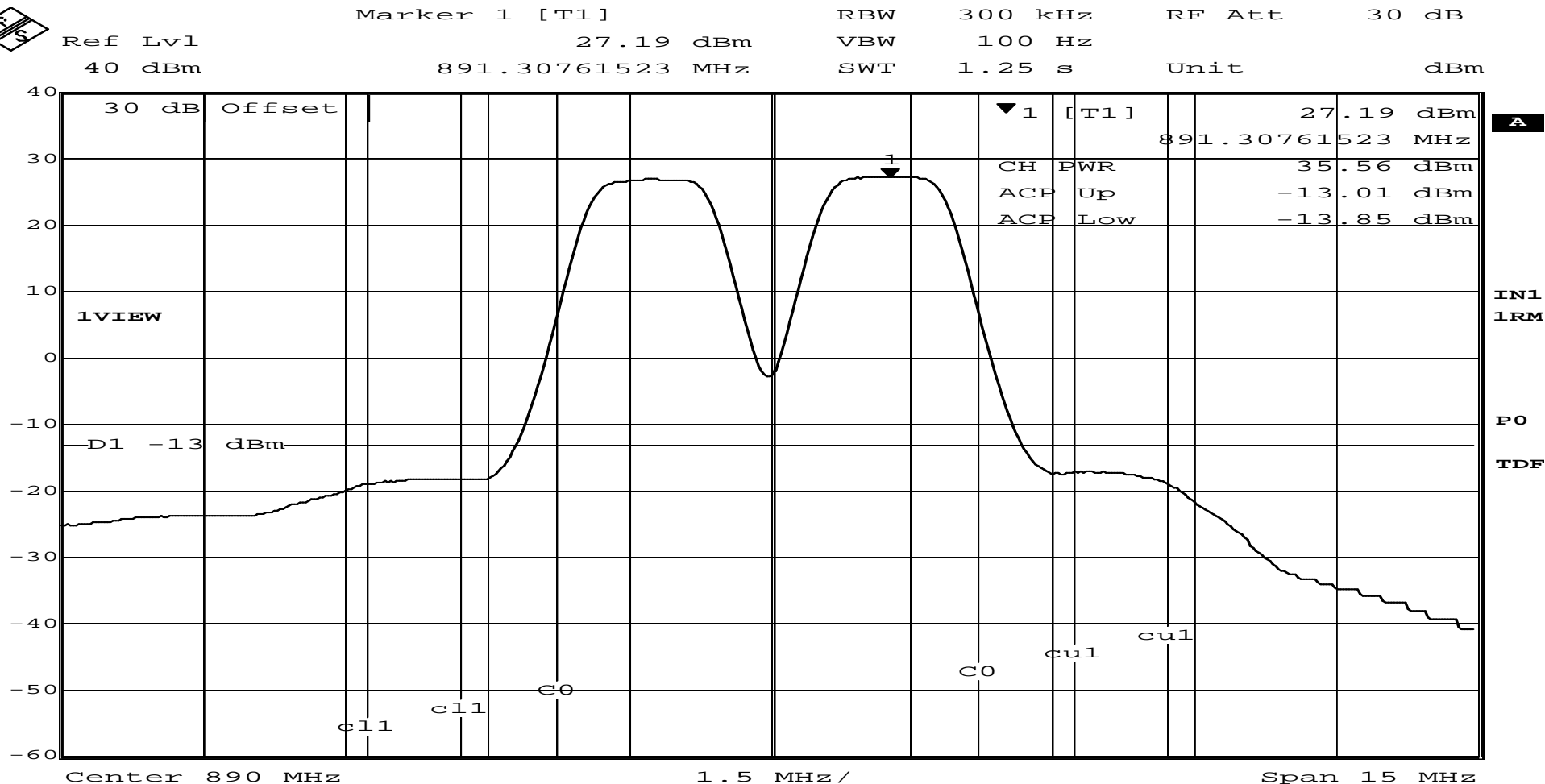


Date: 30.NOV.2010 09:53:04

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink (869-894MHz)		
Job No:	R-5408N	Technician:	M.Seamans
Date:	11/30/2010		

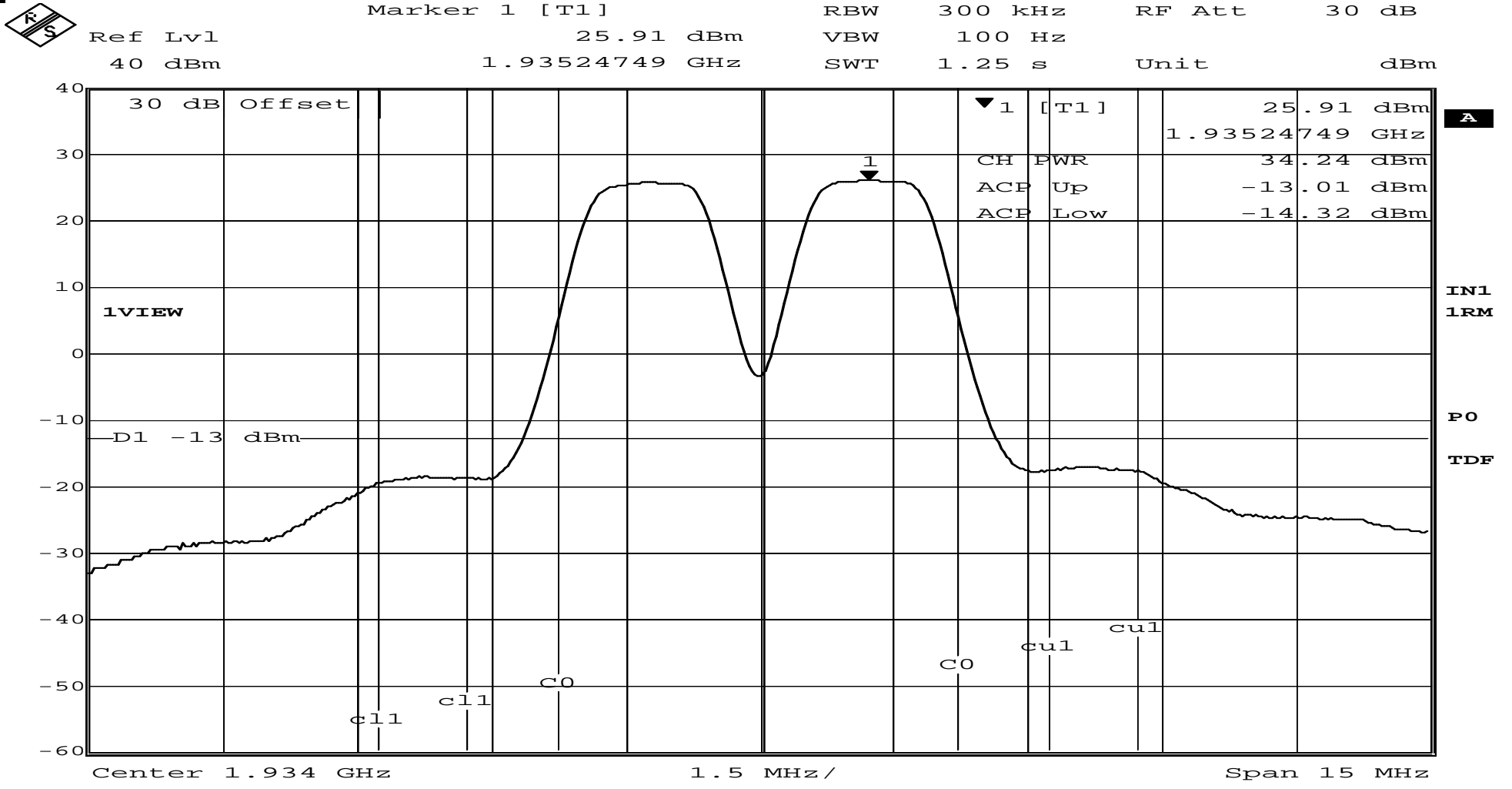


Date: 30.NOV.2010 09:54:40

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5408N		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
11/30/2010			
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink (1930-1950MHz)		

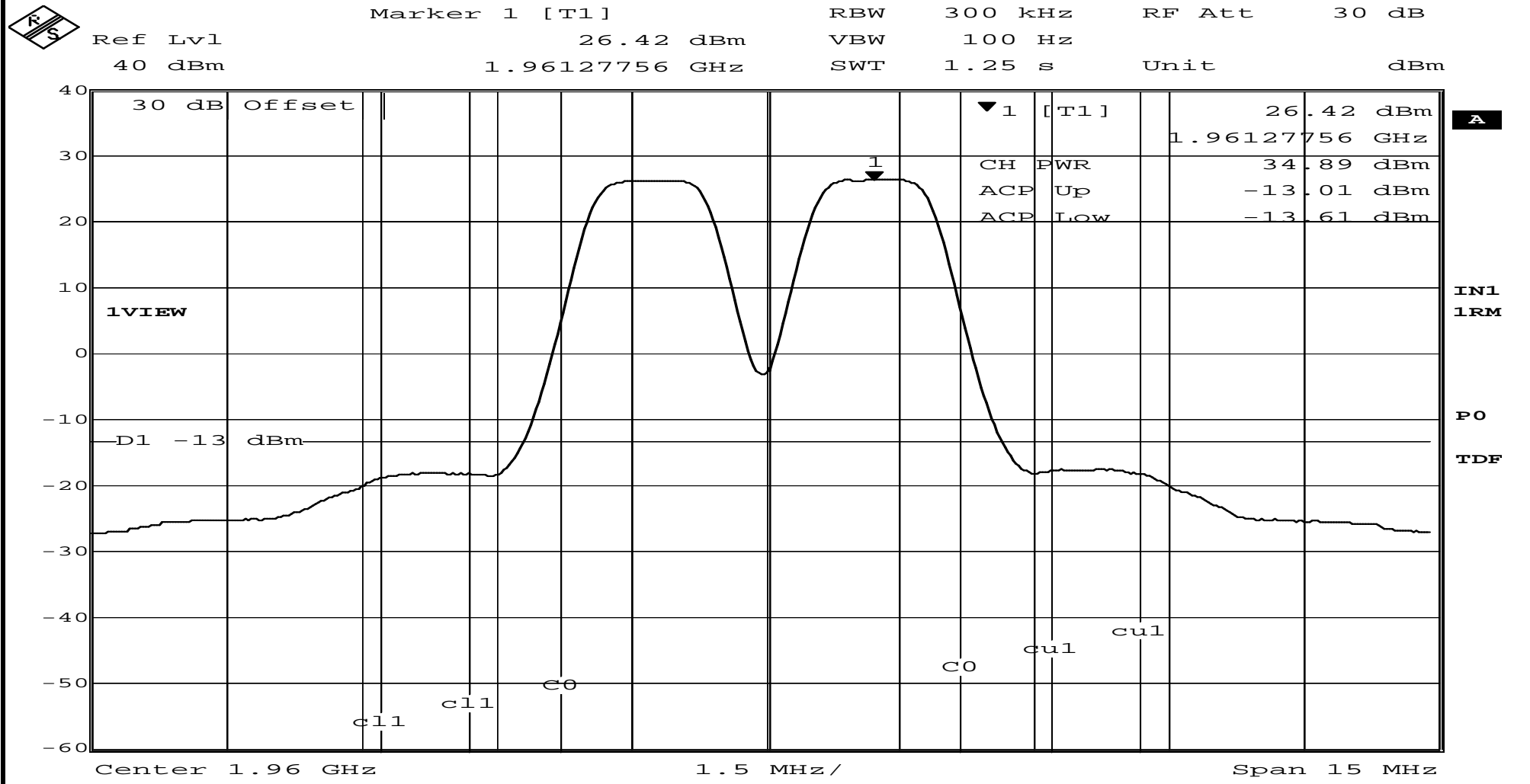


Date: 30.NOV.2010 09:56:14

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

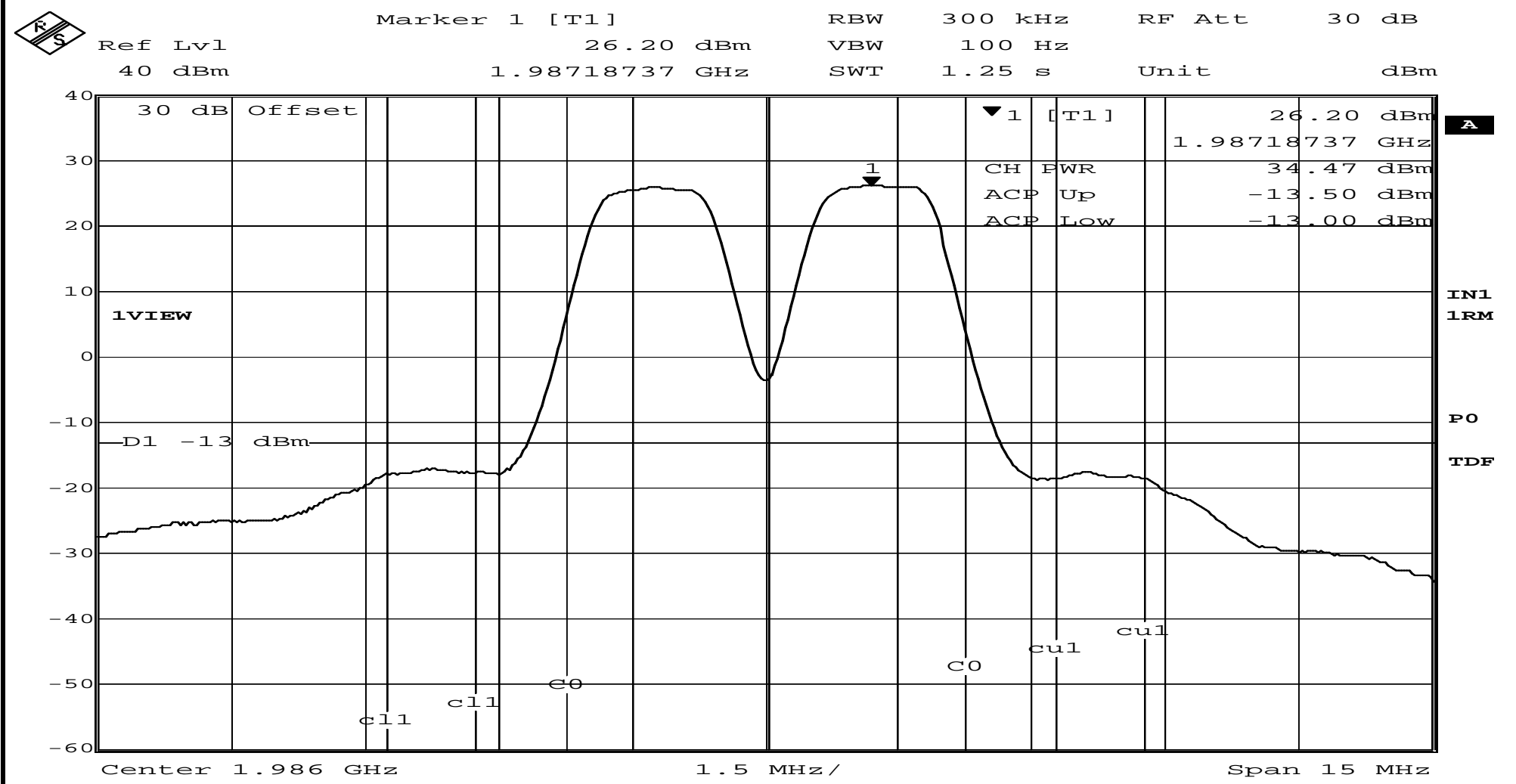
Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5408N		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
11/30/2010			
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink (1930-1950MHz)		



# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1047	Date:
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink (1930-1950MHz)		

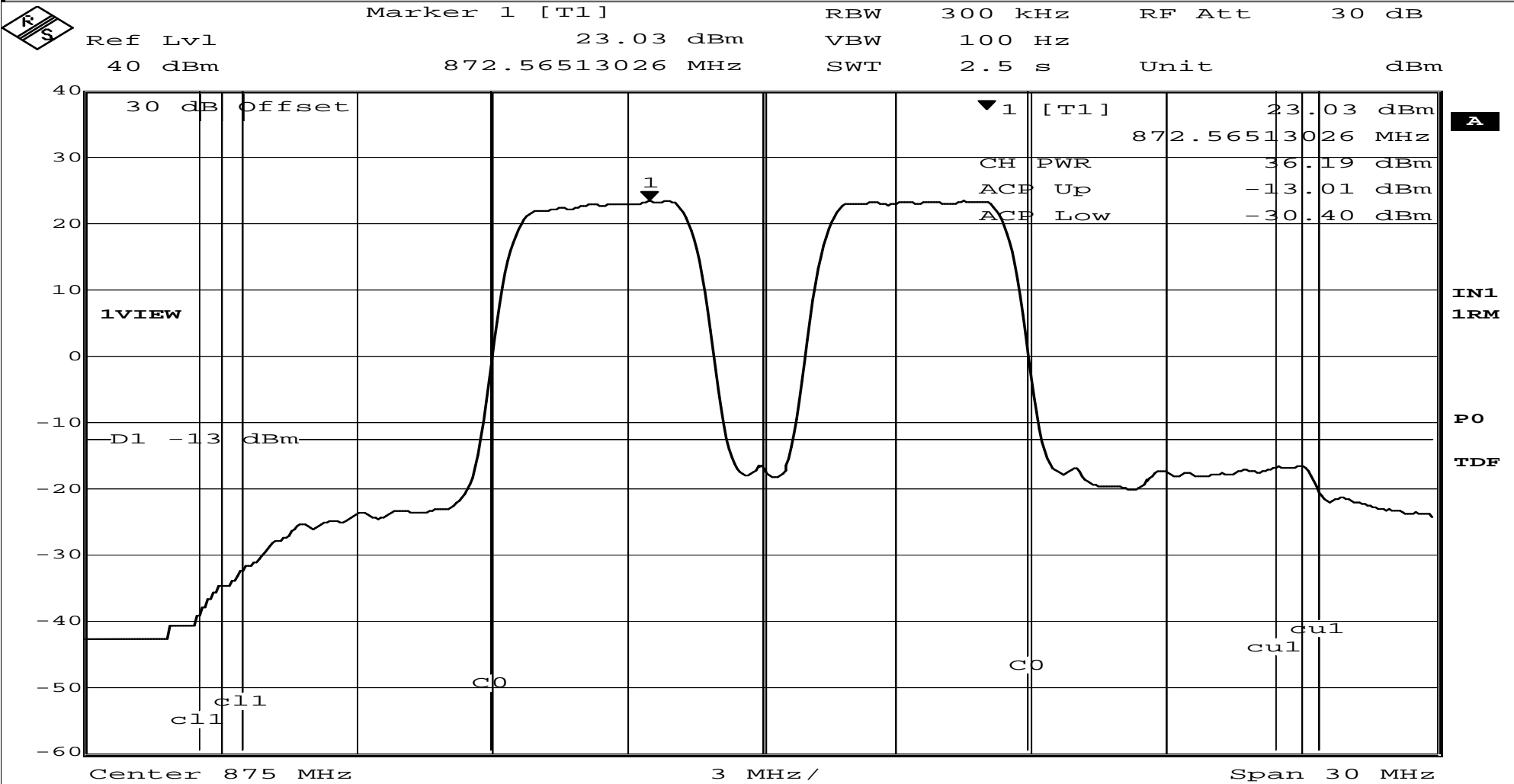


Date: 30.NOV.2010 10:00:12

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink (869-894MHz)		



Date: 30.NOV.2010 10:30:55

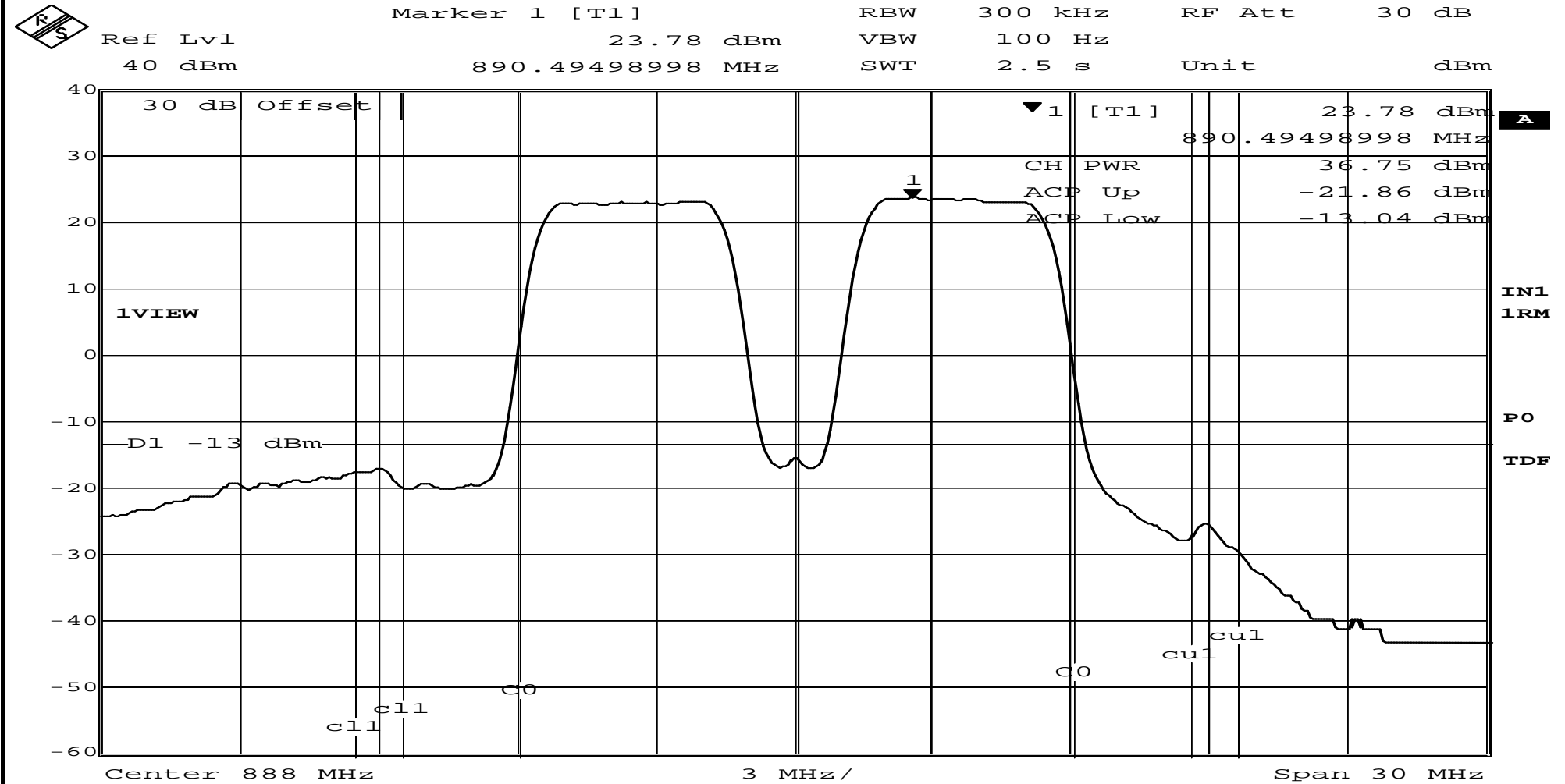




# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink (869-894MHz)		

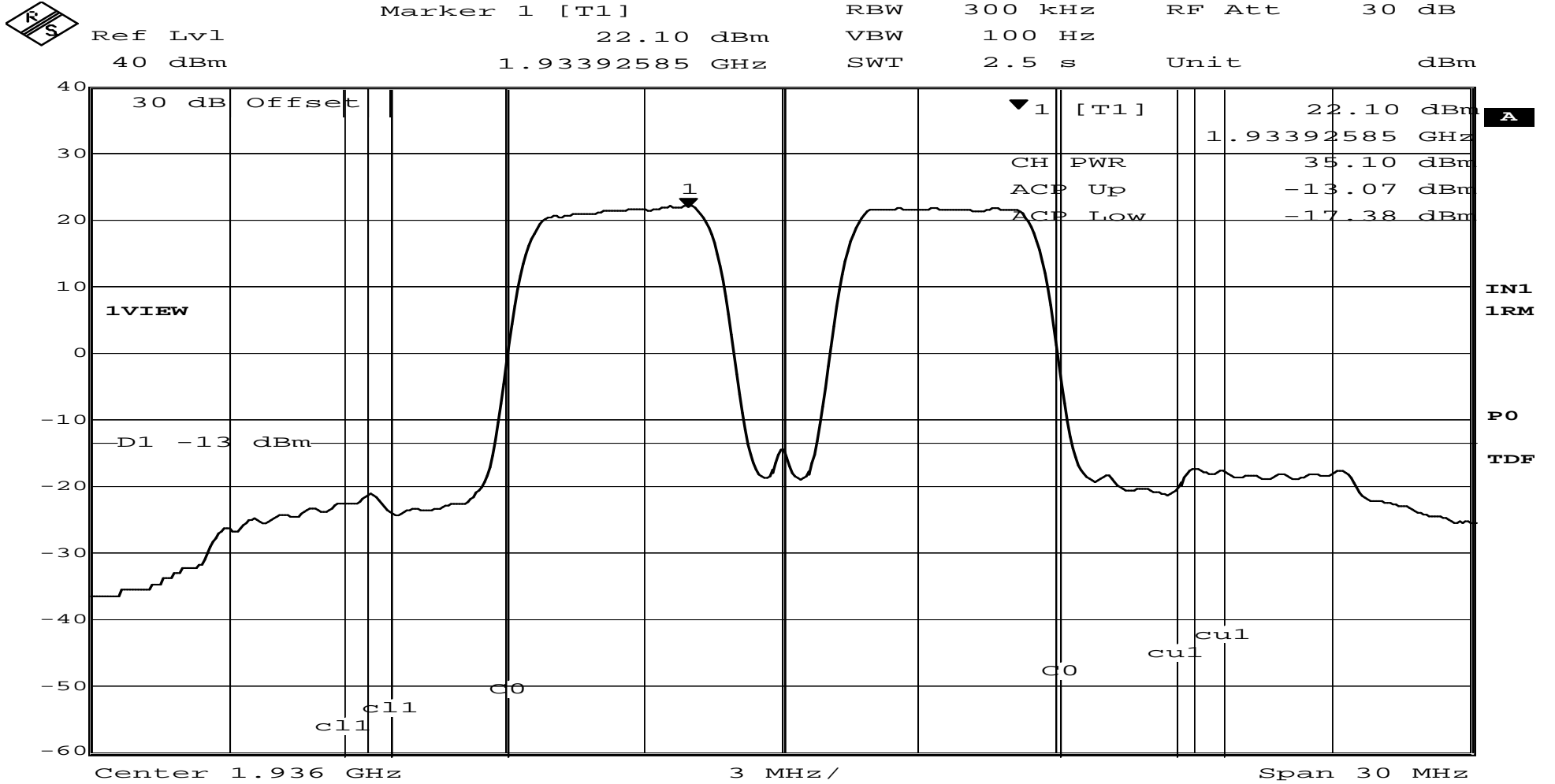


Date: 30.NOV.2010 10:34:17

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink (1930-1990MHz)		
Job No:	R-5408N	Technician:	M.Seamans
Date:	11/30/2010		

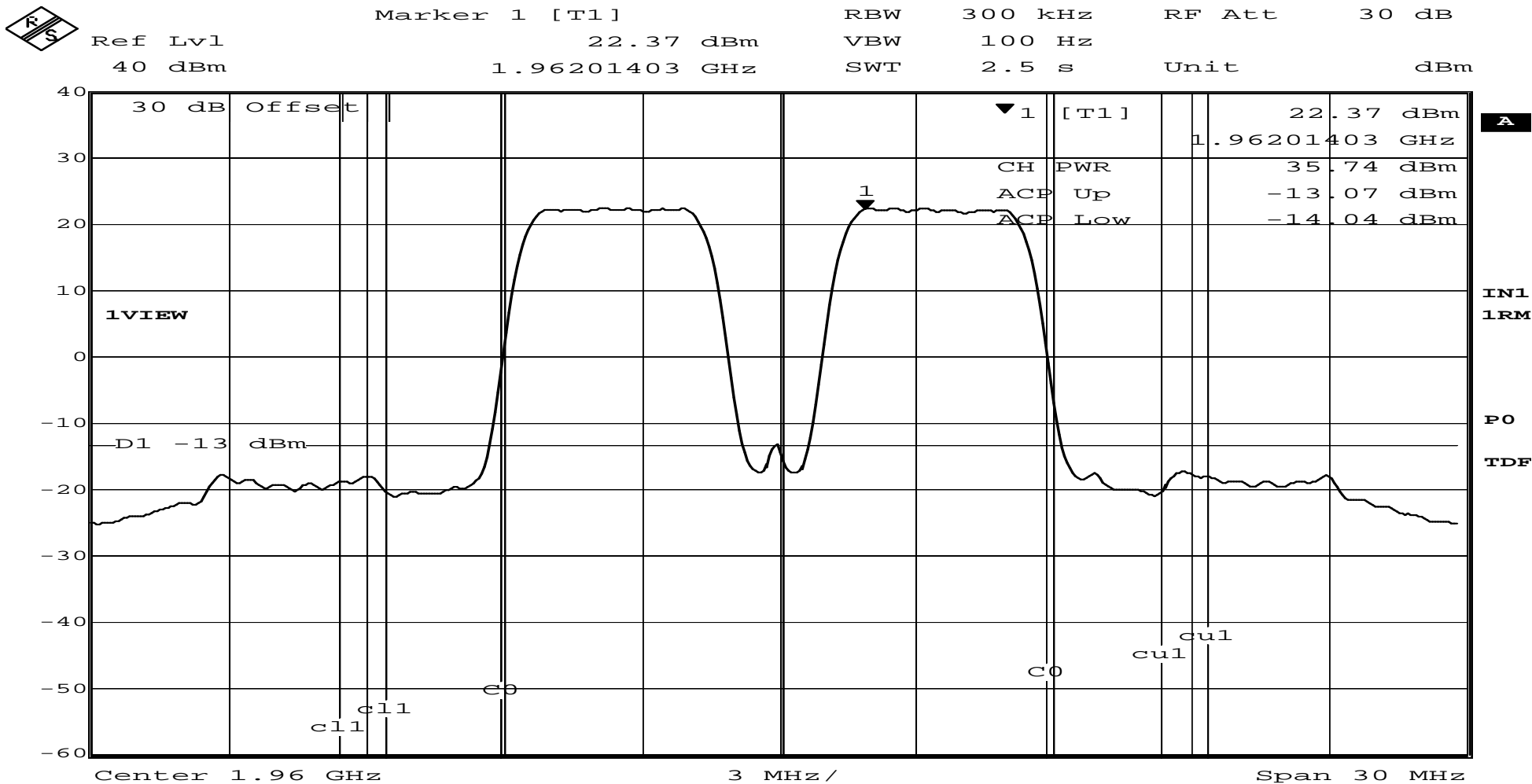


Date: 30.NOV.2010 10:28:36

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1047
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink (1930-1990MHz)		
		Job No:	R-5408N
		Technician:	M.Seamans
		Date:	11/30/2010

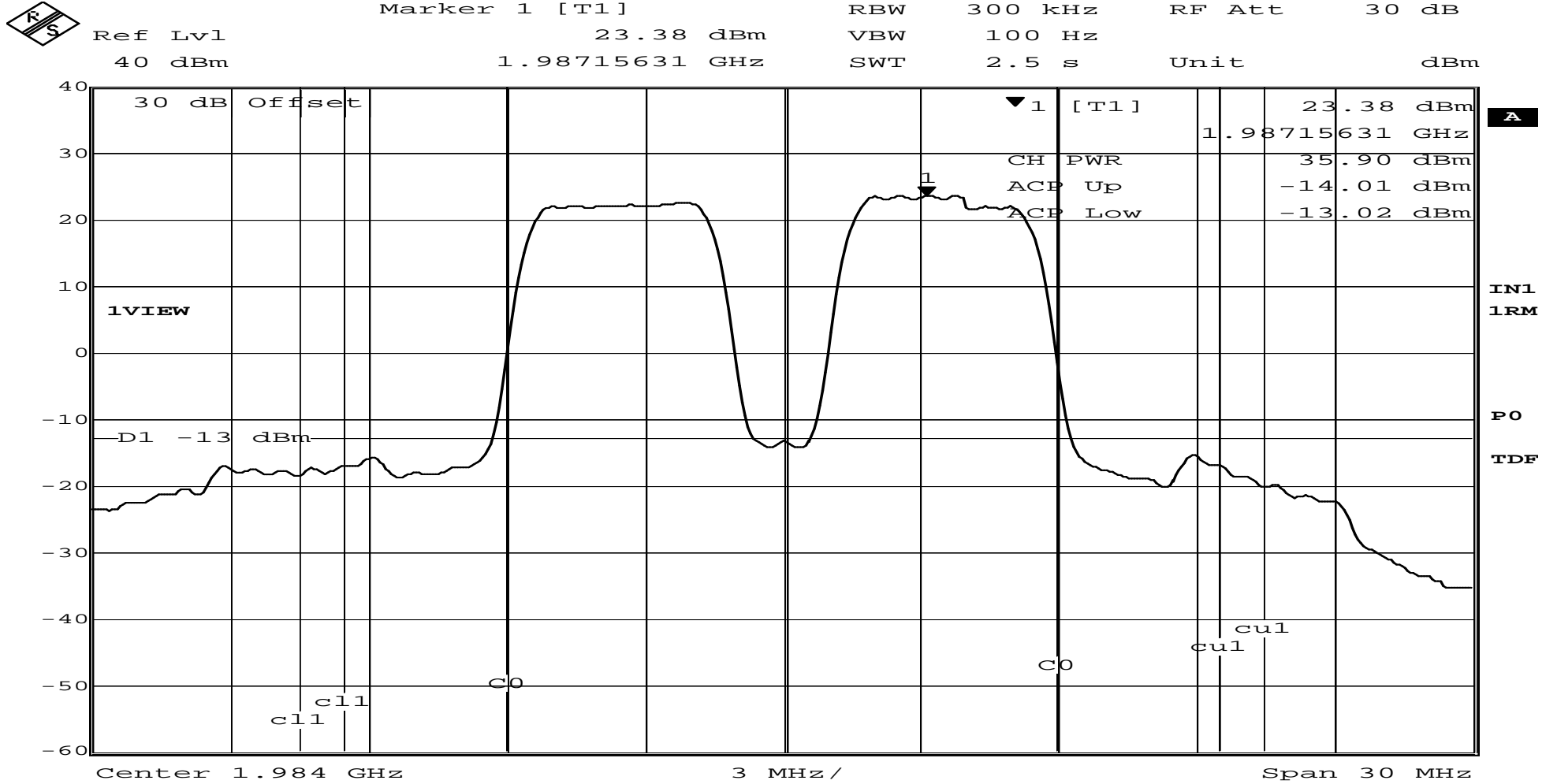


Date: 30.NOV.2010 10:26:46

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Inter-modulation Characteristics		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Job No:	R-5408N		
Model No:	CSI-DSP85-25XH-CP	Serial No:	N/A
Technician:	M.Seamans		
Test Specification:	FCC Part 2	Paragraph:	2.1047
Date:	11/30/2010		
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink (1930-1990MHz)		



Date: 30.NOV.2010 10:23:05

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

<b>Test Method:</b>	Frequency Stability		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	FCC Part 2 Paragraph: 2.1055		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	12/3/2010
<b>Notes:</b>	Uplink Frequency 836.5MHz      Nominal Voltage = 115 VAC Downlink Frequency 881.5MHz		

Temp	Test Frequency			Frequency @ 97.75 VAC	Frequency @ 109.25 VAC	Frequency @ 115 VAC	Frequency @ 120.75 VAC	Frequency @ 132.25 VAC		
C	MHz			MHz	MHz	MHz	MHz	MHz		
	(Uplink)									
-30	836.5000			836.50000	836.50000	836.50000	836.50000	836.50000		
-20				836.50000	836.50000	836.50000	836.50000	836.50000		
-10				836.50000	836.50000	836.50000	836.50000	836.50000		
0				836.50000	836.50000	836.50000	836.50000	836.50000		
10				836.50000	836.50000	836.50000	836.50000	836.50000		
20				836.50000	836.50000	836.50000	836.50000	836.50000		
30				836.50000	836.50000	836.50000	836.50000	836.50000		
40				836.50000	836.50000	836.50000	836.50000	836.50000		
50	836.5000			836.50000	836.50000	836.50000	836.50000	836.50000		
	(Downlinl)									
-30	881.5000			881.50000	881.50000	881.50000	881.50000	881.50000		
-20				881.50000	881.50000	881.50000	881.50000	881.50000		
-10				881.50000	881.50000	881.50000	881.50000	881.50000		
0				881.50000	881.50000	881.50000	881.50000	881.50000		
10				881.50000	881.50000	881.50000	881.50000	881.50000		
20				881.50000	881.50000	881.50000	881.50000	881.50000		
30				881.50000	881.50000	881.50000	881.50000	881.50000		
40				881.50000	881.50000	881.50000	881.50000	881.50000		
50	881.5000			881.50000	881.50000	881.50000	881.50000	881.50000		



# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

<b>Test Method:</b>	Spurious Emissions at the Antenna Terminals 30 MHz to 10 GHz		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	FCC Part 2 Paragraph: 2.1051		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	12/6/2010
<b>Notes:</b>	Uplink Frequency: 824-849 MHz      Downlink Frequency: 869-894 MHz TDMA modulation      -30dBm is the noise floor of the 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	
-53.60	826.00				-48.30	871.00				
		1652.00	-25.00	-13.0			1742.00	-25.00	-13.0	
		2478.00	-30.00				2613.00	-30.00		
		3304.00	-30.00				3484.00	-30.00		
		4130.00	-30.00				4355.00	-30.00		
		4956.00	-30.00				5226.00	-30.00		
		5782.00	-30.00				6097.00	-30.00		
		6608.00	-30.00				6968.00	-30.00		
		7434.00	-30.00				7839.00	-30.00		
-53.60	826.00	8260.00	-30.00	-13.0	-48.30	871.00	8710.00	-30.00	-13.0	
-53.10	836.50				-48.30	881.50				
		1673.00	-25.00	-13.0			1763.00	-21.00	-13.0	
		2509.50	-30.00				2644.50	-30.00		
		3346.00	-30.00				3526.00	-30.00		
		4182.50	-30.00				4407.50	-30.00		
		5019.00	-30.00				5289.00	-30.00		
		5855.50	-30.00				6170.50	-30.00		
		6692.00	-30.00				7052.00	-30.00		
		7528.50	-30.00				7933.50	-30.00		
-53.10	836.50	8365.00	-30.00	-13.0	-48.30	881.50	8815.00	-30.00	-13.0	
-53.00	847.00				-48.50	892.00				
		1694.00	-25.00	-13.0			1784.00	-25.00	-13.0	
		2541.00	-30.00				2676.00	-30.00		
		3388.00	-30.00				3568.00	-30.00		
		4235.00	-30.00				4460.00	-30.00		
		5082.00	-30.00				5352.00	-30.00		
		5929.00	-30.00				6244.00	-30.00		
		6776.00	-30.00				7136.00	-30.00		
		7623.00	-30.00				8028.00	-30.00		
-53.00	847.00	8470.00	-30.00	-13.0	-48.50	892.00	8920.00	-30.00	-13.0	

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

<b>Test Method:</b>	Spurious Emissions at the Antenna Terminals 30 MHz to 20 GHz		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	FCC Part 2 Paragraph: 2.1051		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	12/6/2010
<b>Notes:</b>	Uplink Frequency: 1850-1910 MHz      Downlink Frequency: 1930-1990 MHz TDMA modulation      -30dBm is the noise floor of the 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
-56.38	1852.00				-47.08	1932.00			
		3704.00	-30.00	-13.0			3864.00	-30.00	-13.0
		5556.00	-30.00				5796.00	-30.00	
		7408.00	-30.00				7728.00	-30.00	
		9260.00	-30.00				9660.00	-30.00	
		11112.00	-30.00				11592.00	-30.00	
		12964.00	-30.00				13524.00	-30.00	
		14816.00	-30.00				15456.00	-30.00	
		16668.00	-30.00				17388.00	-30.00	
-56.38	1852.00	18520.00	-30.00	-13.0	-47.08	1932.00	19320.00	-30.00	-13.0
-56.30	1880.00				-48.42	1960.00			
		3760.00	-30.00	-13.0			3920.00	-30.00	-13.0
		5640.00	-30.00				5880.00	-30.00	
		7520.00	-30.00				7840.00	-30.00	
		9400.00	-30.00				9800.00	-30.00	
		11280.00	-30.00				11760.00	-30.00	
		13160.00	-30.00				13720.00	-30.00	
		15040.00	-30.00				15680.00	-30.00	
		16920.00	-30.00				17640.00	-30.00	
-56.30	1880.00	18800.00	-30.00	-13.0	-48.42	1960.00	19600.00	-30.00	-13.0
-57.20	1908.00				-49.48	1988.00			
		3816.00	-30.00	-13.0			3976.00	-30.00	-13.0
		5724.00	-30.00				5964.00	-30.00	
		7632.00	-30.00				7952.00	-30.00	
		9540.00	-30.00				9940.00	-30.00	
		11448.00	-30.00				11928.00	-30.00	
		13356.00	-30.00				13916.00	-30.00	
		15264.00	-30.00				15904.00	-30.00	
		17172.00	-30.00				17892.00	-30.00	
-57.20	1908.00	19080.00	-30.00	-13.0	-49.48	1988.00	19880.00	-30.00	-13.0



# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

<b>Test Method:</b>	Spurious Emissions at the Antenna Terminals 30 MHz to 10 GHz		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	FCC Part 2 Paragraph: 2.1051		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	12/6/2010
<b>Notes:</b>	Uplink Frequency: 824-849 MHz      Downlink Frequency: 869-894 MHz WCDMA modulation      -30dBm is the noise floor of the 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	
-53.60	830.00				-48.30	875.00				
		1660.00	-25.00	-13.0			1750.00	-30.00	-13.0	
		2490.00	-25.00				2625.00	-30.00		
		3320.00	-28.00				3500.00	-30.00		
		4150.00	-30.00				4375.00	-30.00		
		4980.00	-30.00				5250.00	-30.00		
		5810.00	-30.00				6125.00	-30.00		
		6640.00	-30.00				7000.00	-30.00		
		7470.00	-30.00				7875.00	-30.00		
-53.60	830.00	8300.00	-30.00	-13.0	-48.30	875.00	8750.00	-30.00	-13.0	
-53.10	836.50				-48.30	881.50				
		1673.00	-25.00	-13.0			1763.00	-30.00	-13.0	
		2509.50	-28.00				2644.50	-30.00		
		3346.00	-30.00				3526.00	-30.00		
		4182.50	-30.00				4407.50	-30.00		
		5019.00	-30.00				5289.00	-30.00		
		5855.50	-30.00				6170.50	-30.00		
		6692.00	-30.00				7052.00	-30.00		
		7528.50	-30.00				7933.50	-30.00		
-53.10	836.50	8365.00	-30.00	-13.0	-48.30	881.50	8815.00	-30.00	-13.0	
-53.00	843.00				-48.50	888.00				
		1686.00	-25.00	-13.0			1776.00	-30.00	-13.0	
		2529.00	-30.00				2664.00	-30.00		
		3372.00	-30.00				3552.00	-30.00		
		4215.00	-30.00				4440.00	-30.00		
		5058.00	-30.00				5328.00	-30.00		
		5901.00	-30.00				6216.00	-30.00		
		6744.00	-30.00				7104.00	-30.00		
		7587.00	-30.00				7992.00	-30.00		
-53.00	843.00	8430.00	-30.00	-13.0	-48.50	888.00	8880.00	-30.00	-13.0	

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

<b>Test Method:</b>	Spurious Emissions at the Antenna Terminals 30 MHz to 20 GHz		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	FCC Part 2 Paragraph: 2.1051		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	12/6/2010
<b>Notes:</b>	Uplink Frequency: 1850-1910 MHz      Downlink Frequency: 1930-1990 MHz WCDMA modulation      -30dBm is the noise floor of the 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
-56.02	1856.00				-47.62	1936.00			
		3712.00	-30.00	-13.0			3872.00	-30.00	-13.0
		5568.00	-30.00				5808.00	-30.00	
		7424.00	-30.00				7744.00	-30.00	
		9280.00	-30.00				9680.00	-30.00	
		11136.00	-30.00				11616.00	-30.00	
		12992.00	-30.00				13552.00	-30.00	
		14848.00	-30.00				15488.00	-30.00	
		16704.00	-30.00				17424.00	-30.00	
-56.02	1856.00	18560.00	-30.00	-13.0	-47.62	1936.00	19360.00	-30.00	-13.0
-56.70	1880.00				-47.24	1960.00			
		3760.00	-30.00	-13.0			3920.00	-30.00	-13.0
		5640.00	-30.00				5880.00	-30.00	
		7520.00	-30.00				7840.00	-30.00	
		9400.00	-30.00				9800.00	-30.00	
		11280.00	-30.00				11760.00	-30.00	
		13160.00	-30.00				13720.00	-30.00	
		15040.00	-30.00				15680.00	-30.00	
		16920.00	-30.00				17640.00	-30.00	
-56.70	1880.00	18800.00	-30.00	-13.0	-47.24	1960.00	19600.00	-30.00	-13.0
-57.52	1904.00				-48.26	1984.00			
		3808.00	-30.00	-13.0			3968.00	-30.00	-13.0
		5712.00	-30.00				5952.00	-30.00	
		7616.00	-30.00				7936.00	-30.00	
		9520.00	-30.00				9920.00	-30.00	
		11424.00	-30.00				11904.00	-30.00	
		13328.00	-30.00				13888.00	-30.00	
		15232.00	-30.00				15872.00	-30.00	
		17136.00	-30.00				17856.00	-30.00	
-57.52	1904.00	19040.00	-30.00	-13.0	-48.26	1984.00	19840.00	-30.00	-13.0

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

<b>Test Method:</b>	Spurious Emissions at the Antenna Terminals 30 MHz to 10 GHz		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	FCC Part 2 Paragraph: 2.1051		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	12/6/2010
<b>Notes:</b>	Uplink Frequency: 824-849 MHz      Downlink Frequency: 869-894 MHz CDMA IS-95 modulation      -30dBm is the noise floor of the 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	
-53.60	828.00				-48.30	873.00				
		1656.00	-25.00	-13.0			1746.00	-15.10	-13.0	
		2484.00	-30.00				2619.00	-21.00		
		3312.00	-30.00				3492.00	-30.00		
		4140.00	-30.00				4365.00	-30.00		
		4968.00	-30.00				5238.00	-30.00		
		5796.00	-30.00				6111.00	-30.00		
		6624.00	-30.00				6984.00	-30.00		
		7452.00	-30.00				7857.00	-30.00		
-53.60	828.00	8280.00	-30.00	-13.0	-48.30	873.00	8730.00	-30.00	-13.0	
-53.10	836.50				-48.30	881.50				
		1673.00	-22.00	-13.0			1763.00	-14.60	-13.0	
		2509.50	-28.00				2644.50	-22.00		
		3346.00	-30.00				3526.00	-30.00		
		4182.50	-30.00				4407.50	-30.00		
		5019.00	-30.00				5289.00	-30.00		
		5855.50	-30.00				6170.50	-30.00		
		6692.00	-30.00				7052.00	-30.00		
		7528.50	-30.00				7933.50	-30.00		
-53.10	836.50	8365.00	-30.00	-13.0	-48.30	881.50	8815.00	-30.00	-13.0	
-53.00	845.00				-48.50	890.00				
		1690.00	-25.00	-13.0			1780.00	-14.75	-13.0	
		2535.00	-30.00				2670.00	-22.00		
		3380.00	-30.00				3560.00	-30.00		
		4225.00	-30.00				4450.00	-30.00		
		5070.00	-30.00				5340.00	-30.00		
		5915.00	-30.00				6230.00	-30.00		
		6760.00	-30.00				7120.00	-30.00		
		7605.00	-30.00				8010.00	-30.00		
-53.00	845.00	8450.00	-30.00	-13.0	-48.50	890.00	8900.00	-30.00	-13.0	

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

<b>Test Method:</b>	Spurious Emissions at the Antenna Terminals 30 MHz to 20 GHz		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	FCC Part 2 Paragraph: 2.1051		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	12/6/2010
<b>Notes:</b>	Uplink Frequency: 1850-1910 MHz      Downlink Frequency: 1930-1990 MHz CDMA IS-95 modulation      -30dBm is the noise floor of the 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	
-57.12	1854.00				-49.16	1934.00				
		3708.00	-30.00	-13.0			3868.00	-30.00	-13.0	
		5562.00	-30.00				5802.00	-30.00		
		7416.00	-30.00				7736.00	-30.00		
		9270.00	-30.00				9670.00	-30.00		
		11124.00	-30.00				11604.00	-30.00		
		12978.00	-30.00				13538.00	-30.00		
		14832.00	-30.00				15472.00	-30.00		
		16686.00	-30.00				17406.00	-30.00		
-57.12	1854.00	18540.00	-30.00	-13.0	-49.16	1934.00	19340.00	-30.00	-13.0	
-57.60	1880.00				-48.42	1960.00				
		3760.00	-30.00	-13.0			3920.00	-30.00	-13.0	
		5640.00	-30.00				5880.00	-30.00		
		7520.00	-30.00				7840.00	-30.00		
		9400.00	-30.00				9800.00	-30.00		
		11280.00	-30.00				11760.00	-30.00		
		13160.00	-30.00				13720.00	-30.00		
		15040.00	-30.00				15680.00	-30.00		
		16920.00	-30.00				17640.00	-30.00		
-57.60	1880.00	18800.00	-30.00	-13.0	-48.42	1960.00	19600.00	-30.00	-13.0	
-54.20	1906.00				-50.44	1986.00				
		3812.00	-30.00	-13.0			3972.00	-30.00	-13.0	
		5718.00	-30.00				5958.00	-30.00		
		7624.00	-30.00				7944.00	-30.00		
		9530.00	-30.00				9930.00	-30.00		
		11436.00	-30.00				11916.00	-30.00		
		13342.00	-30.00				13902.00	-30.00		
		15248.00	-30.00				15888.00	-30.00		
		17154.00	-30.00				17874.00	-30.00		
-54.20	1906.00	19060.00	-30.00	-13.0	-50.44	1986.00	19860.00	-30.00	-13.0	

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

<b>Test Method:</b>	Spurious Emissions at the Antenna Terminals 30 MHz to 10 GHz		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	RSS-131  Paragraph: 4.4		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	12/6/2010
<b>Notes:</b>	Uplink Frequency: 824-849 MHz      Downlink Frequency: 869-894 MHz CW modulation      -30dBm is the noise floor of the 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	
-53.60	826.00				-48.30	871.00				
		1652.00	-25.00	-13.0			1742.00	-25.00	-13.0	
		2478.00	-30.00				2613.00	-30.00		
		3304.00	-30.00				3484.00	-30.00		
		4130.00	-30.00				4355.00	-30.00		
		4956.00	-30.00				5226.00	-30.00		
		5782.00	-30.00				6097.00	-30.00		
		6608.00	-30.00				6968.00	-30.00		
		7434.00	-30.00				7839.00	-30.00		
-53.60	826.00	8260.00	-30.00	-13.0	-48.30	871.00	8710.00	-30.00	-13.0	
-53.10	836.50				-48.30	881.50				
		1673.00	-25.00	-13.0			1763.00	-21.00	-13.0	
		2509.50	-30.00				2644.50	-30.00		
		3346.00	-30.00				3526.00	-30.00		
		4182.50	-30.00				4407.50	-30.00		
		5019.00	-30.00				5289.00	-30.00		
		5855.50	-30.00				6170.50	-30.00		
		6692.00	-30.00				7052.00	-30.00		
		7528.50	-30.00				7933.50	-30.00		
-53.10	836.50	8365.00	-30.00	-13.0	-48.30	881.50	8815.00	-30.00	-13.0	
-53.00	847.00				-48.50	892.00				
		1694.00	-25.00	-13.0			1784.00	-25.00	-13.0	
		2541.00	-30.00				2676.00	-30.00		
		3388.00	-30.00				3568.00	-30.00		
		4235.00	-30.00				4460.00	-30.00		
		5082.00	-30.00				5352.00	-30.00		
		5929.00	-30.00				6244.00	-30.00		
		6776.00	-30.00				7136.00	-30.00		
		7623.00	-30.00				8028.00	-30.00		
-53.00	847.00	8470.00	-30.00	-13.0	-48.50	892.00	8920.00	-30.00	-13.0	

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

<b>Test Method:</b>	Spurious Emissions at the Antenna Terminals 30 MHz to 20 GHz		
<b>Customer:</b>	Cellular Specialties, Inc.	<b>Job No:</b>	R5398N-2
<b>Test Sample:</b>	Dual Band Digital Repeater		
<b>Model No:</b>	CSI-DSP85-25XH-CP	<b>Serial No:</b>	N/A
<b>Test Specification:</b>	RSS-131  Paragraph: 4.4		
<b>Operating Mode:</b>	Amplifying input signal		
<b>Technician:</b>	M.Seamans	<b>Date:</b>	12/6/2010
<b>Notes:</b>	Uplink Frequency: 1850-1910 MHz      Downlink Frequency: 1930-1990 MHz CW modulation      -30dBm is the noise floor of the instrument		

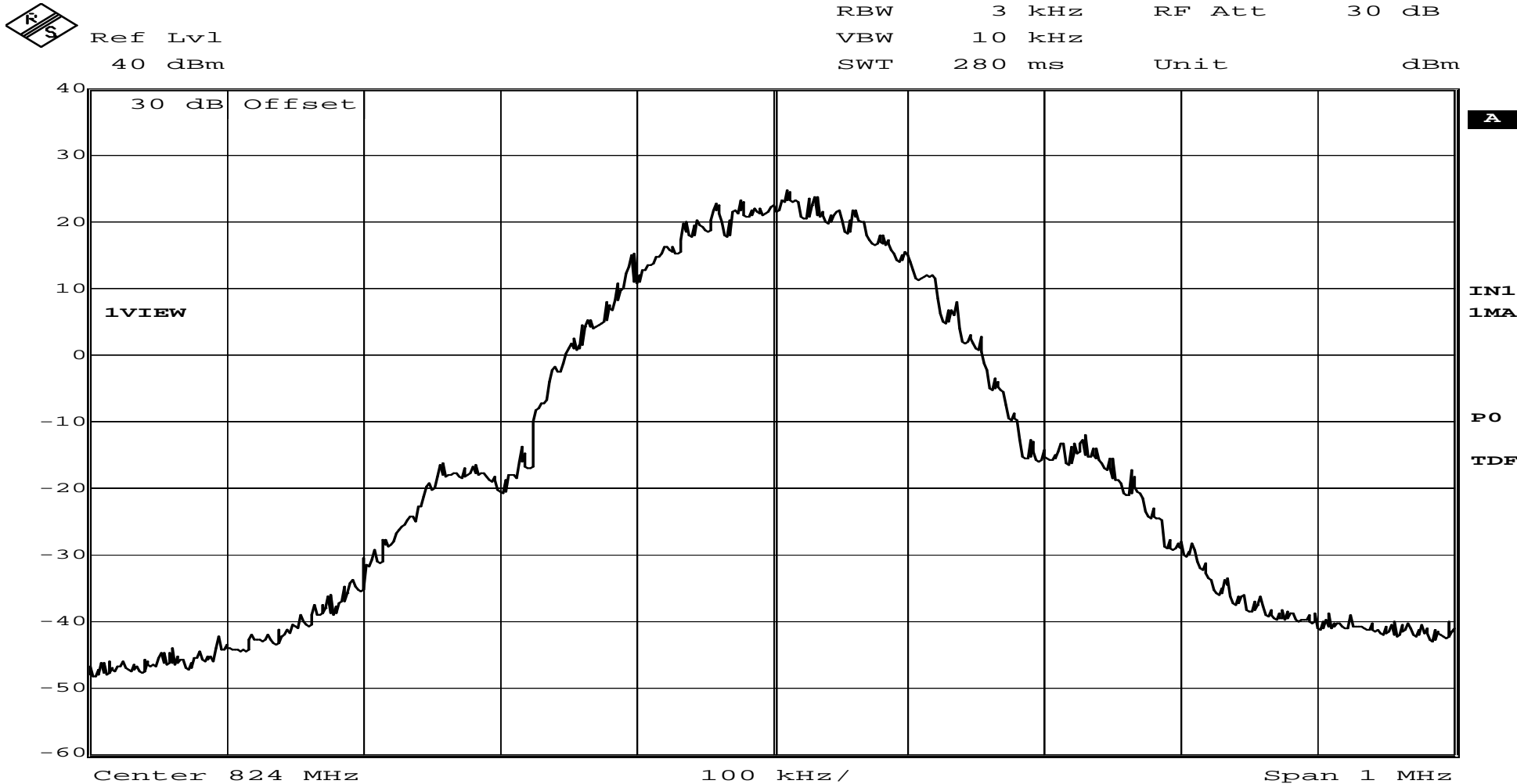
Uplink Input Signal	Test Frequency	Frequencies	Reading	Limit	Downlink Input Signal	Test Frequency	Frequencies	Reading	Limit	
dBm	MHz	MHz	dBm	dBm	dBm	MHz	MHz	dBm	dBm	
-56.38	1852.00				-47.08	1932.00				
		3704.00	-30.00	-13.0			3864.00	-30.00	-13.0	
		5556.00	-30.00				5796.00	-30.00		
		7408.00	-30.00				7728.00	-30.00		
		9260.00	-30.00				9660.00	-30.00		
		11112.00	-30.00				11592.00	-30.00		
		12964.00	-30.00				13524.00	-30.00		
		14816.00	-30.00				15456.00	-30.00		
		16668.00	-30.00				17388.00	-30.00		
-56.38	1852.00	18520.00	-30.00	-13.0	-47.08	1932.00	19320.00	-30.00	-13.0	
-56.30	1880.00				-48.42	1960.00				
		3760.00	-30.00	-13.0			3920.00	-30.00	-13.0	
		5640.00	-30.00				5880.00	-30.00		
		7520.00	-30.00				7840.00	-30.00		
		9400.00	-30.00				9800.00	-30.00		
		11280.00	-30.00				11760.00	-30.00		
		13160.00	-30.00				13720.00	-30.00		
		15040.00	-30.00				15680.00	-30.00		
		16920.00	-30.00				17640.00	-30.00		
-56.30	1880.00	18800.00	-30.00	-13.0	-48.42	1960.00	19600.00	-30.00	-13.0	
-57.20	1908.00				-49.48	1988.00				
		3816.00	-30.00	-13.0			3976.00	-30.00	-13.0	
		5724.00	-30.00				5964.00	-30.00		
		7632.00	-30.00				7952.00	-30.00		
		9540.00	-30.00				9940.00	-30.00		
		11448.00	-30.00				11928.00	-30.00		
		13356.00	-30.00				13916.00	-30.00		
		15264.00	-30.00				15904.00	-30.00		
		17172.00	-30.00				17892.00	-30.00		
-57.20	1908.00	19080.00	-30.00	-13.0	-49.48	1988.00	19880.00	-30.00	-13.0	



# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Output at 824 MHz		



Date: 1.DEC.2010 14:27:39





# RETLIF TESTING LABORATORIES

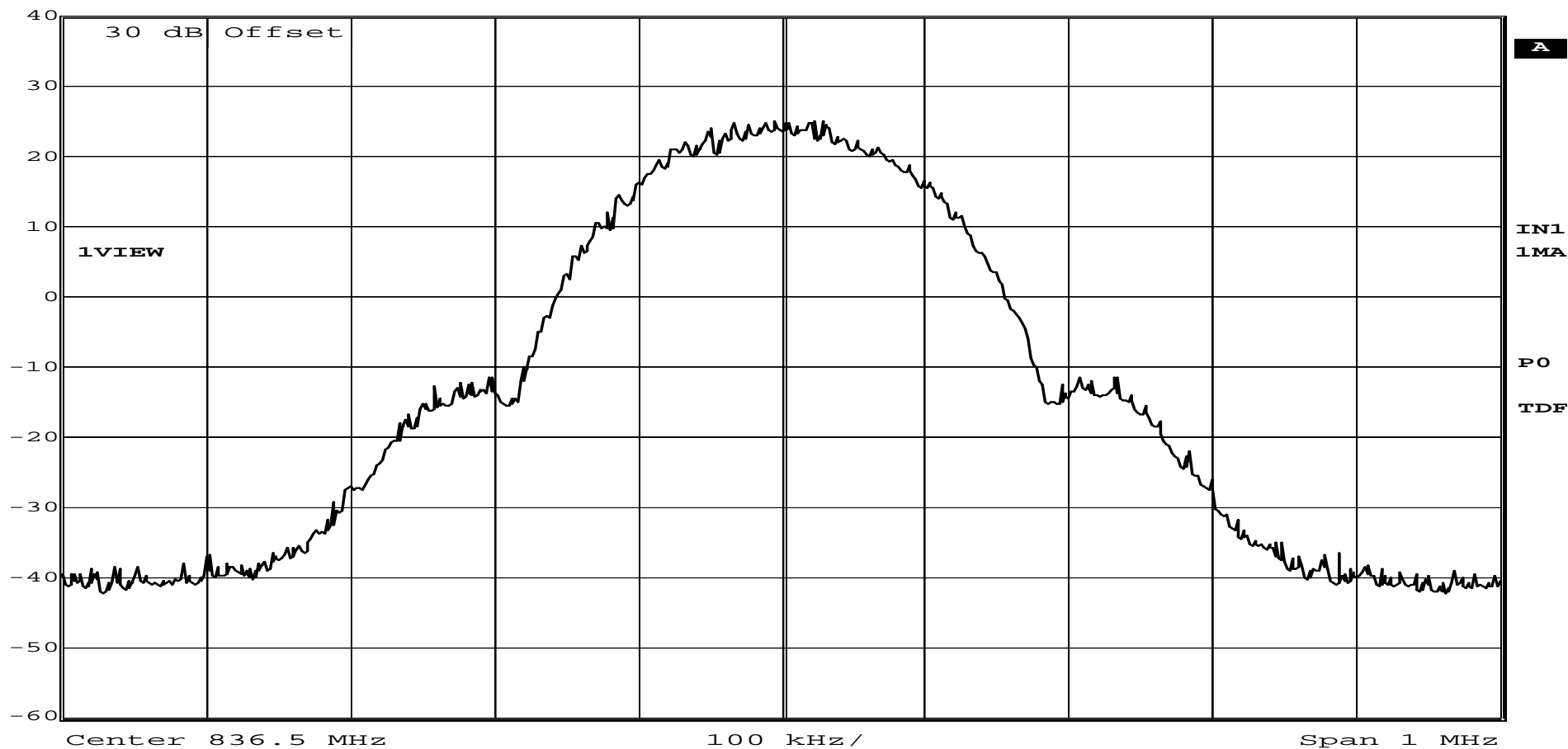
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Output at 836.5 MHz		



Ref Lvl  
40 dBm

RBW 3 kHz RF Att 30 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm

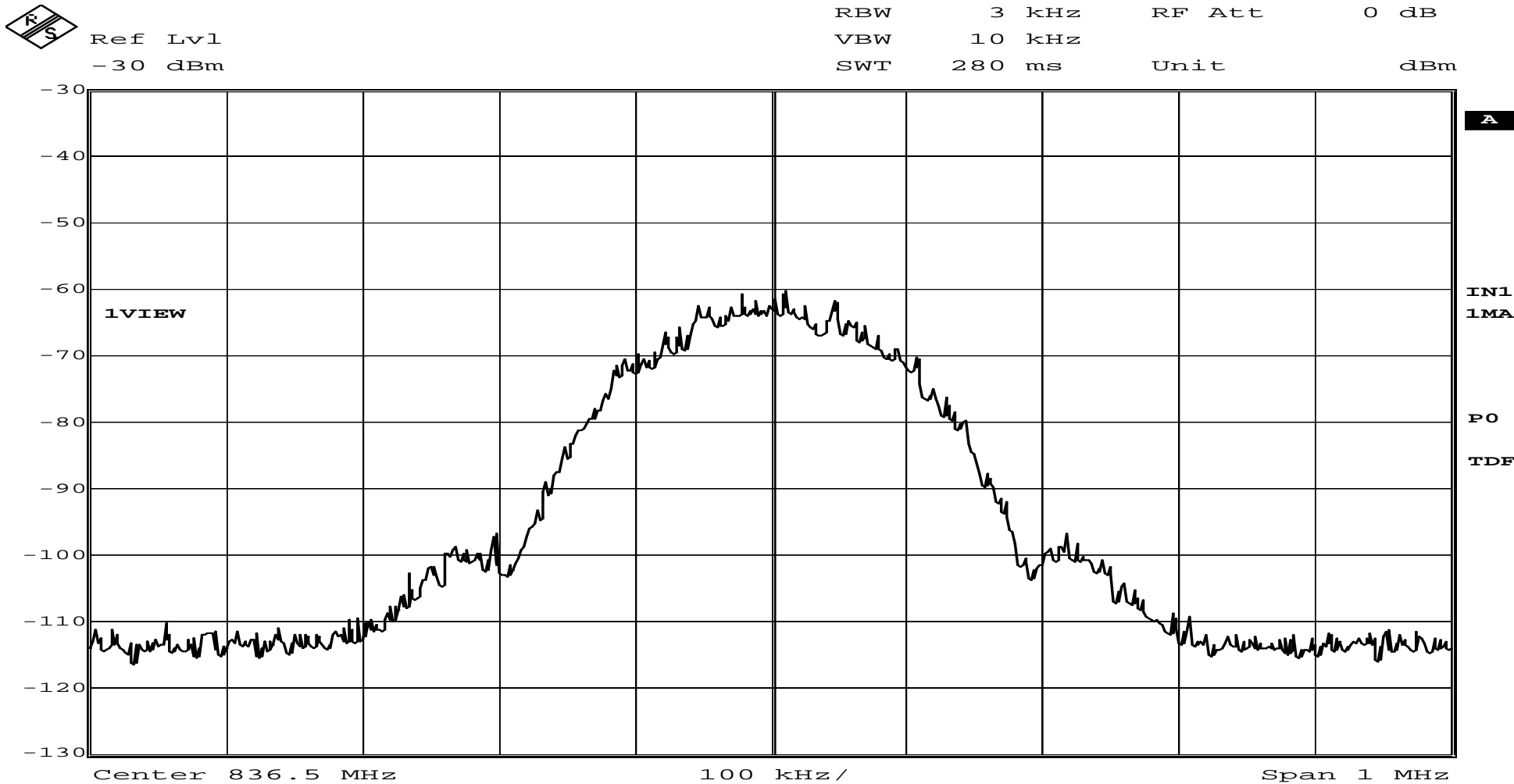


Date: 1.DEC.2010 14:26:24

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Input at 836.5 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Date: 1.DEC.2010 16:07:44

# RETLIF TESTING LABORATORIES

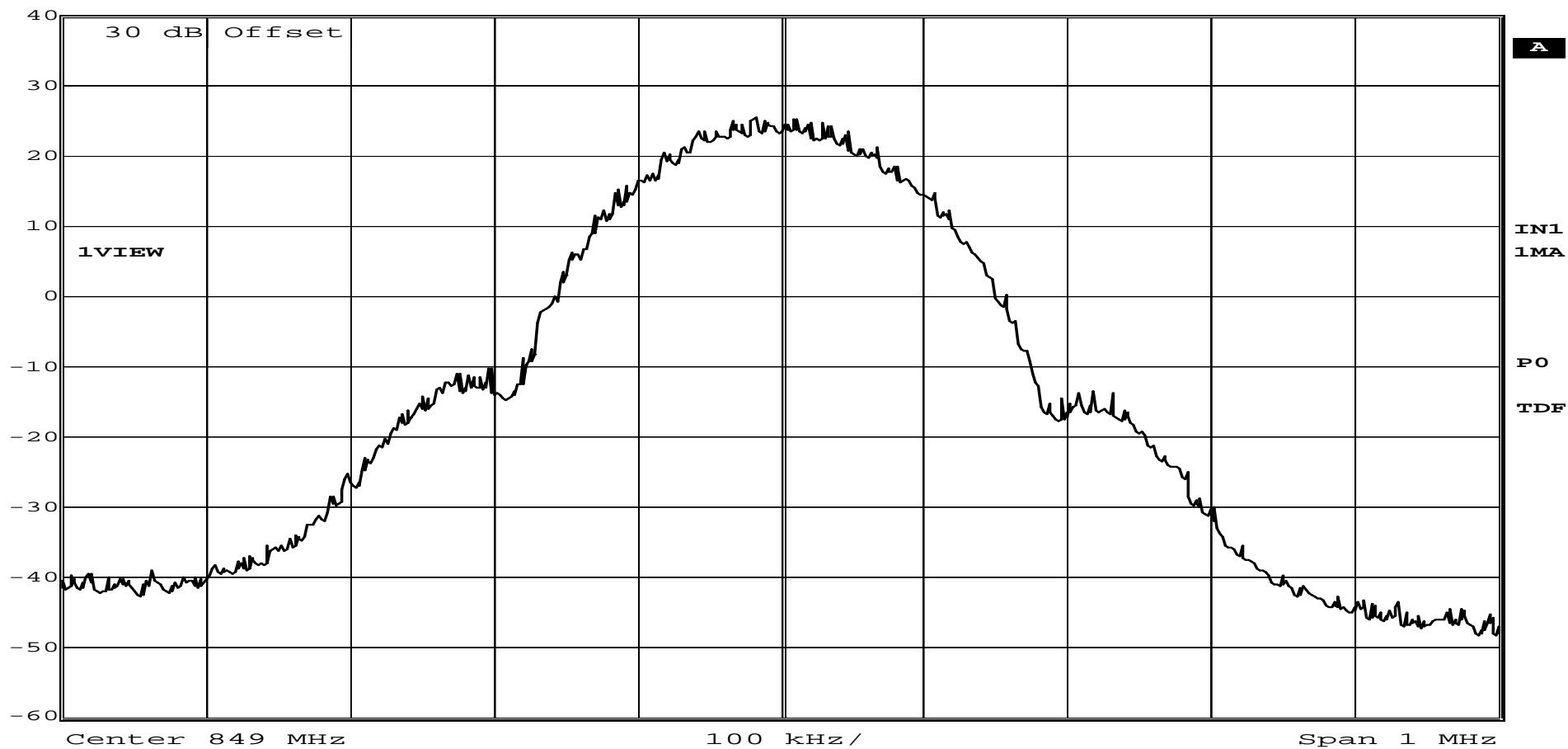
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Output at 849 MHz		



Ref Lvl  
40 dBm

RBW	3 kHz	RF Att	30 dB
VBW	10 kHz		
SWT	280 ms	Unit	dBm



Date: 1.DEC.2010 14:25:27

# RETLIF TESTING LABORATORIES

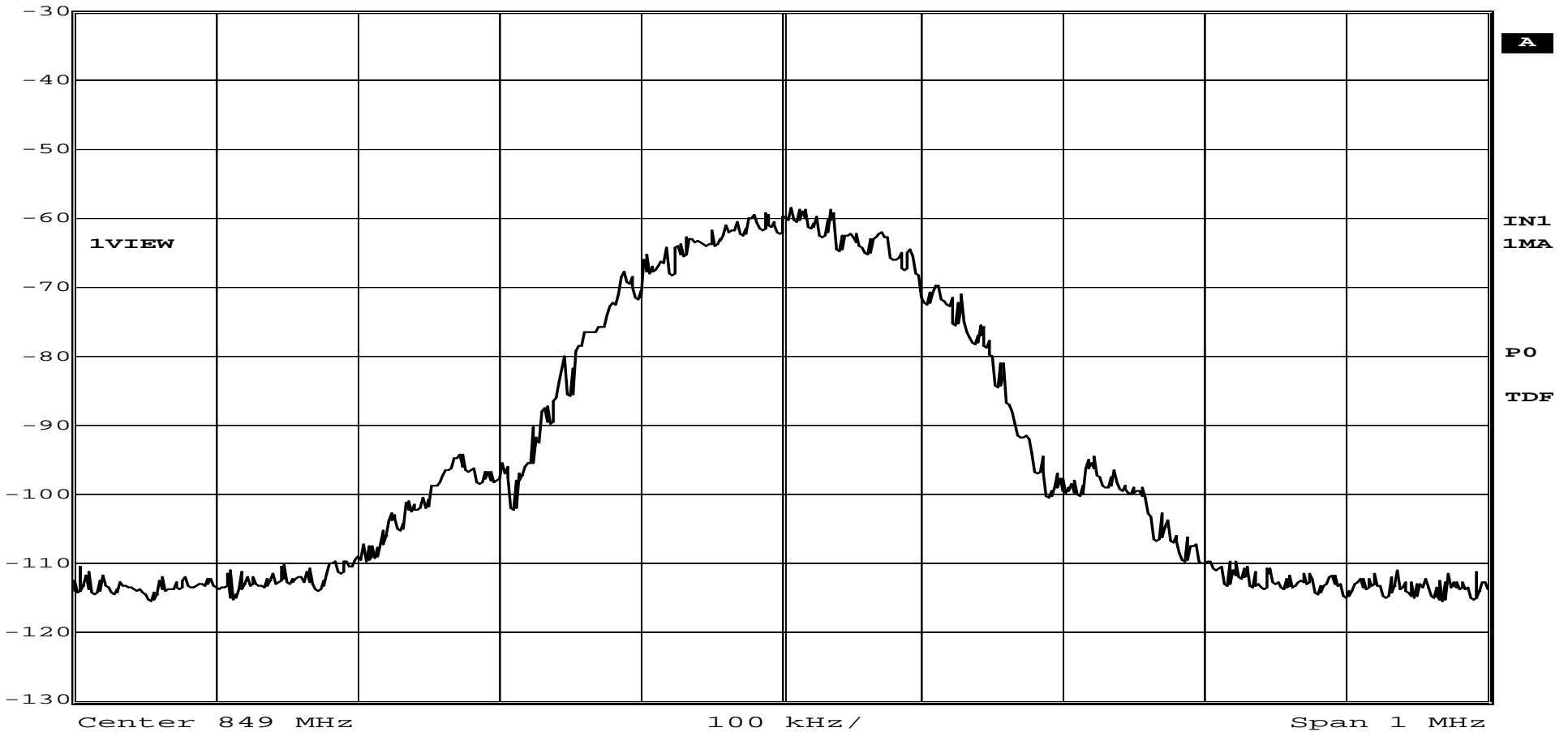
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Input at 849 MHz		



Ref Lvl  
-30 dBm

RBW	3 kHz	RF Att	0 dB
VBW	10 kHz		
SWT	280 ms	Unit	dBm



Date: 1.DEC.2010 16:07:08

# RETLIF TESTING LABORATORIES

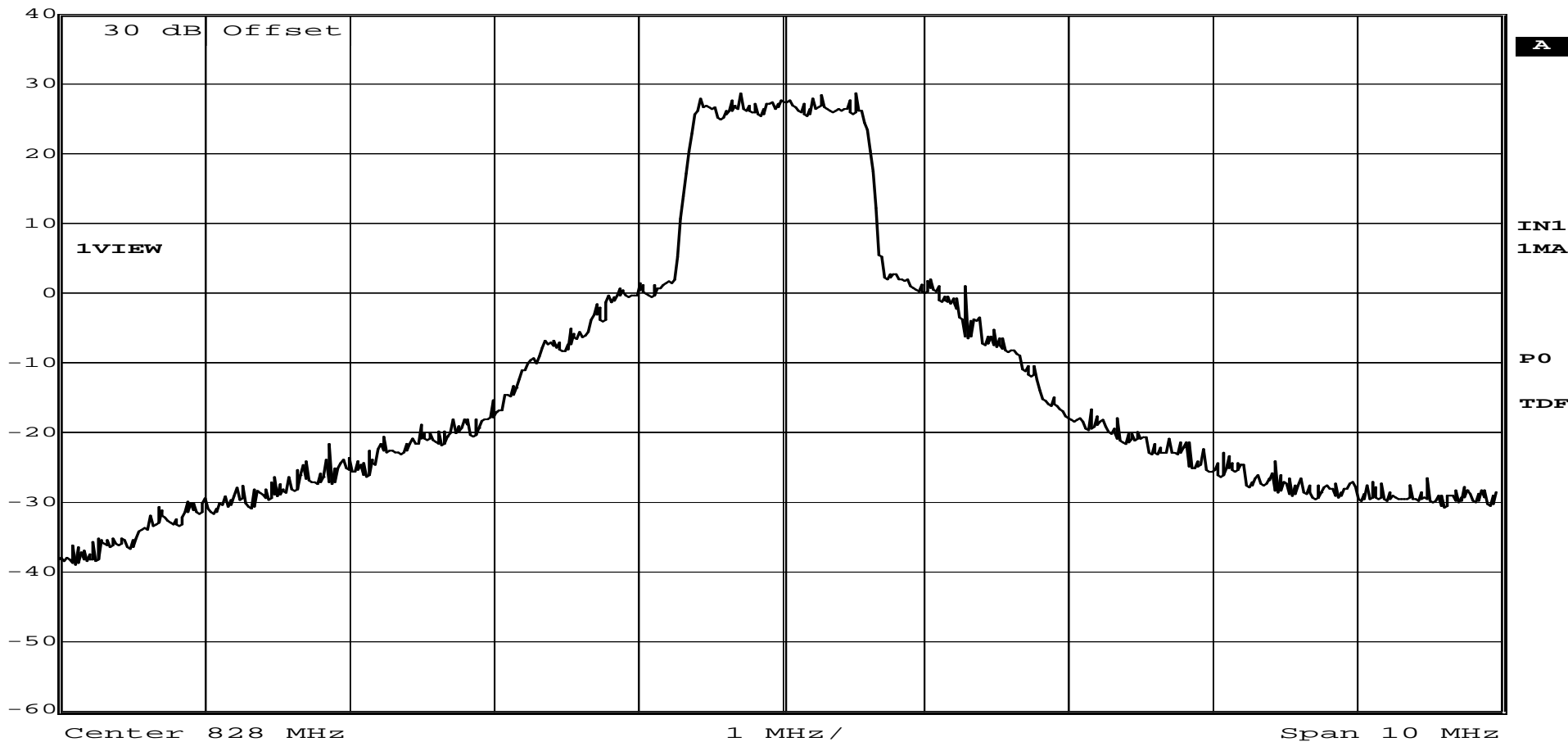
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Output at 828 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Ref Lvl  
40 dBm

RBW 30 kHz RF Att 30 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Date: 1.DEC.2010 14:29:54

# RETLIF TESTING LABORATORIES

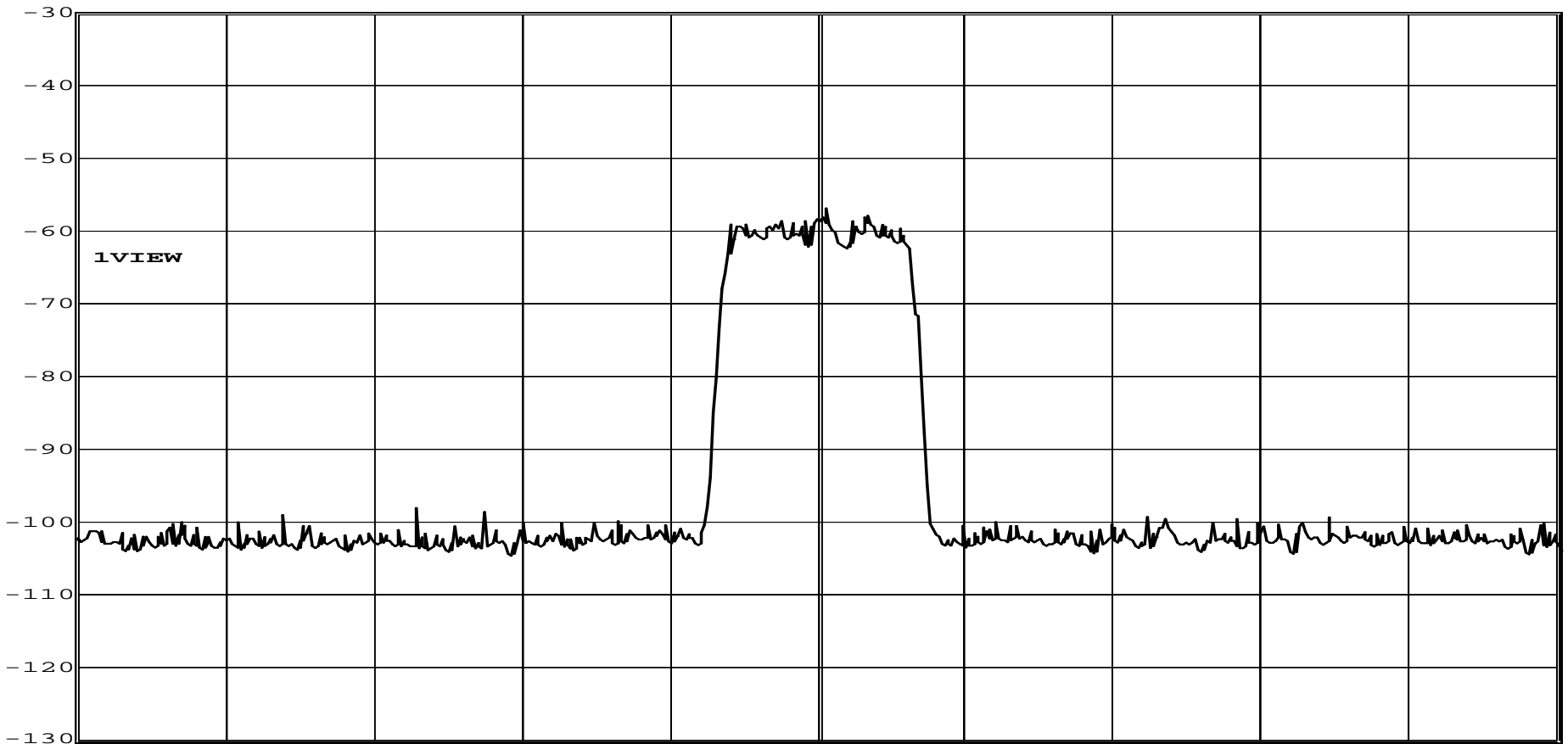
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Input at 828 MHz		



Ref Lvl  
-30 dBm

RBW	30 kHz	RF Att	0 dB
VBW	100 kHz		
SWT	28 ms	Unit	dBm



A

INI  
1MA

PO

TDF

Center 828 MHz
1 MHz/
Span 10 MHz

Date: 1.DEC.2010 16:04:14

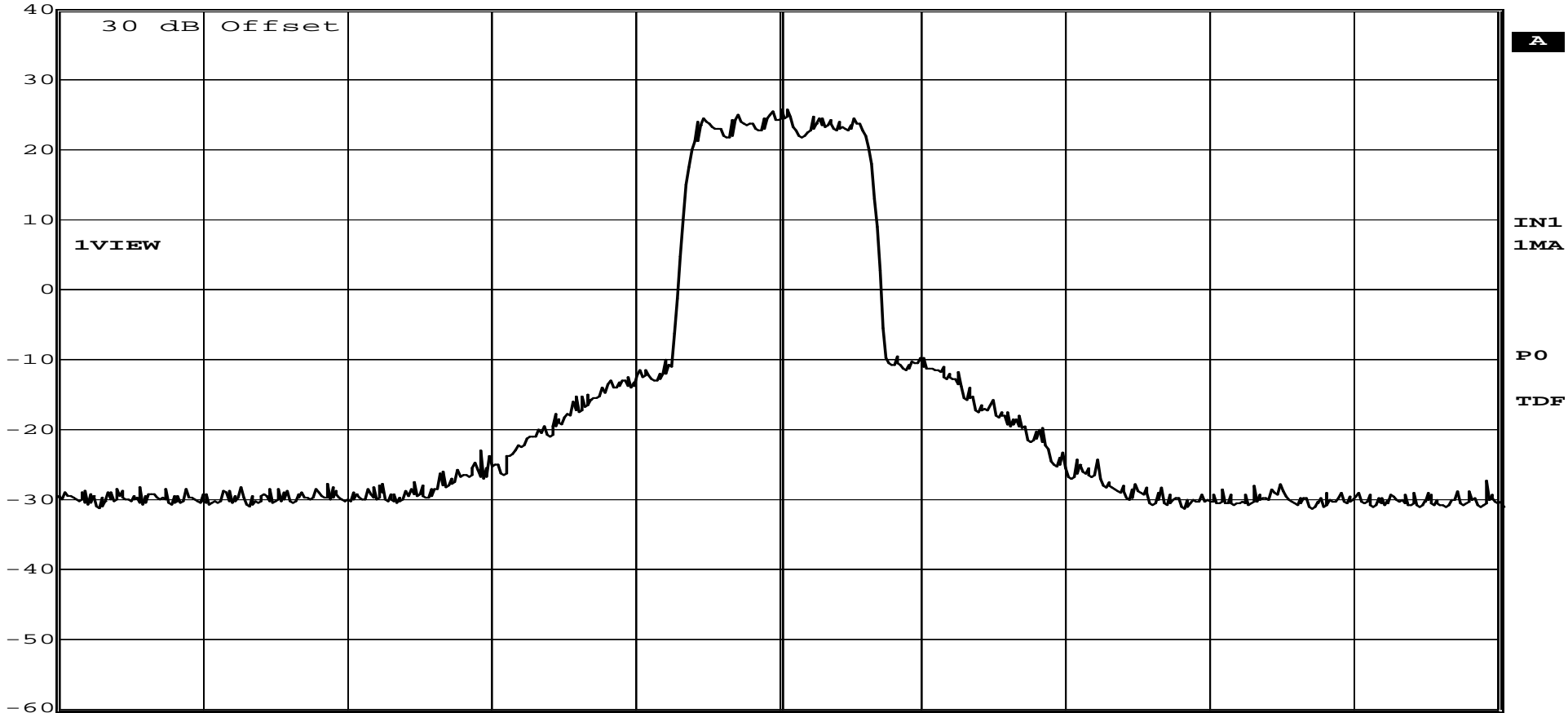
# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Output at 836.5 MHz		



Ref Lvl	RBW	30 kHz	RF Att	30 dB
40 dBm	VBW	100 kHz	Unit	dBm
	SWT	28 ms		



Date: 1.DEC.2010 14:31:03



# RETLIF TESTING LABORATORIES

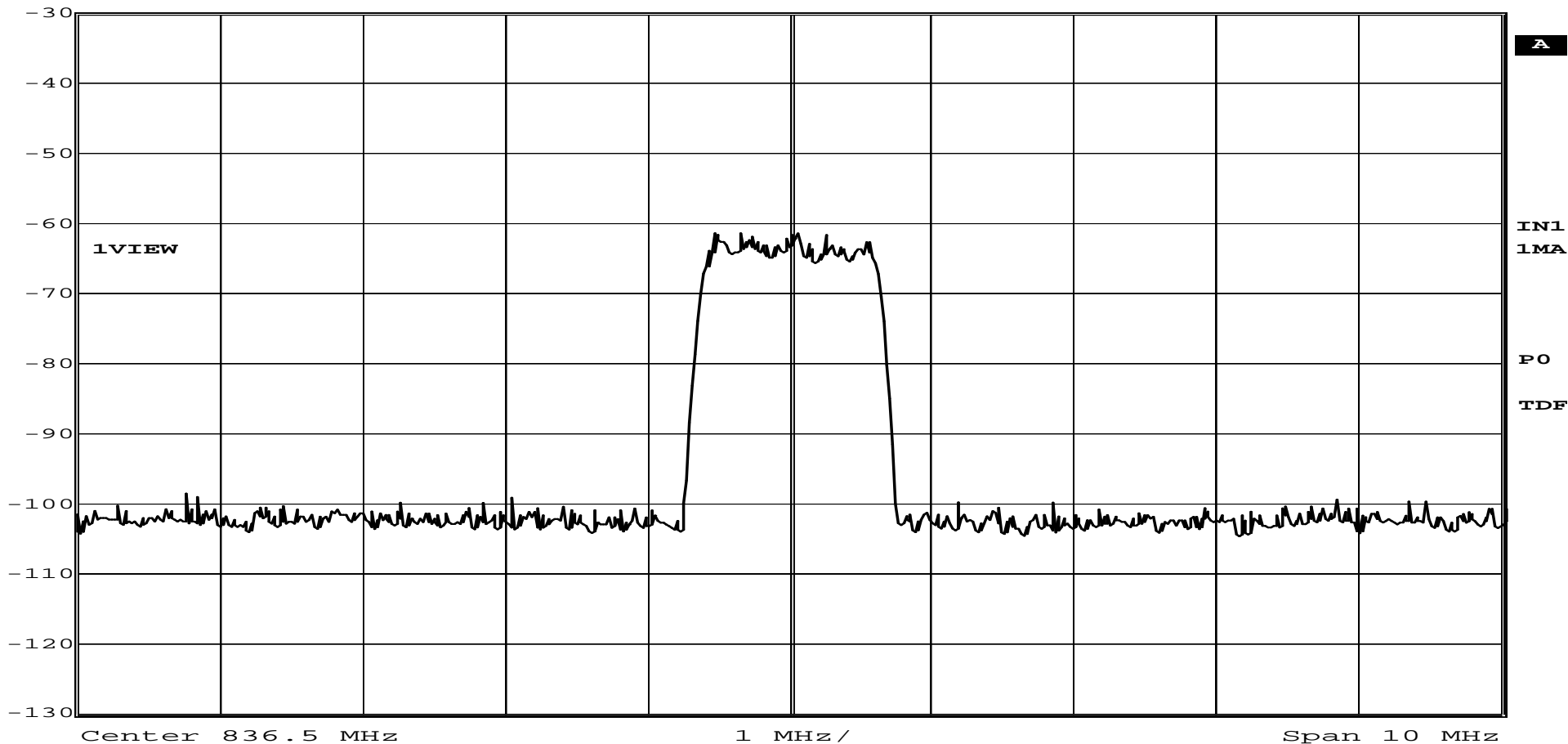
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Input at 836.5 MHz		



Ref Lvl  
-30 dBm

RBW	30 kHz	RF Att	0 dB
VBW	100 kHz	Unit	dBm
SWT	28 ms		



Date: 1.DEC.2010 16:03:37

# RETLIF TESTING LABORATORIES

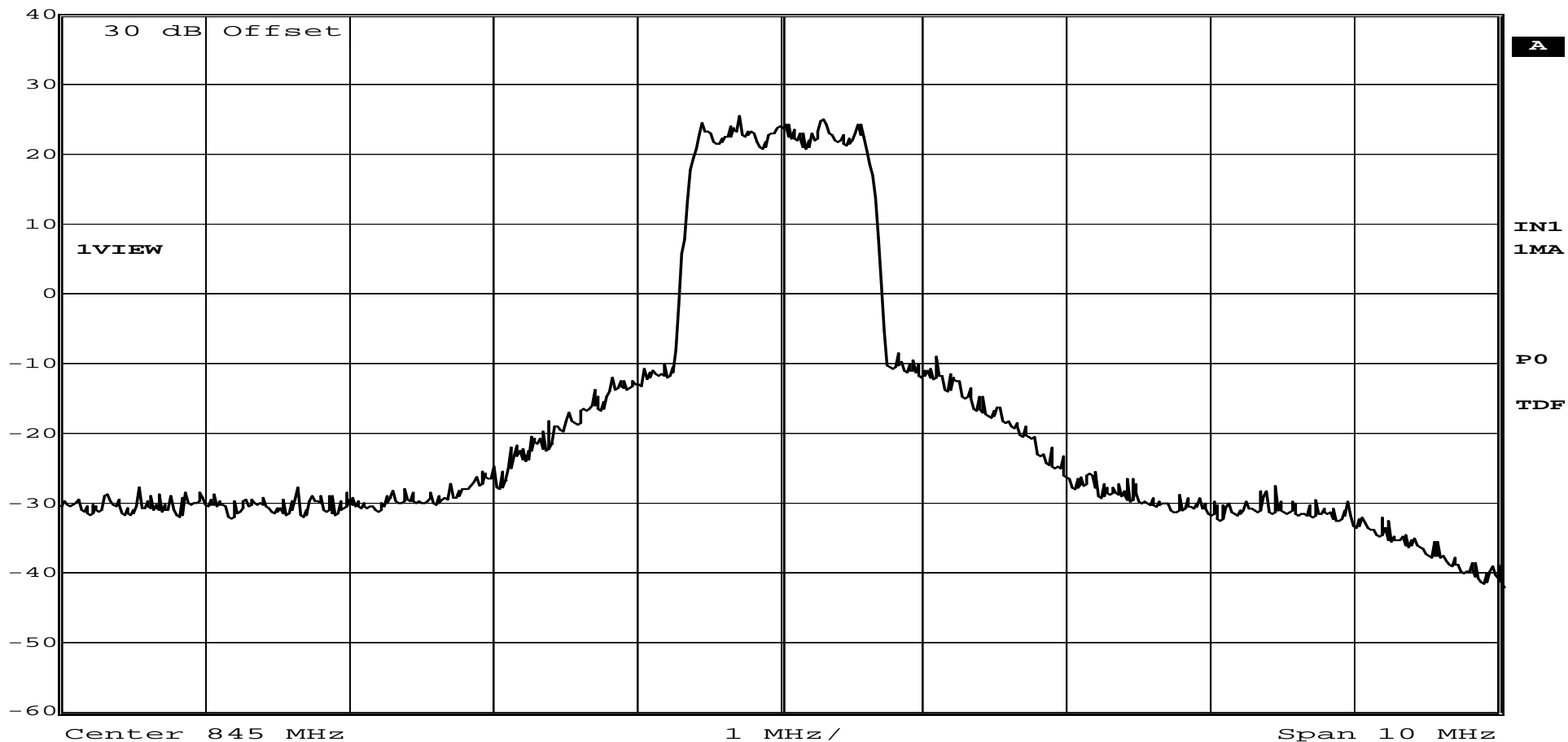
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Output at 845 MHz		



Ref Lvl  
40 dBm

RBW 30 kHz RF Att 30 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Date: 1.DEC.2010 14:32:04

# RETLIF TESTING LABORATORIES

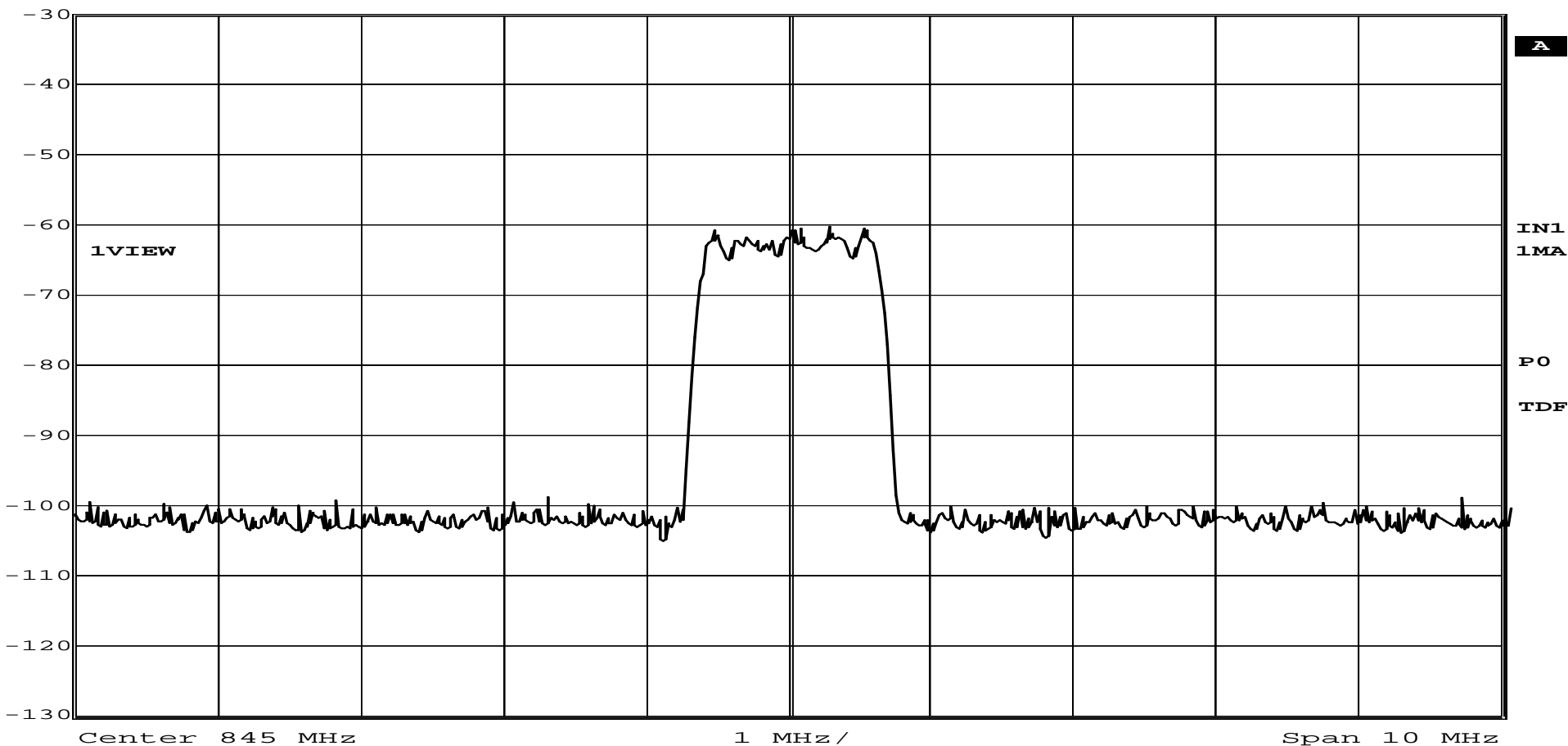
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Input at 845 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
VBW 100 kHz  
SWT 28 ms Unit dBm



Date: 1.DEC.2010 16:03:10

# RETLIF TESTING LABORATORIES

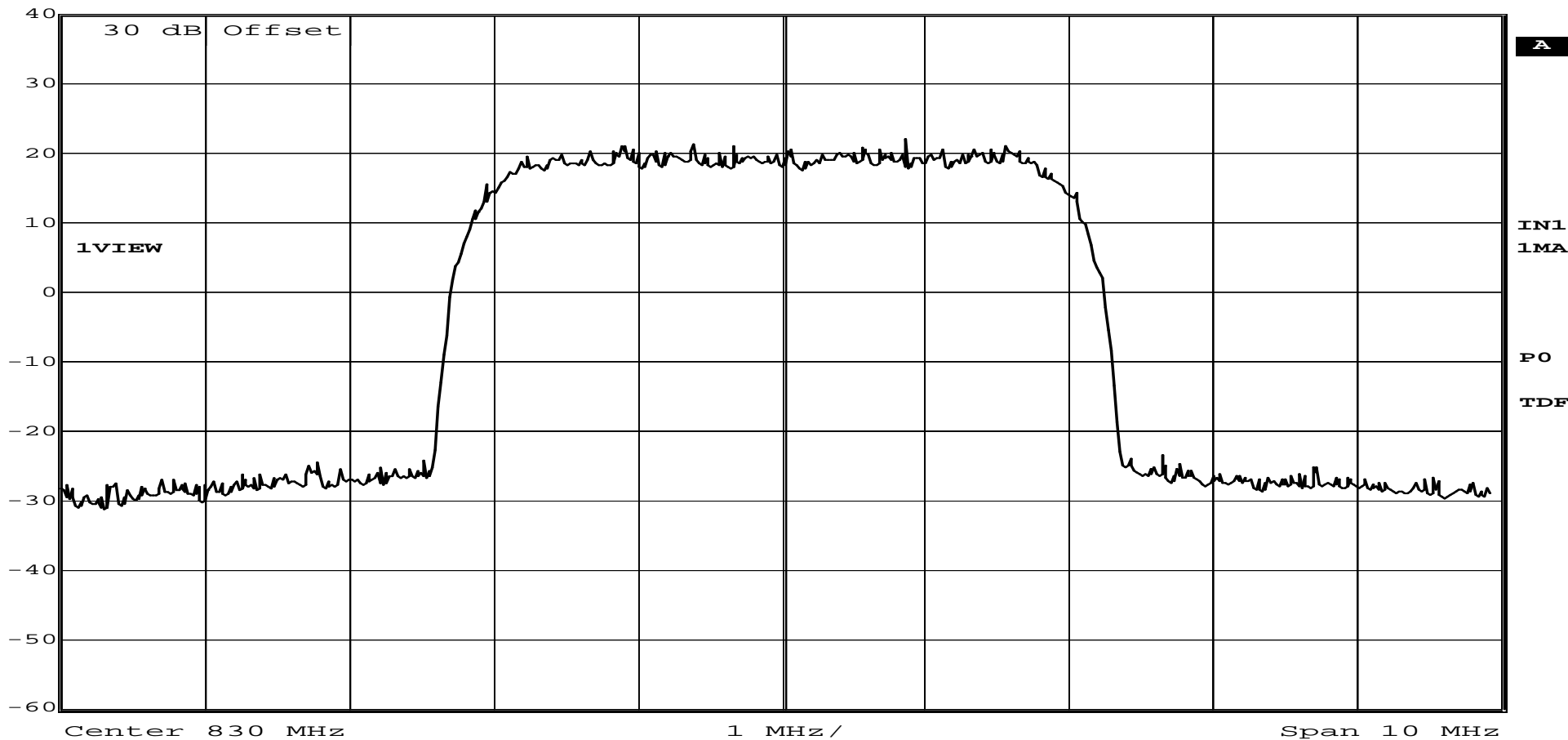
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Output at 830 MHz		



Ref Lvl  
40 dBm

RBW 30 kHz RF Att 30 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Date: 1.DEC.2010 14:43:11

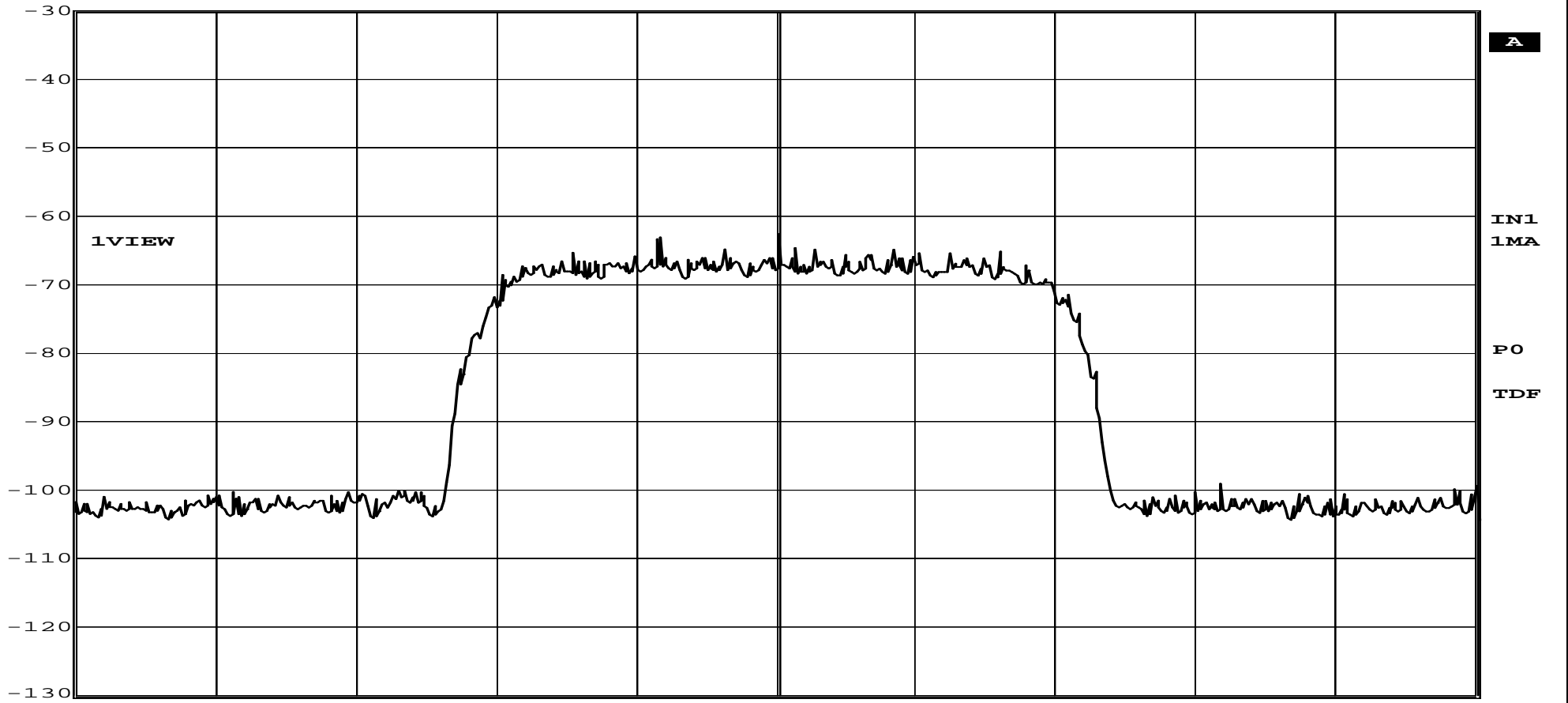
# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Input at 830 MHz		



Ref Lvl	RBW	30 kHz	RF Att	0 dB
-30 dBm	VBW	100 kHz	Unit	dBm
	SWT	28 ms		



Date: 1.DEC.2010 16:00:25

# RETLIF TESTING LABORATORIES

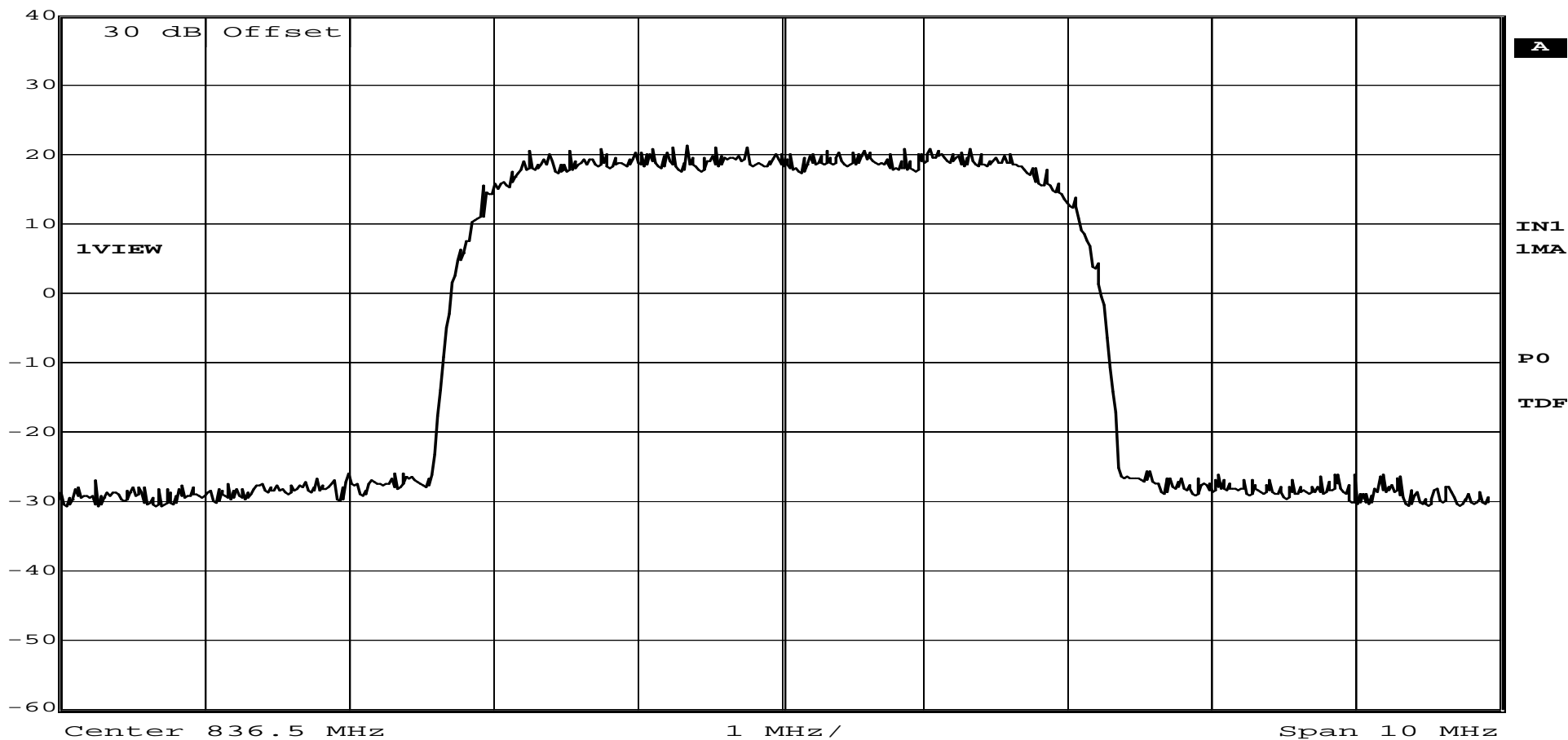
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Output at 836.5 MHz		



Ref Lvl  
40 dBm

RBW 30 kHz RF Att 30 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Date: 1.DEC.2010 14:42:20

# RETLIF TESTING LABORATORIES

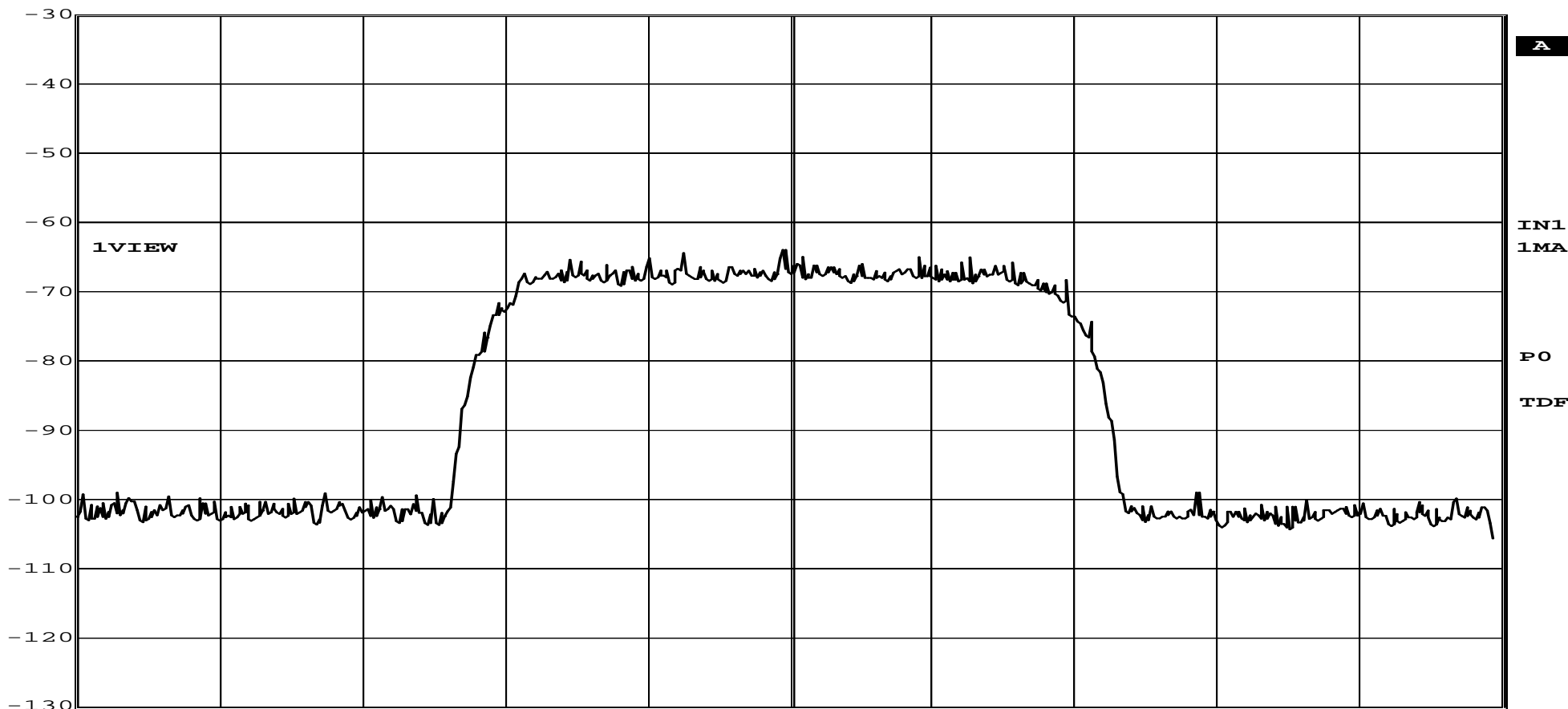
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Input at 836.5 MHz		



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Center 836.5 MHz

1 MHz/

Span 10 MHz

Date: 1.DEC.2010 15:59:53

# RETLIF TESTING LABORATORIES

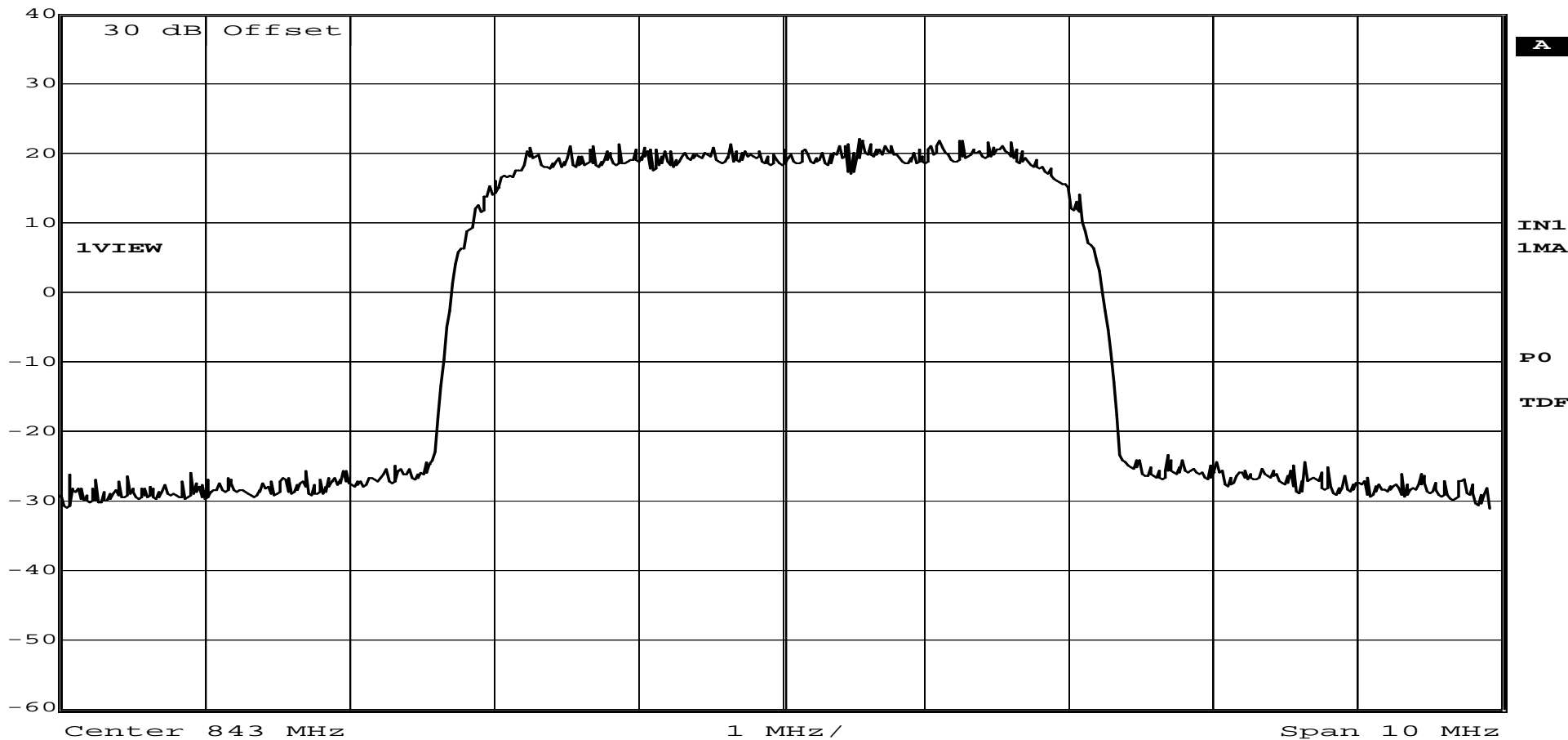
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Output at 843 MHz		



Ref Lvl  
40 dBm

RBW 30 kHz RF Att 30 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Date: 1.DEC.2010 14:41:36



# RETLIF TESTING LABORATORIES

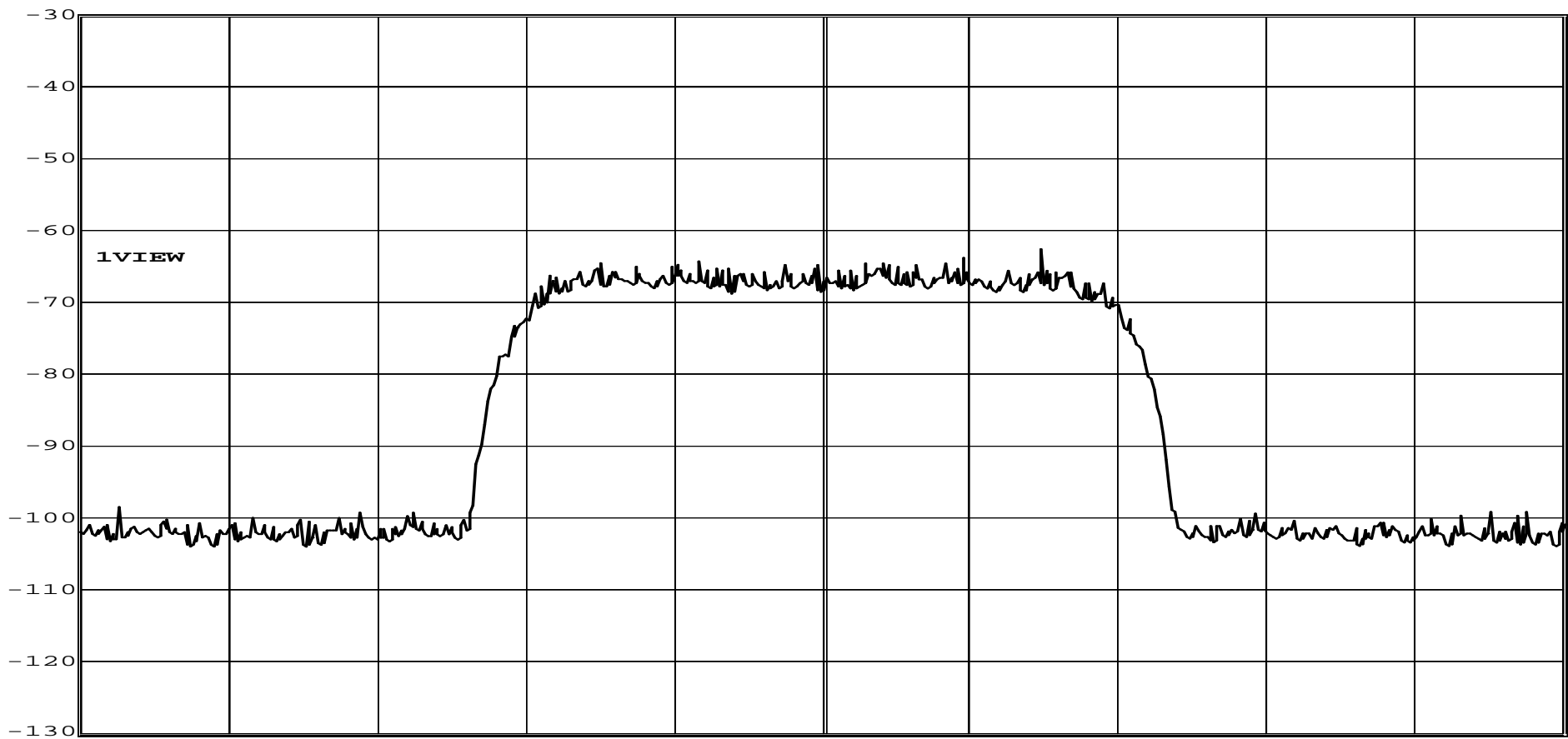
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Input at 843 MHz		



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



A

IN1  
1MA

PO  
TDF

Center 843 MHz

1 MHz/

Span 10 MHz

Date: 1.DEC.2010 15:59:04

# RETLIF TESTING LABORATORIES

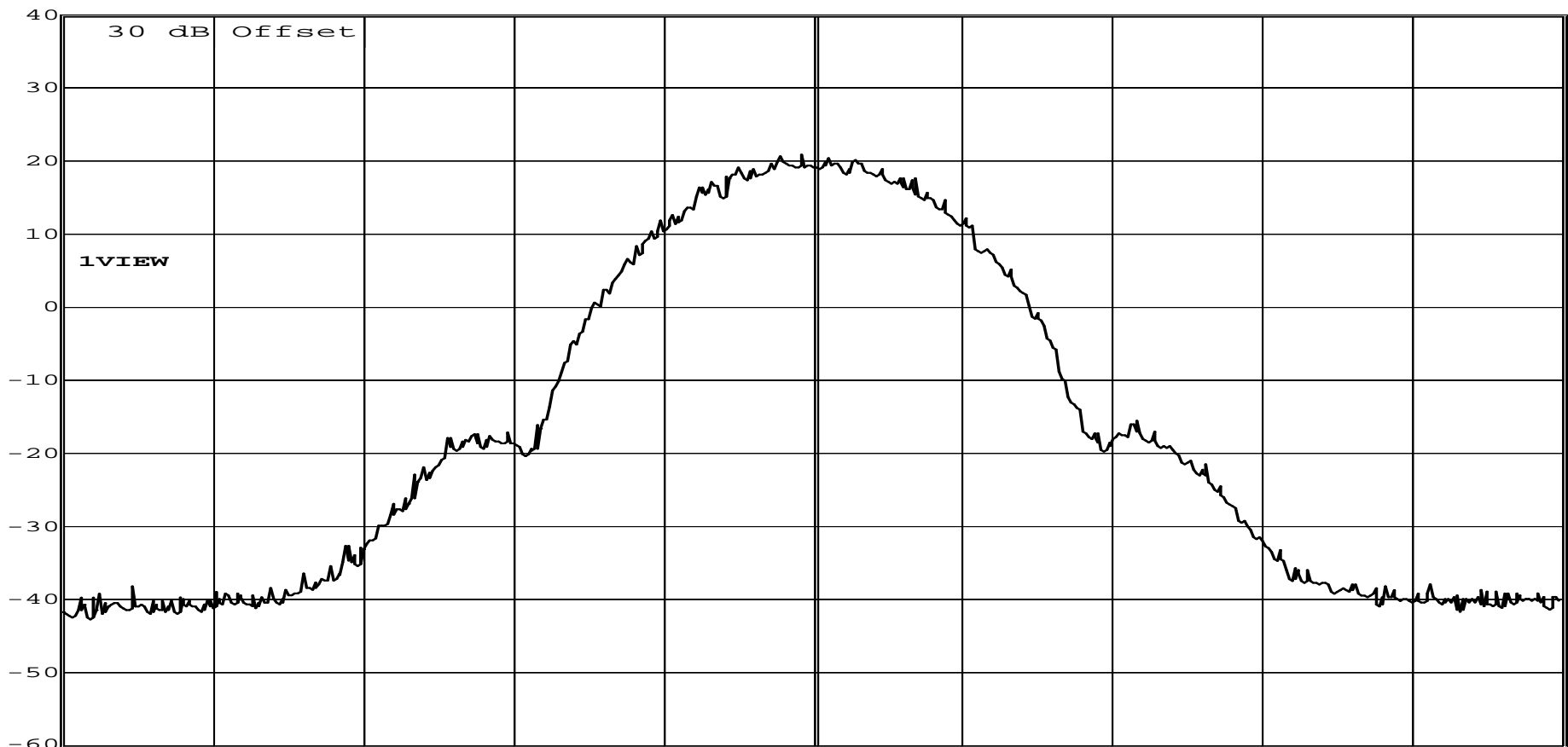
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Output at 1850 MHz		



Ref Lvl  
40 dBm

RBW 3 kHz RF Att 30 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



Center 1.85 GHz      100 kHz /      Span 1 MHz

Date: 1.DEC.2010 14:21:48

# RETLIF TESTING LABORATORIES

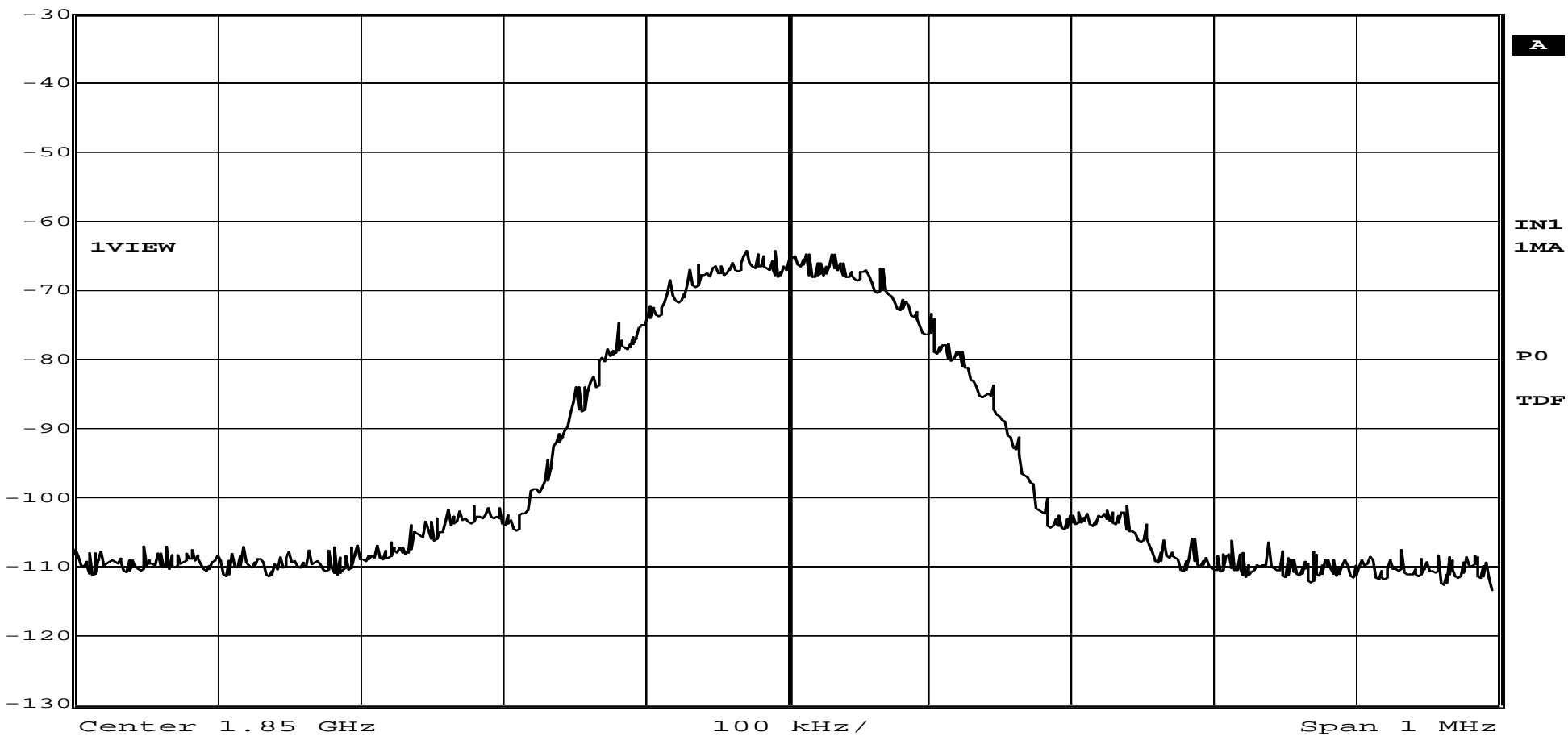
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Input at 1850 MHz		



Ref Lvl  
-30 dBm

RBW 3 kHz RF Att 0 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



Date: 1.DEC.2010 16:06:33

# RETLIF TESTING LABORATORIES

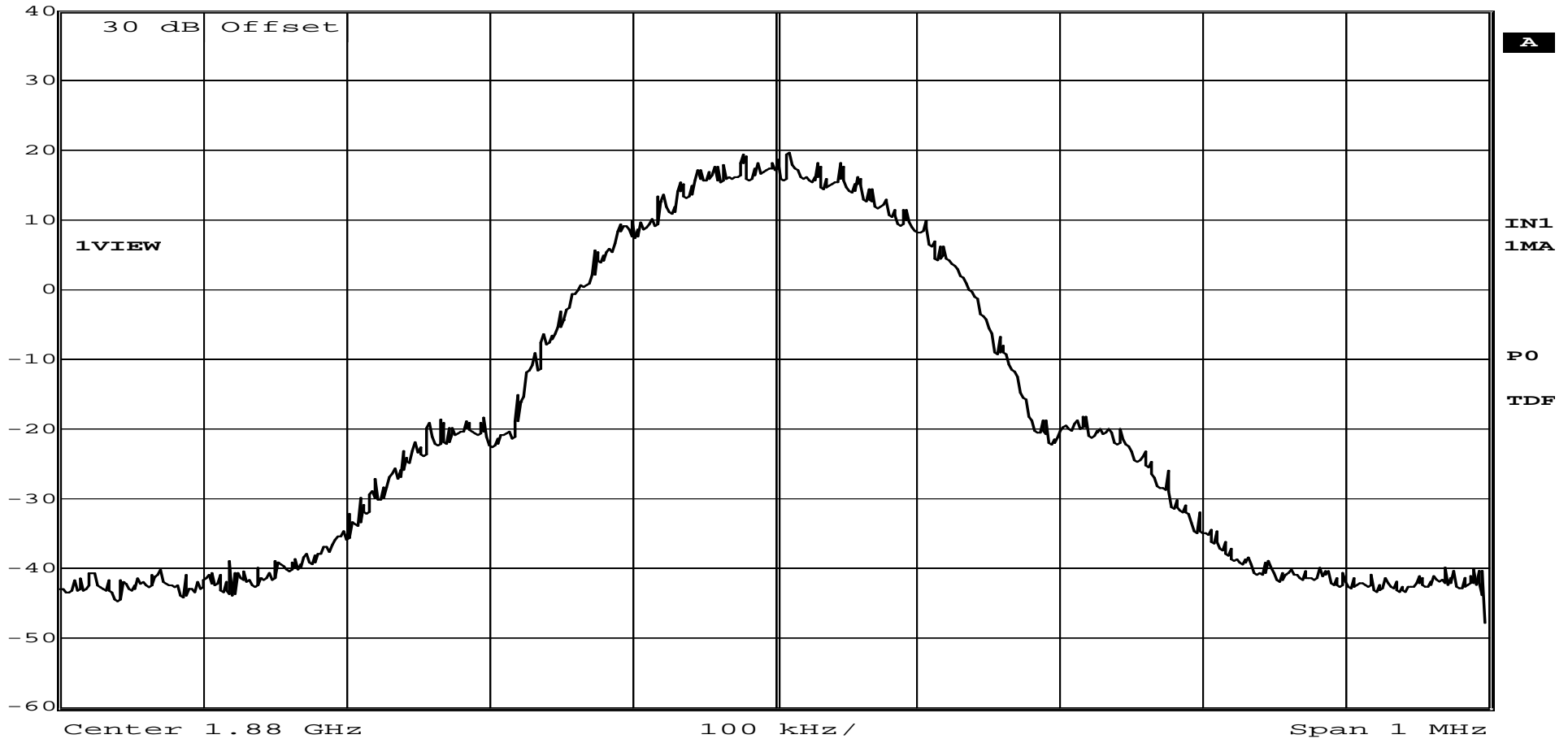
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Output at 1880 MHz		



Ref Lvl  
40 dBm

RBW      3 kHz      RF Att      30 dB  
 VBW      10 kHz  
 SWT      280 ms      Unit      dBm



Date: 1.DEC.2010 14:44:57

# RETLIF TESTING LABORATORIES

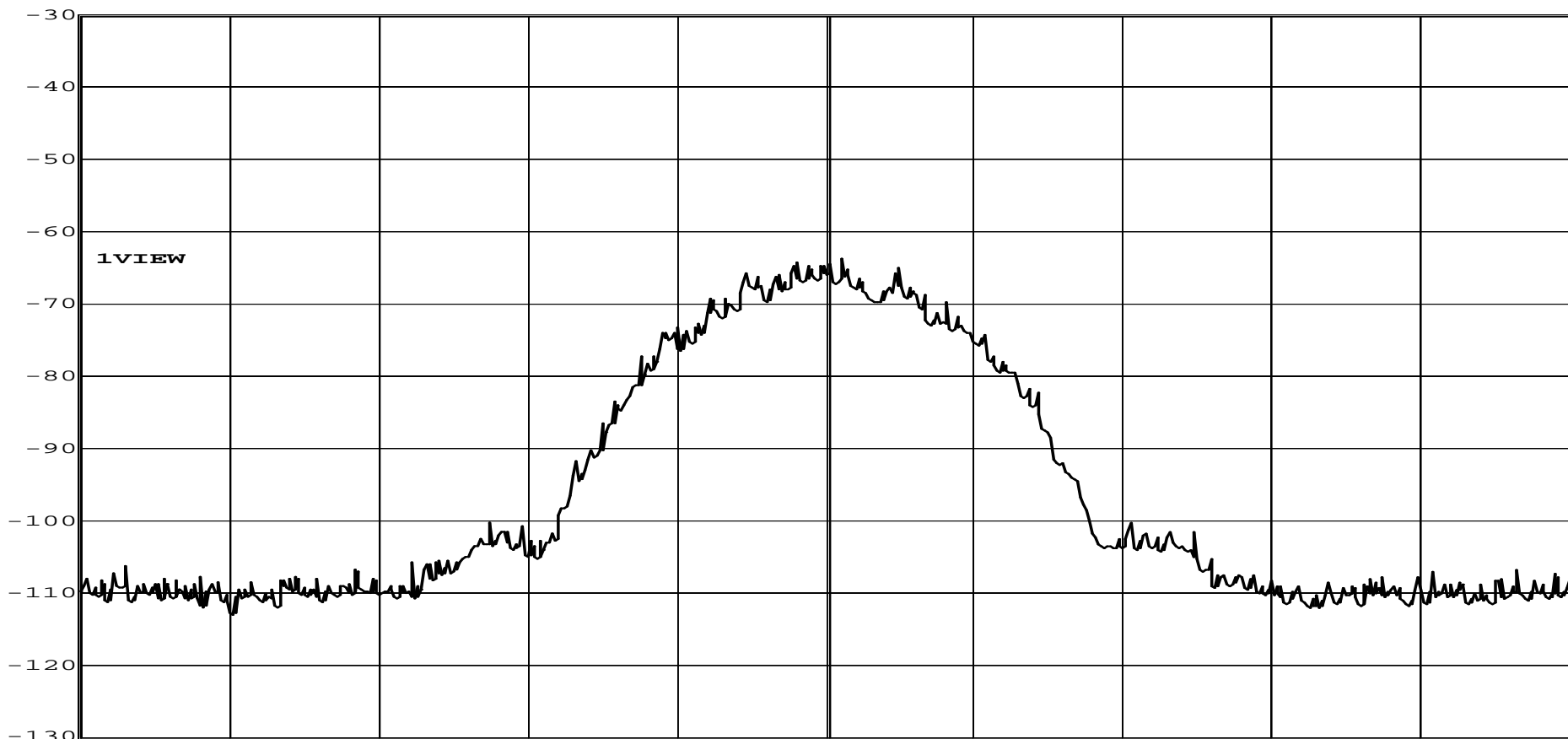
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth			
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater	
Model No:	CSI-DSP85-255-CP	Serial No:	N/A	
Test Specification:	FCC Part 2	Paragraph:	2.1049	
Operating Mode:	Amplifying input signal			
Notes:	TDMA - Uplink - Input at 1880 MHz			
Job No:	R-5398N-2		Technician:	M.Seamans
Date:	12/1/2010			



Ref Lvl  
-30 dBm

RBW 3 kHz RF Att 0 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



**A**

IN1  
1MA

PO

TDF

Center 1.86 GHz      100 kHz /      Span 1 MHz

Date: 1.DEC.2010 16:06:03

# RETLIF TESTING LABORATORIES

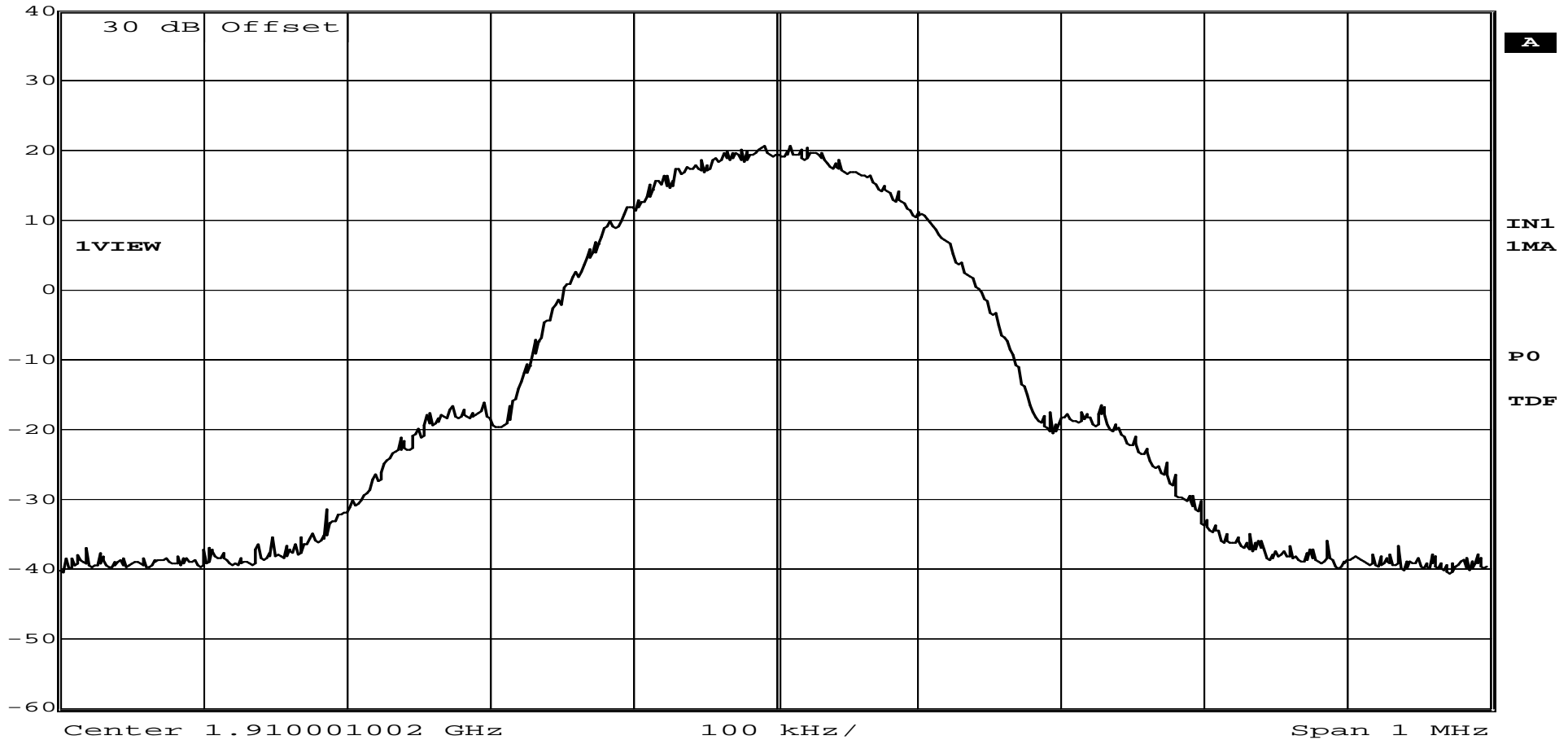
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Output at 1910 MHz		



Ref Lvl  
40 dBm

RBW      3 kHz      RF Att      30 dB  
 VBW      10 kHz  
 SWT      280 ms      Unit      dBm



Date: 1.DEC.2010 14:18:12

# RETLIF TESTING LABORATORIES

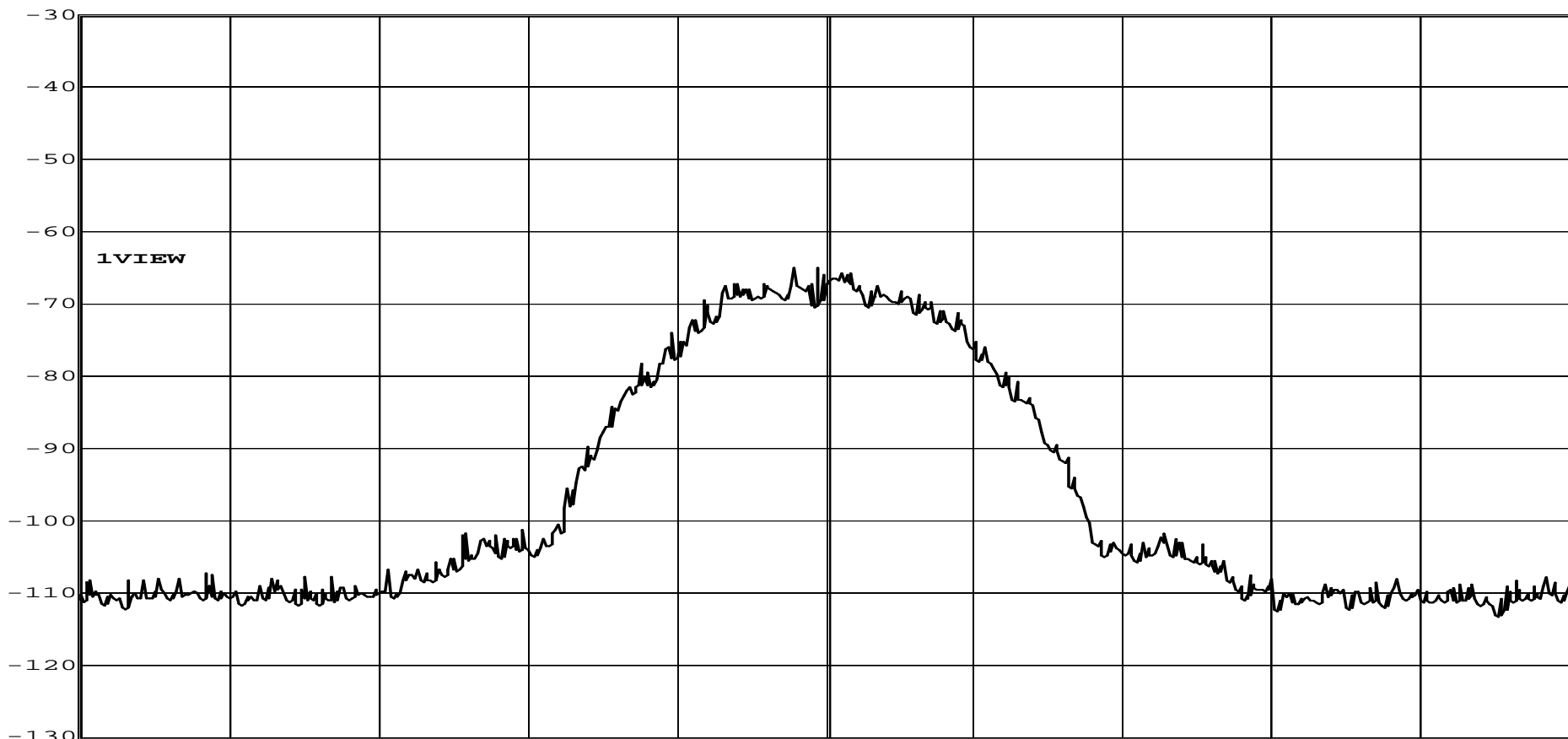
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Uplink - Input at 1910 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Ref Lvl  
-30 dBm

RBW 3 kHz RF Att 0 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



A

IN1  
1MA  
PO  
TDF

Center 1.91 GHz      100 kHz /      Span 1 MHz

Date: 1.DEC.2010 16:05:17

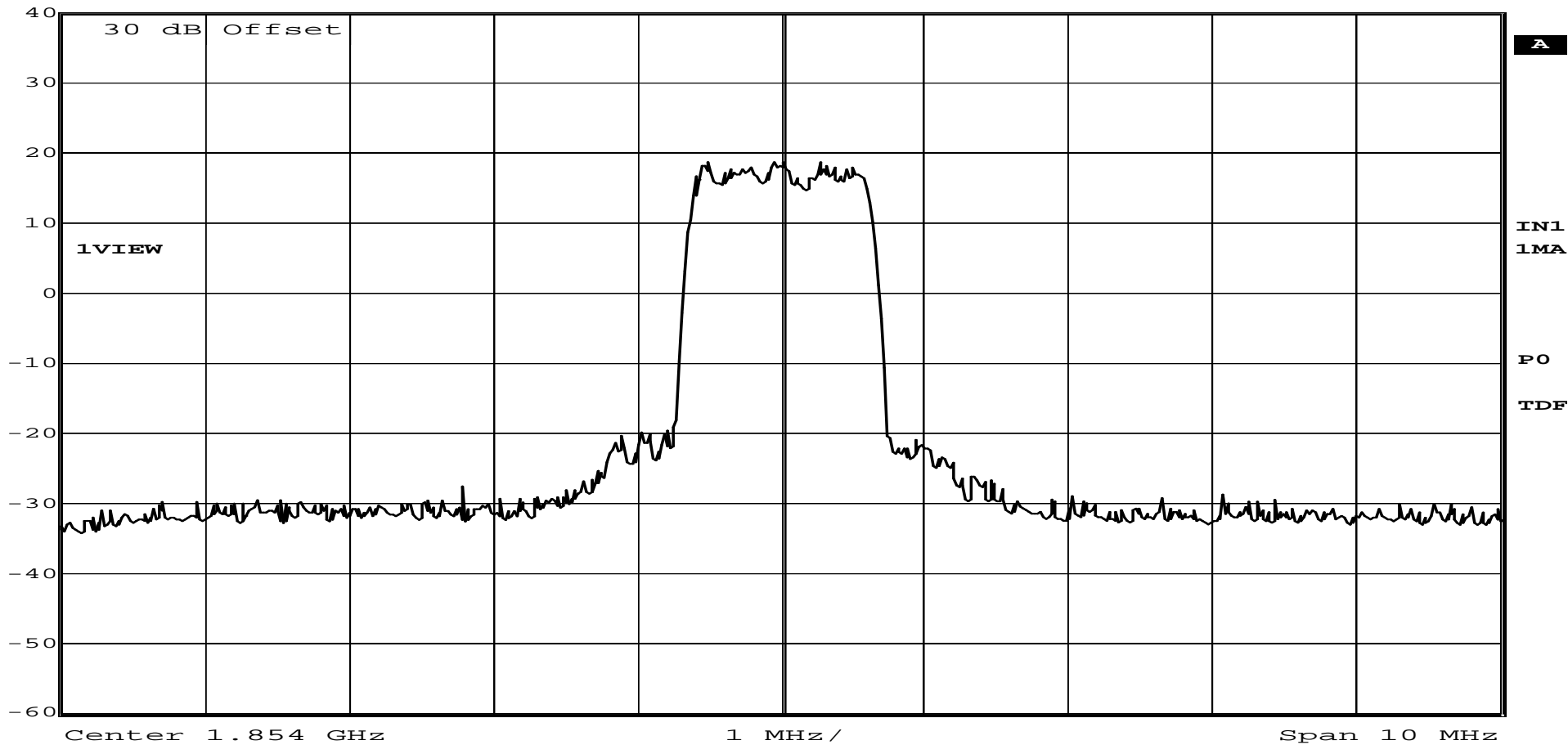
# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Output at 1854 MHz		



Ref Lvl 40 dBm	RBW 30 kHz	RF Att 30 dB	Unit dBm
	VBW 100 kHz		
	SWT 28 ms		



Date: 1.DEC.2010 14:33:23



# RETLIF TESTING LABORATORIES

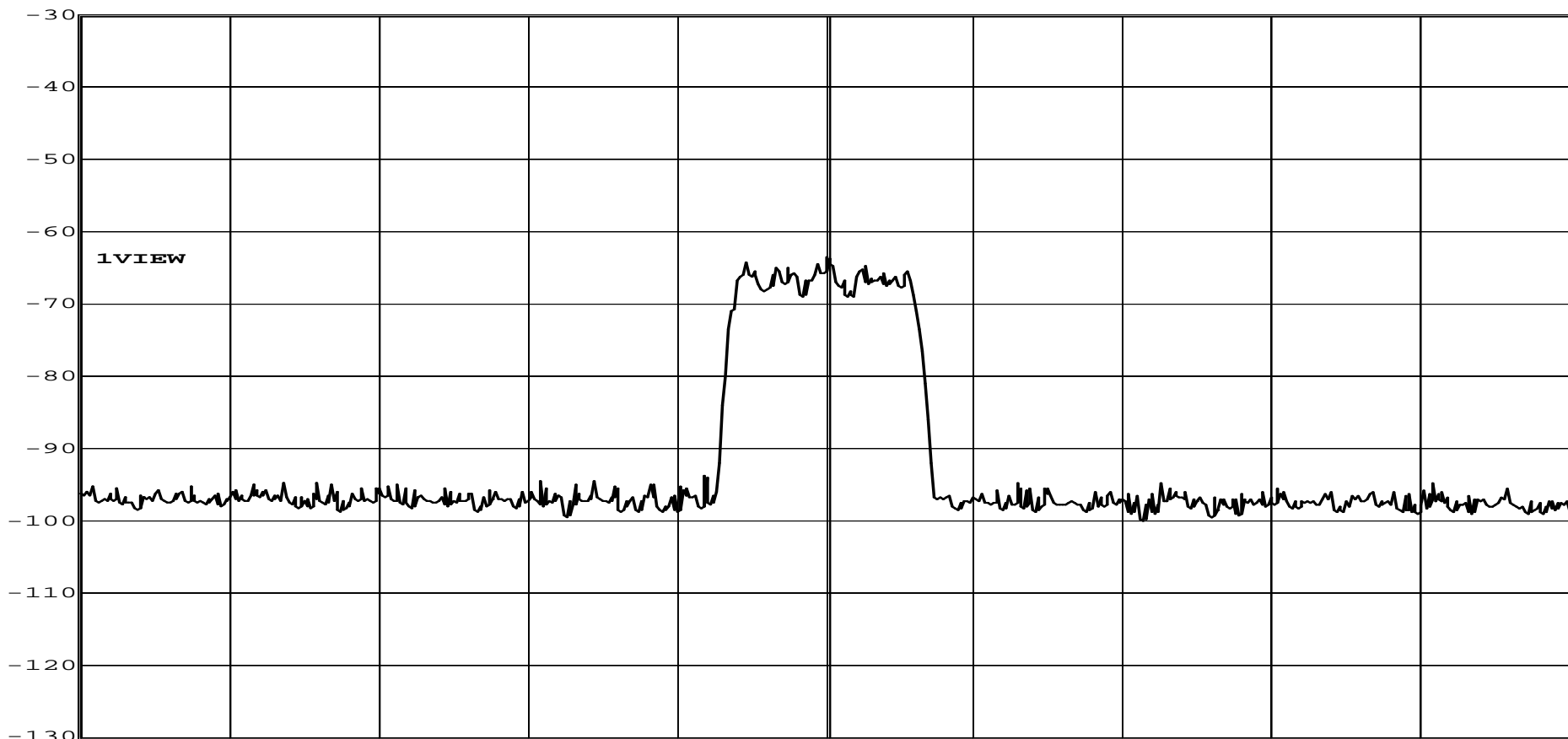
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Input at 1854 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



A

IN1  
1MA

PO

TDF

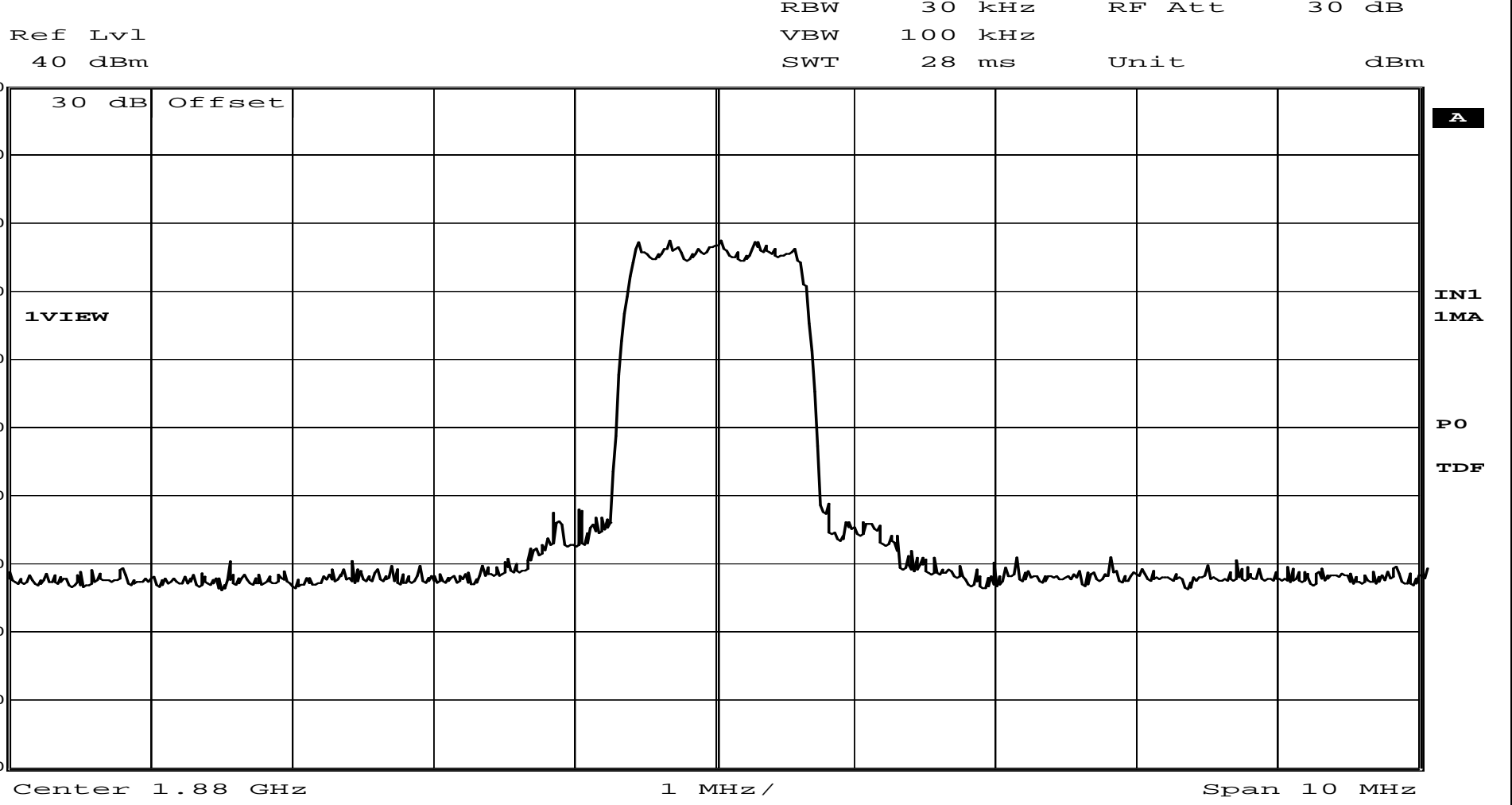
Center 1.854 GHz
1 MHz/
Span 10 MHz

Date: 1.DEC.2010 16:02:23

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Output at 1880 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Date: 1.DEC.2010 14:34:35

# RETLIF TESTING LABORATORIES

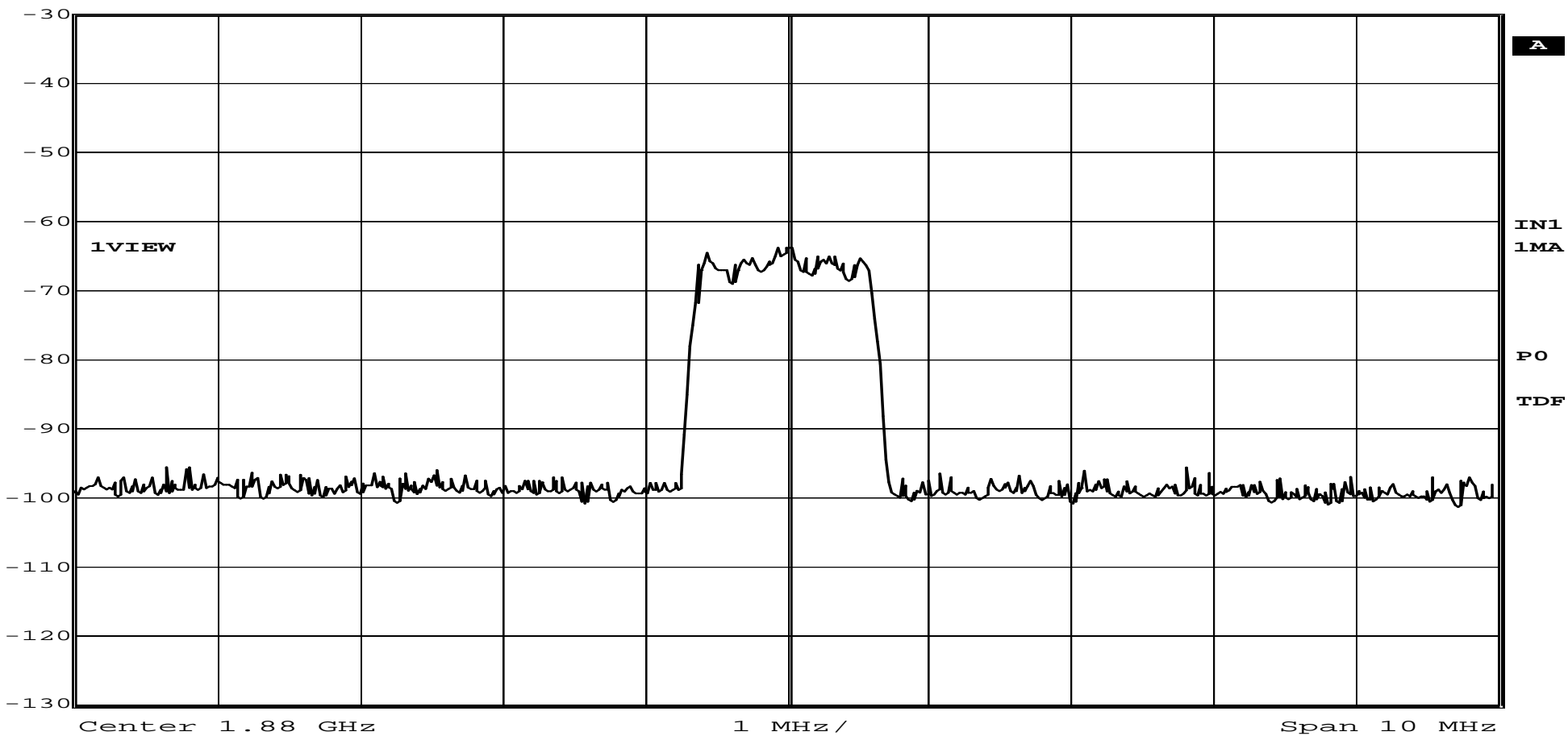
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Input at 1880 MHz		



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Date: 1.DEC.2010 16:01:57

# RETLIF TESTING LABORATORIES

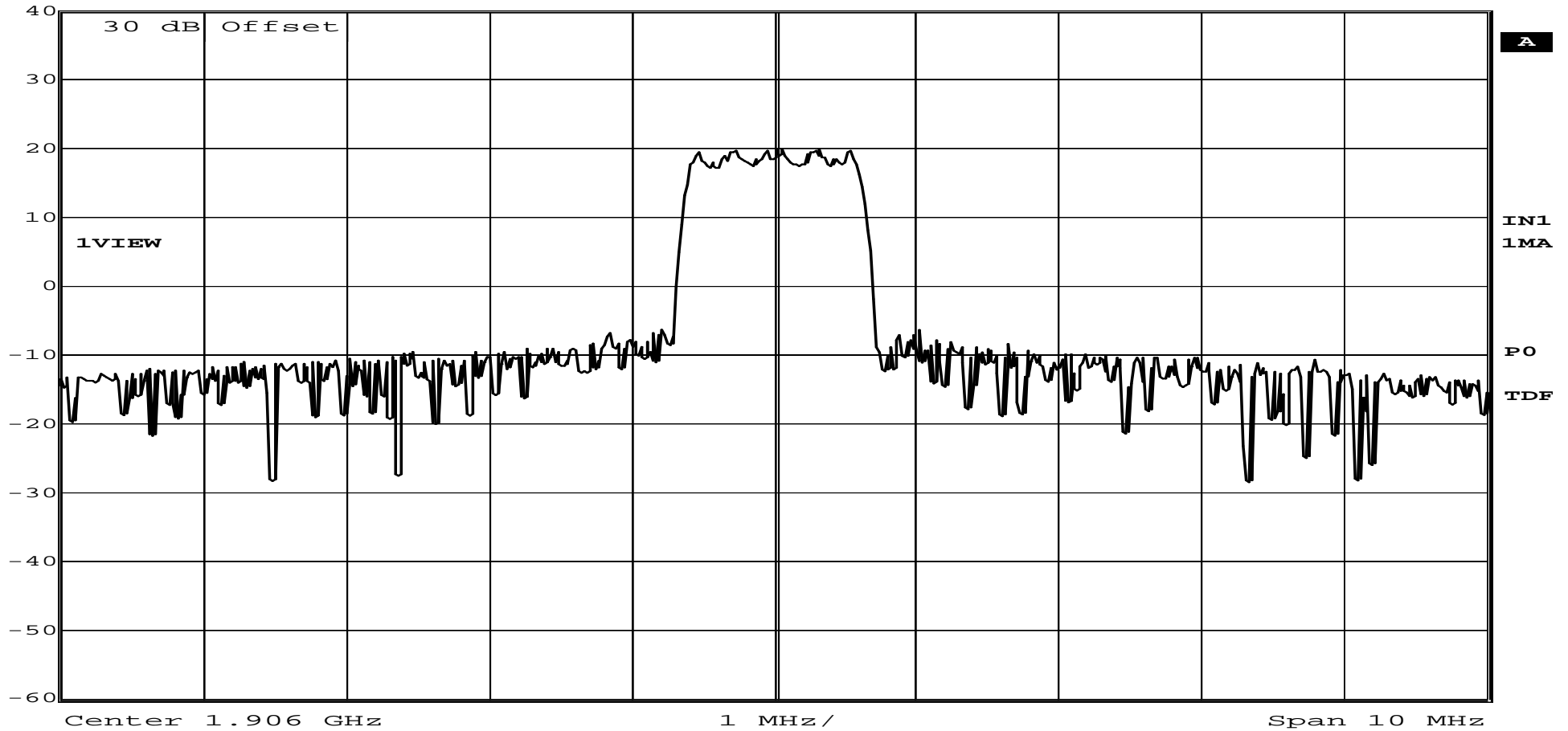
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Output at 1906 MHz		



Ref Lvl  
40 dBm

RBW 30 kHz RF Att 30 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Date: 1.DEC.2010 14:36:55

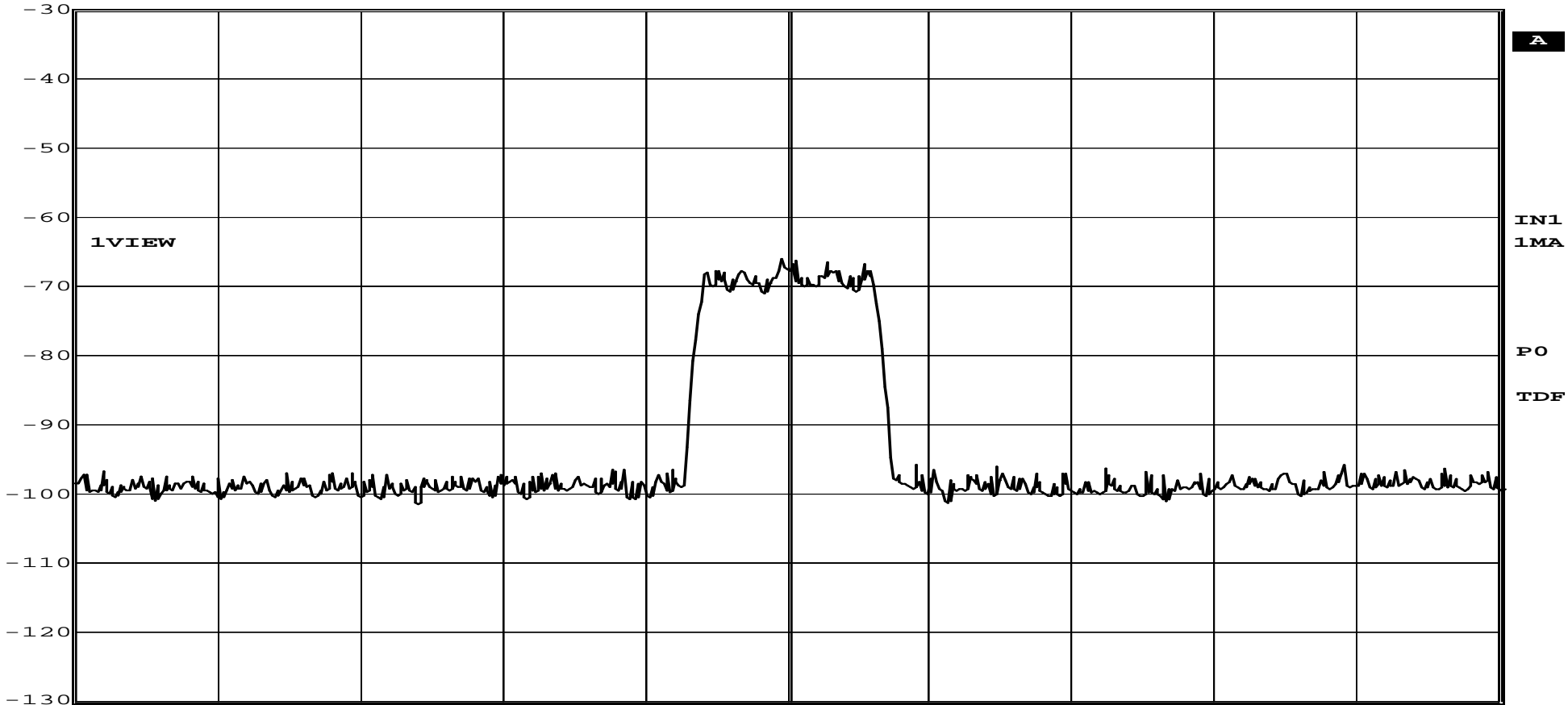
# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Uplink - Input at 1906 MHz		



Ref Lvl	RBW	30 kHz	RF Att	0 dB
-30 dBm	VBW	100 kHz	Unit	dBm
	SWT	28 ms		



Date: 1.DEC.2010 16:01:21

# RETLIF TESTING LABORATORIES

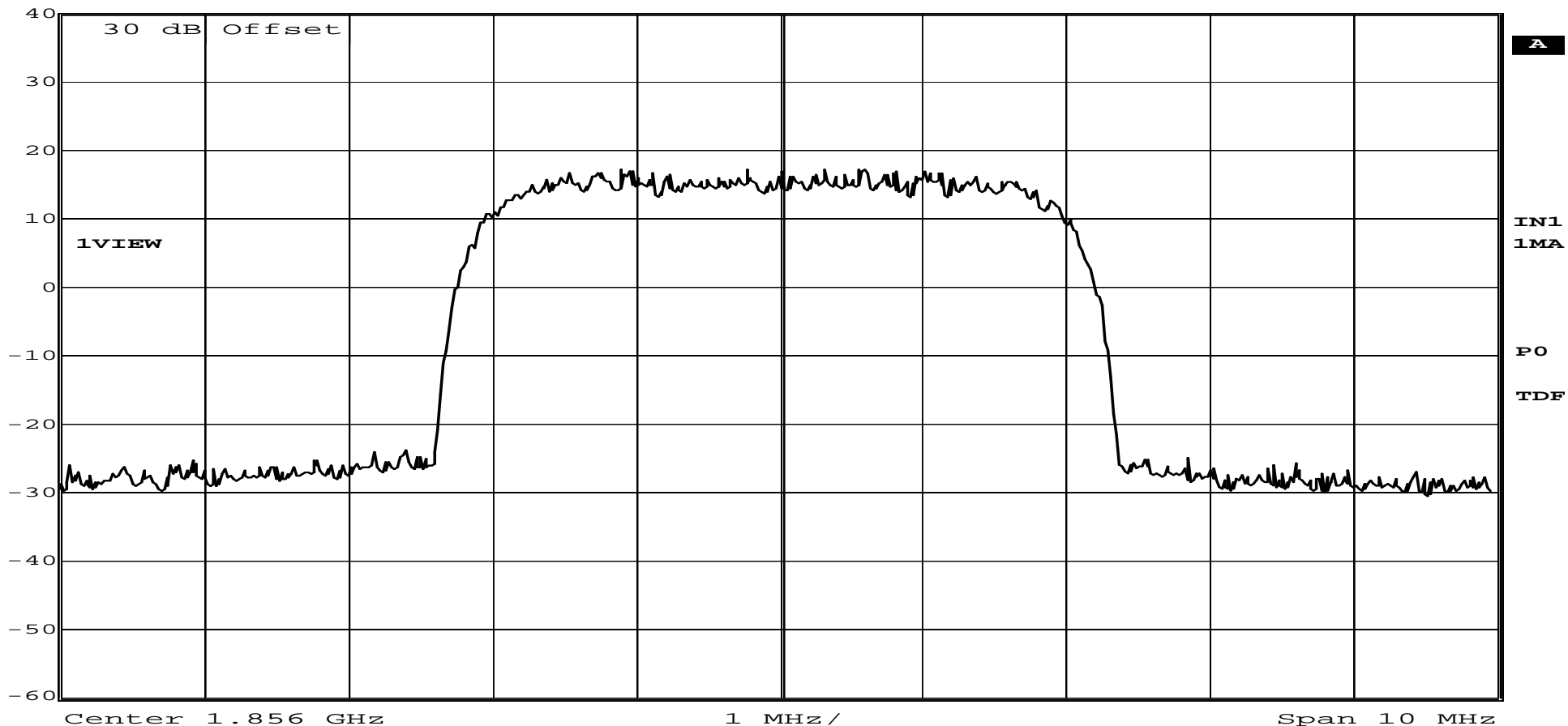
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Output at 1856 MHz		



Ref Lvl  
40 dBm

RBW 30 kHz RF Att 30 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm

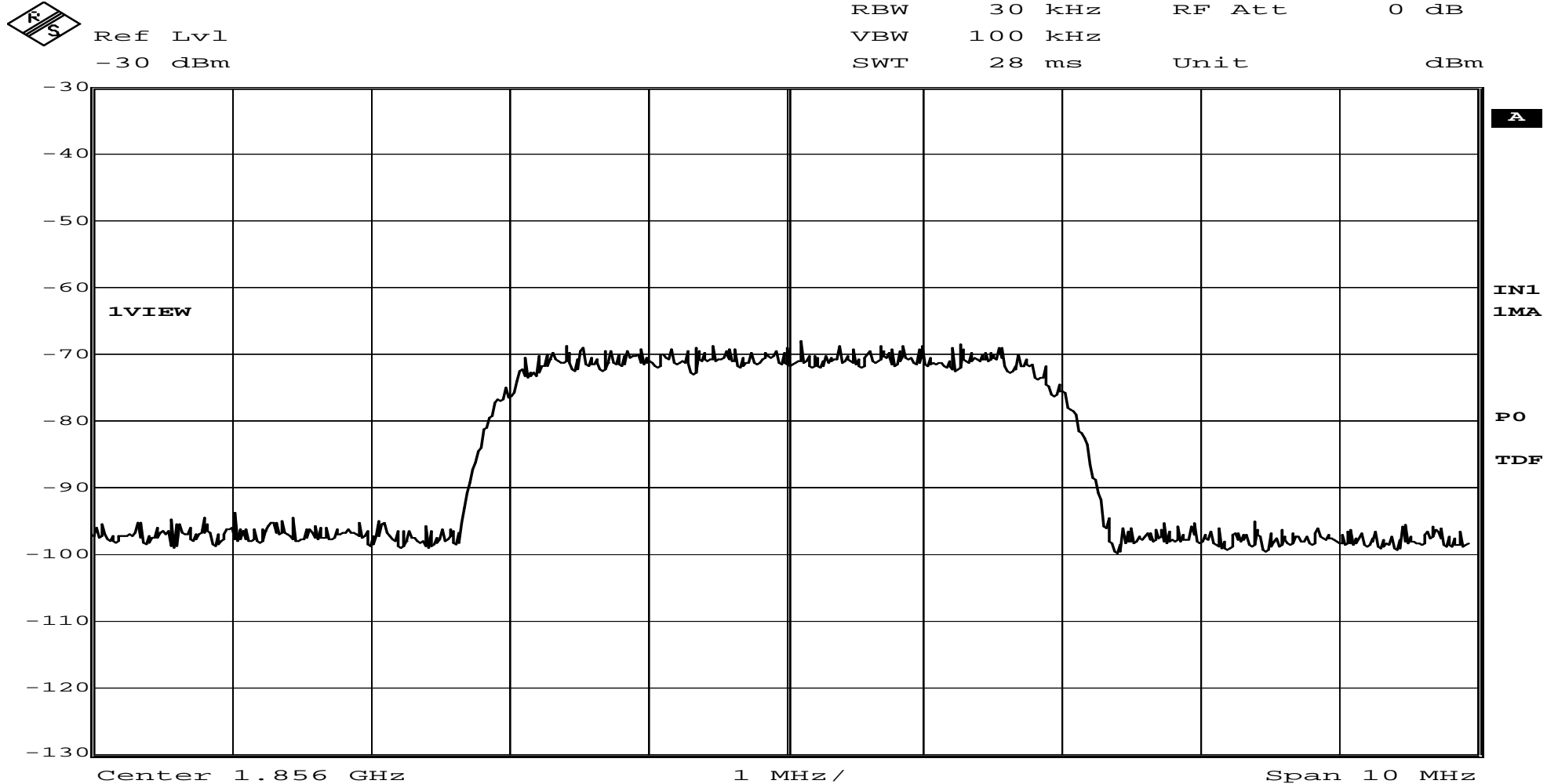


Date: 1.DEC.2010 14:40:25

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Input at 1856 MHz		



Date: 1.DEC.2010 15:58:17

# RETLIF TESTING LABORATORIES

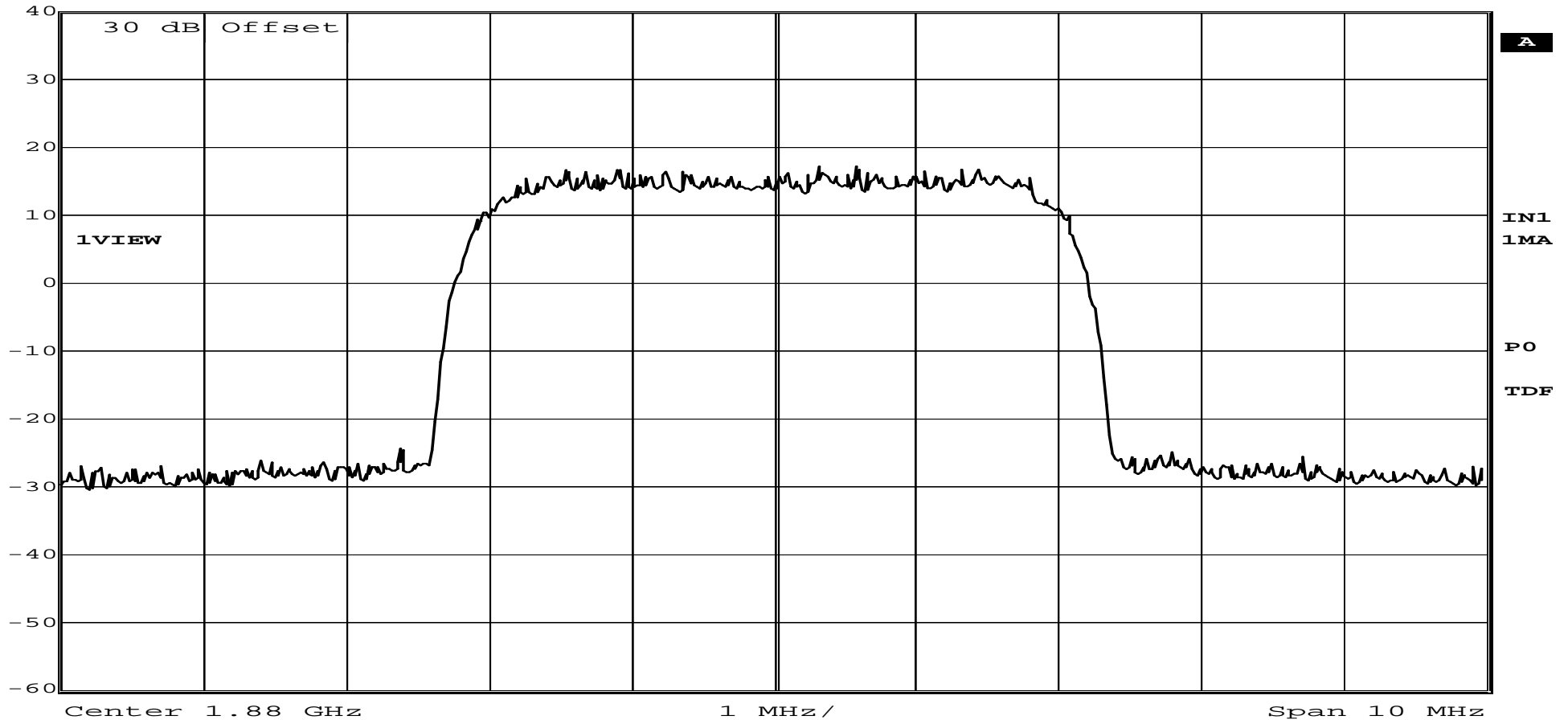
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Output at 1880 MHz		



Ref Lvl  
40 dBm

RBW	30 kHz	RF Att	30 dB
VBW	100 kHz		
SWT	28 ms	Unit	dBm



Date: 1.DEC.2010 14:39:11



# RETLIF TESTING LABORATORIES

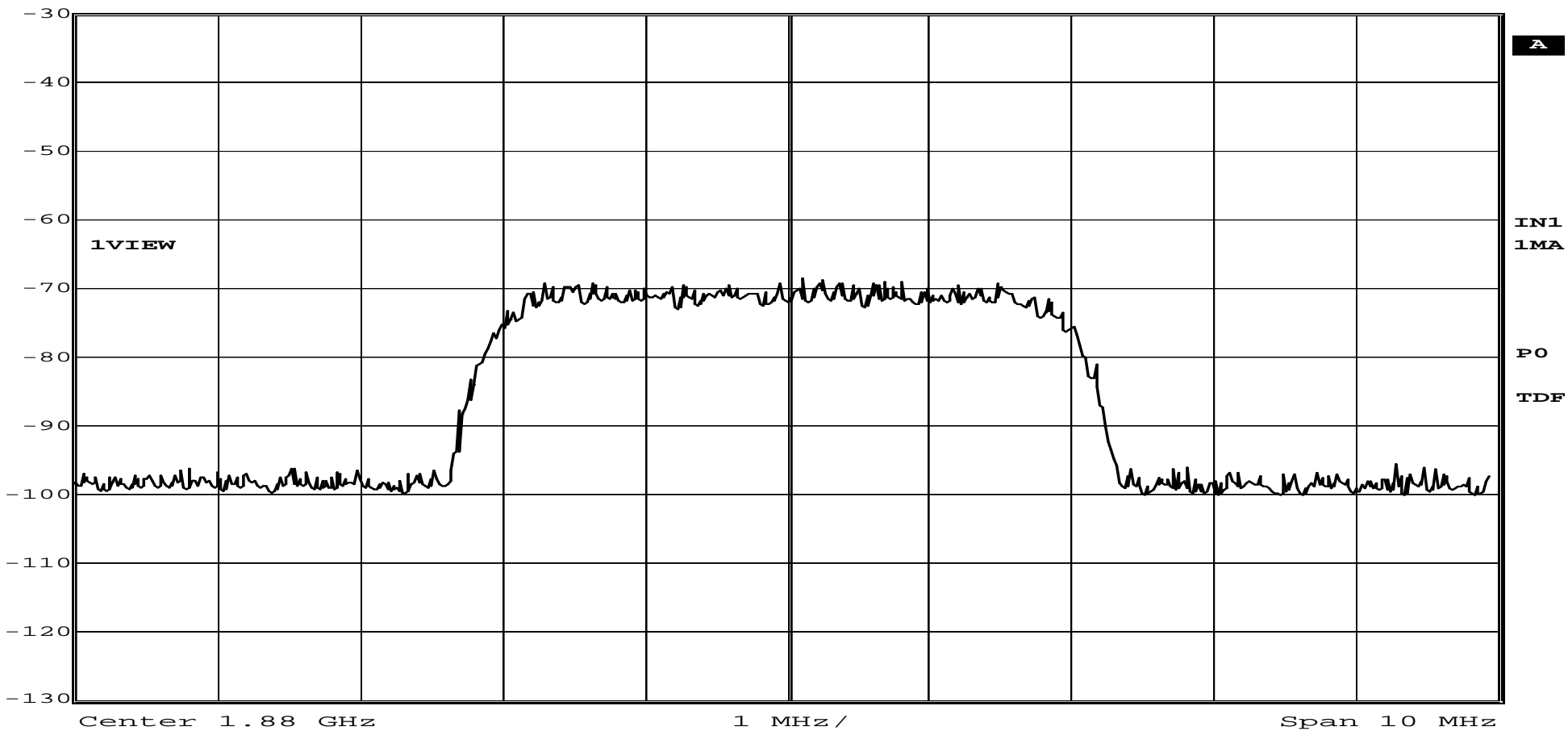
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Input at 1880 MHz		



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm

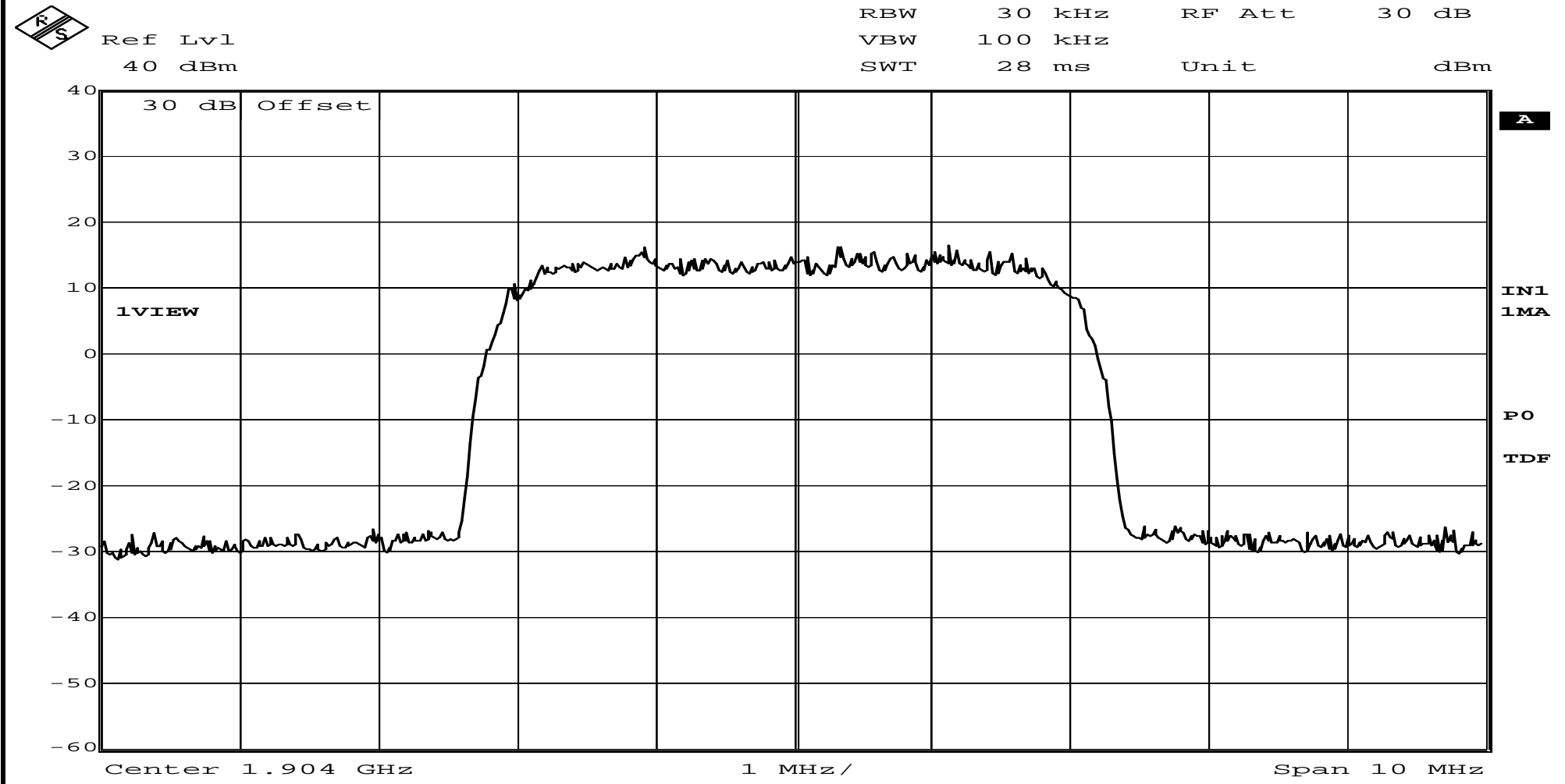


Date: 1.DEC.2010 15:57:51

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Output at 1904 MHz		



Date: 1.DEC.2010 14:38:13

# RETLIF TESTING LABORATORIES

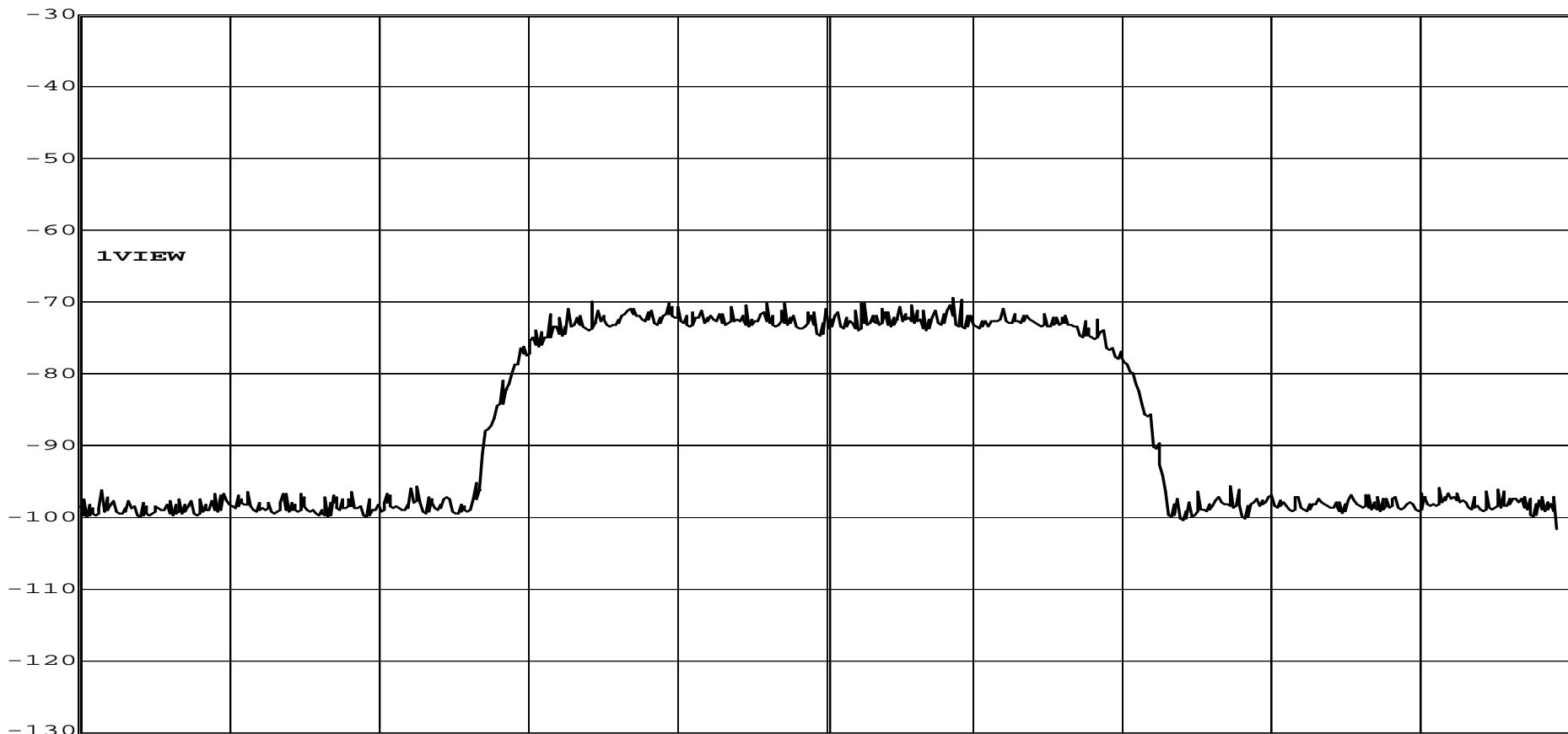
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Uplink - Input at 1904 MHz		



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Center 1.904 GHz

1 MHz /

Span 10 MHz

Date: 1.DEC.2010 15:56:51

# RETLIF TESTING LABORATORIES

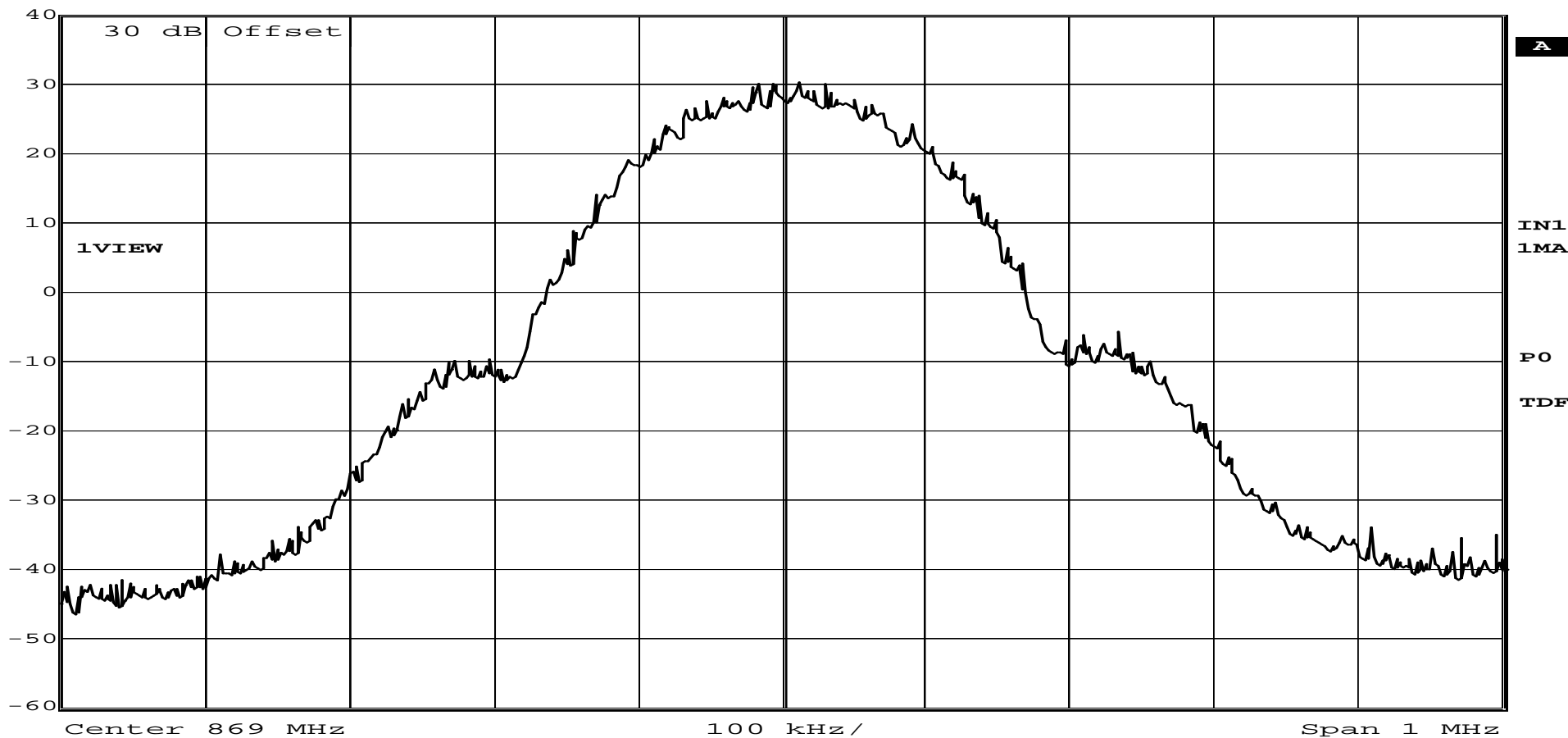
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Output at 869 MHz		



Ref Lvl  
40 dBm

RBW 3 kHz RF Att 30 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



Date: 1.DEC.2010 15:22:28

# RETLIF TESTING LABORATORIES

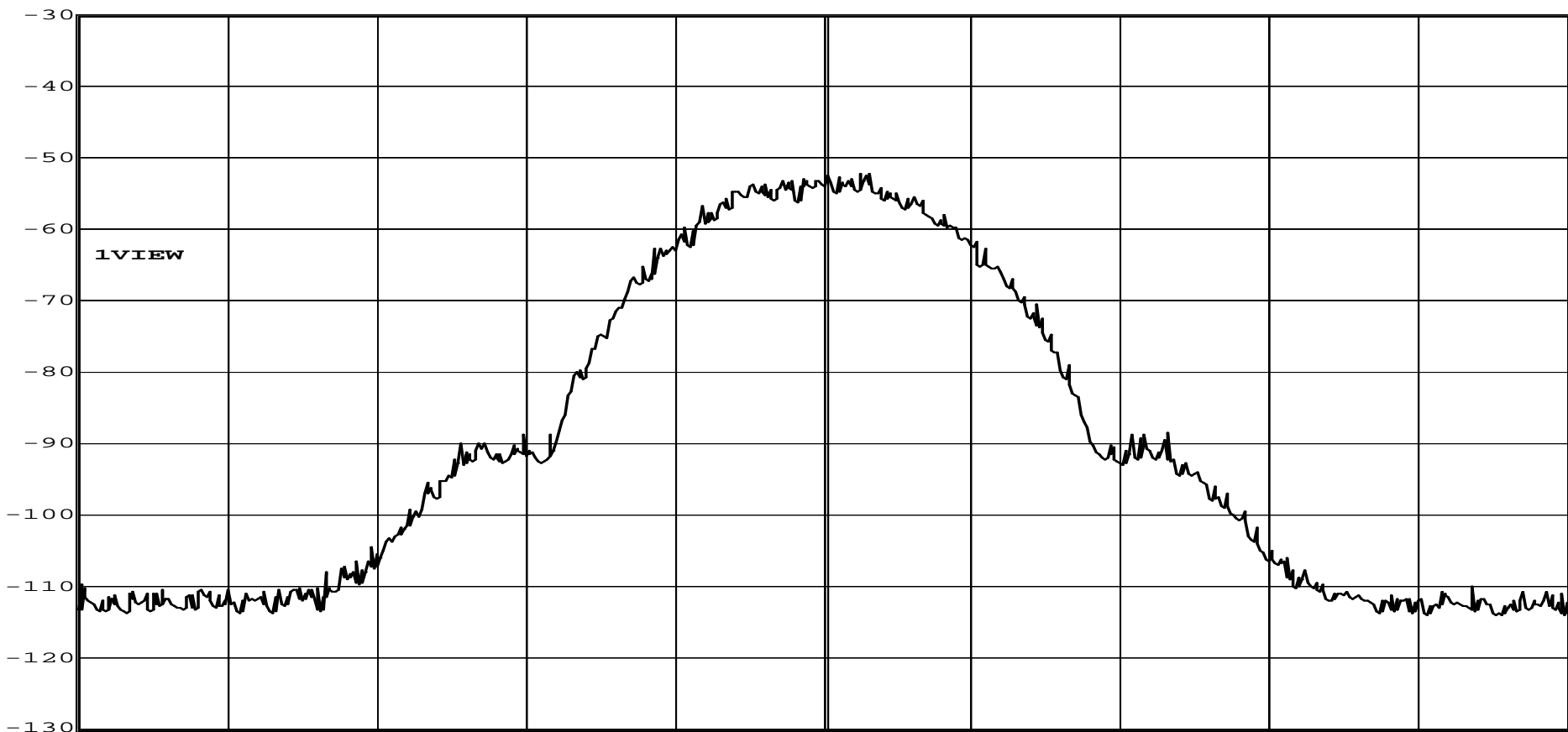
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth			
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater	
Model No:	CSI-DSP85-255-CP	Serial No:	N/A	
Test Specification:	FCC Part 2	Paragraph:	2.1049	
Operating Mode:	Amplifying input signal			
Notes:	TDMA - Downlink - Input at 869 MHz			
Job No:	R-5398N-2		Technician:	M.Seamans
Date:	12/1/2010			



Ref Lvl  
-30 dBm

RBW 3 kHz RF Att 0 dB  
VBW 10 kHz  
SWT 280 ms Unit dBm



A  
IN1  
LMA  
PO  
TDF

Center 869 MHz      100 kHz/      Span 1 MHz

Date: 1.DEC.2010 15:32:54

# RETLIF TESTING LABORATORIES

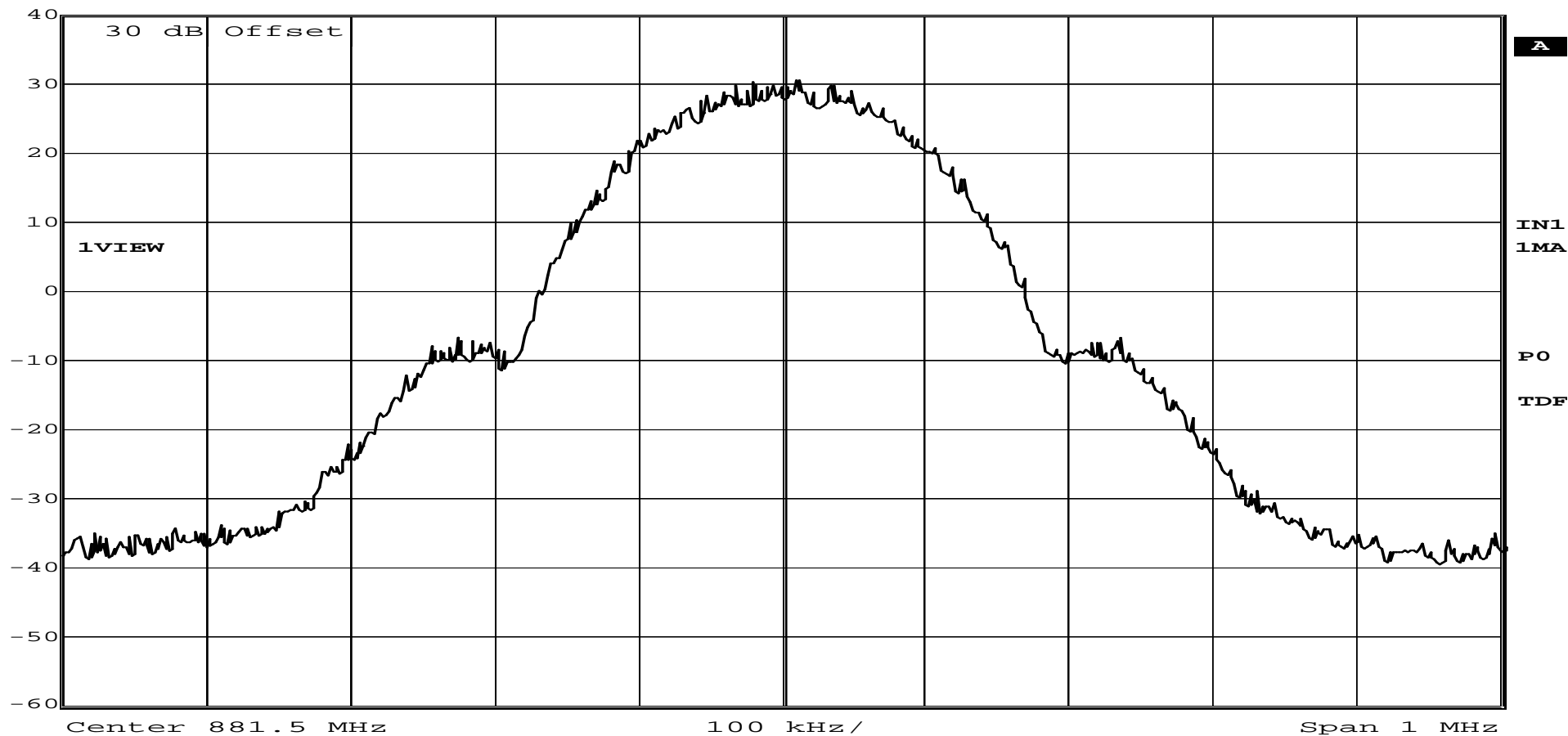
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Output at 881.5 MHz		



Ref Lvl  
40 dBm

RBW 3 kHz RF Att 30 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



Date: 1.DEC.2010 15:21:34

# RETLIF TESTING LABORATORIES

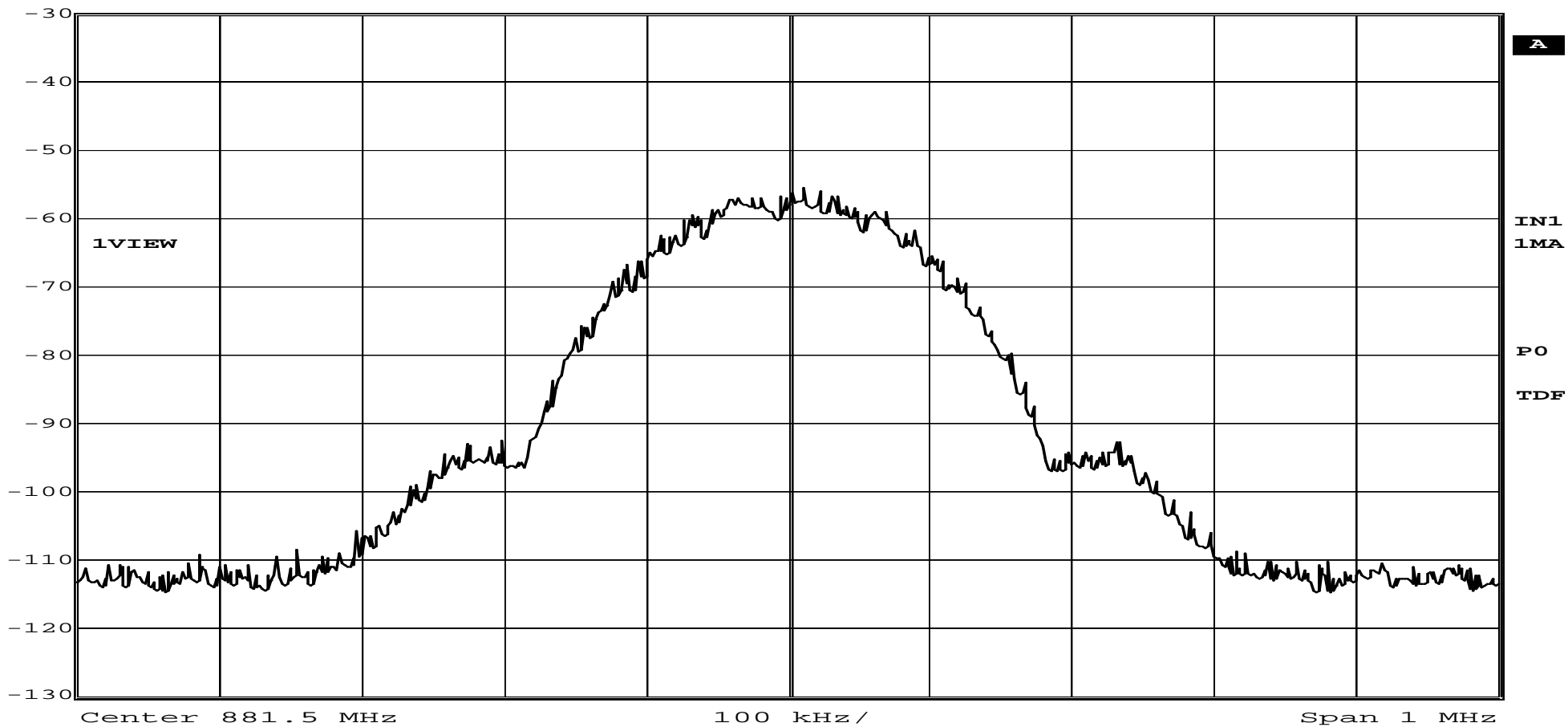
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth			
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater	
Model No:	CSI-DSP85-255-CP	Serial No:	N/A	
Test Specification:	FCC Part 2	Paragraph:	2.1049	
Operating Mode:	Amplifying input signal			
Notes:	TDMA - Downlink - Input at 881.5 MHz			
Job No:	R-5398N-2		Technician:	M.Seamans
Date:	12/1/2010			



Ref Lvl  
-30 dBm

RBW 3 kHz RF Att 0 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



Date: 1.DEC.2010 15:33:42

# RETLIF TESTING LABORATORIES

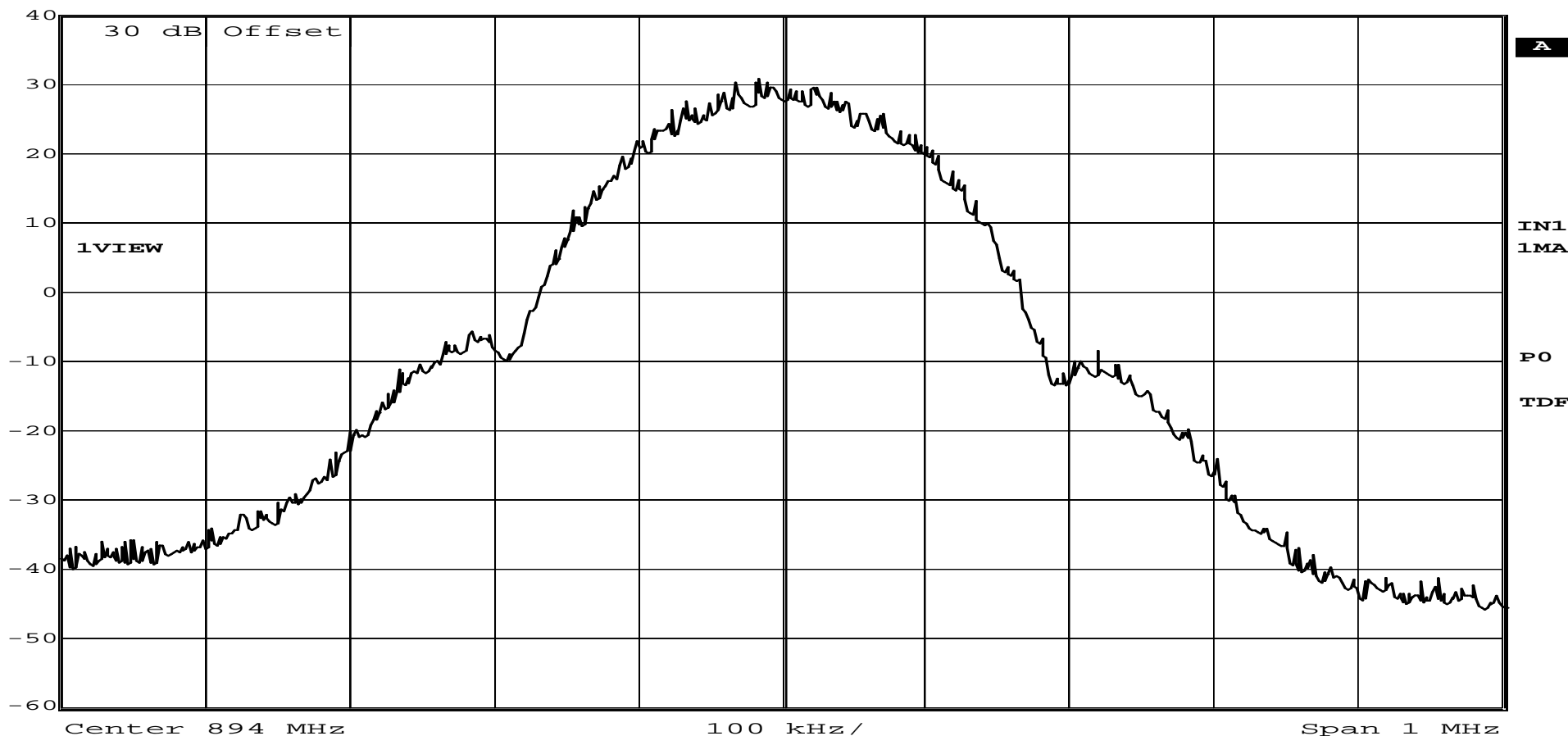
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Output at 894 MHz		



Ref Lvl  
40 dBm

RBW 3 kHz RF Att 30 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



Date: 1.DEC.2010 15:20:36



# RETLIF TESTING LABORATORIES

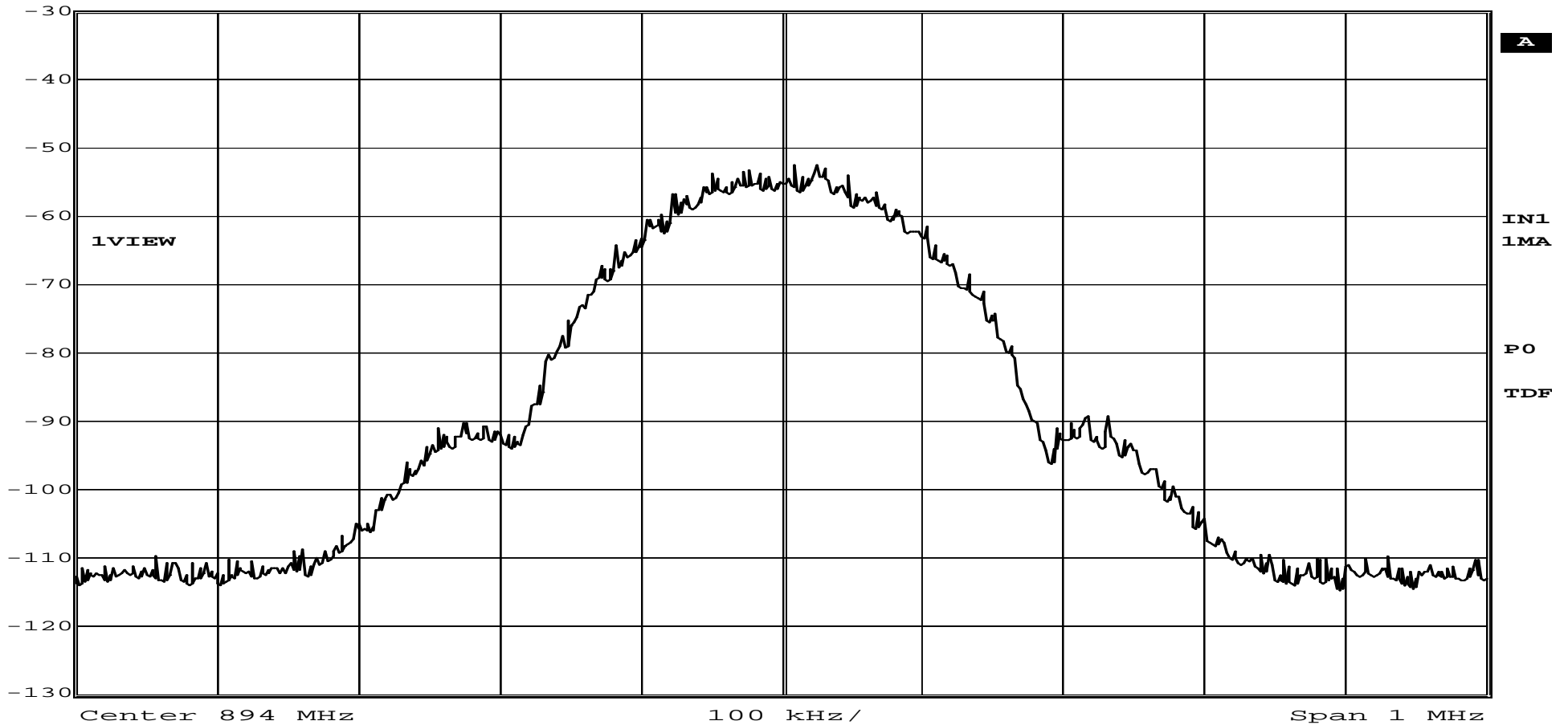
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Input at 894 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Ref Lvl  
-30 dBm

RBW 3 kHz RF Att 0 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



Date: 1.DEC.2010 15:34:20

# RETLIF TESTING LABORATORIES

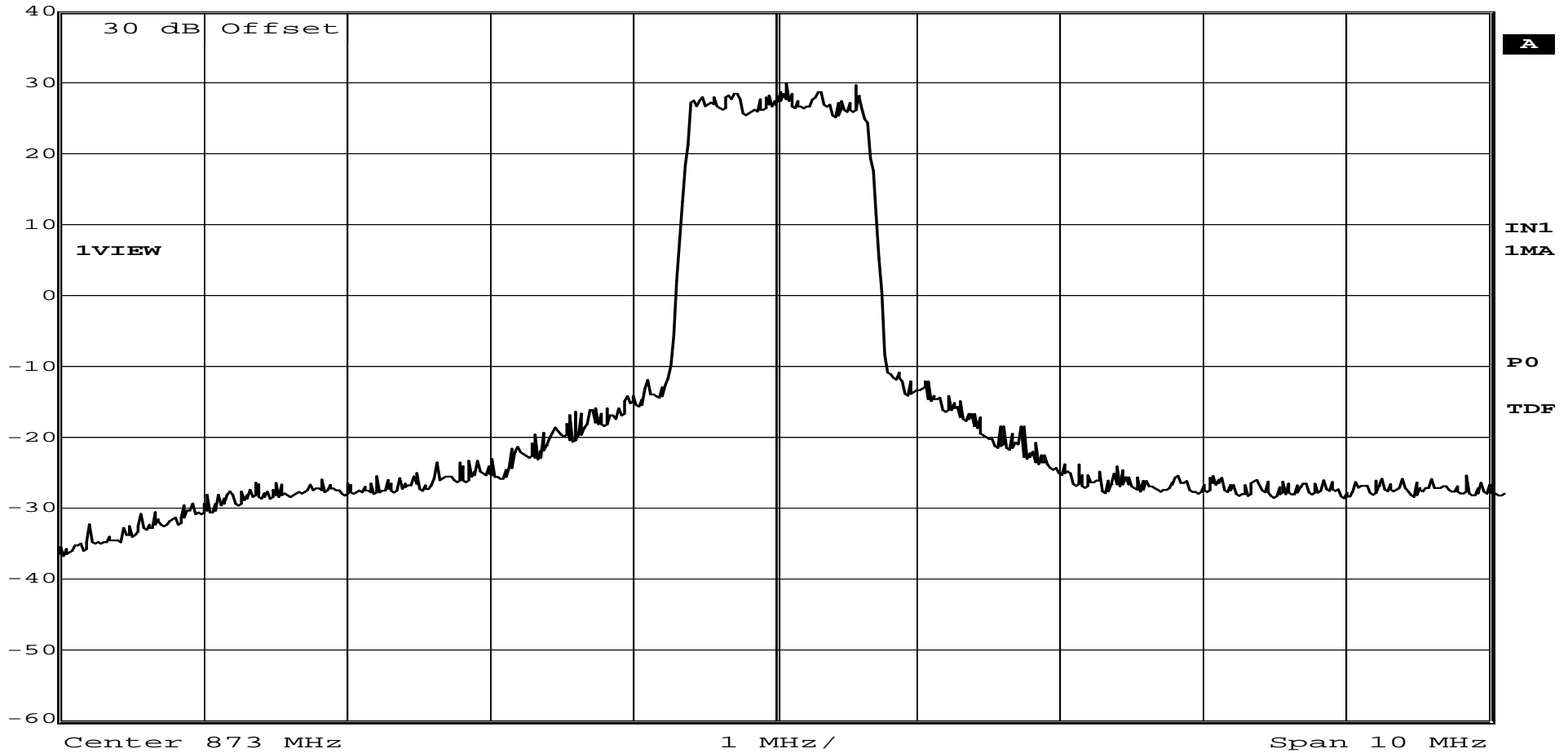
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink - Output at 873 MHz		



Ref Lvl  
40 dBm

RBW	30 kHz	RF Att	30 dB
VBW	100 kHz	Unit	dBm
SWT	28 ms		



Date: 1 DEC 2010 15:12:03



# RETLIF TESTING LABORATORIES

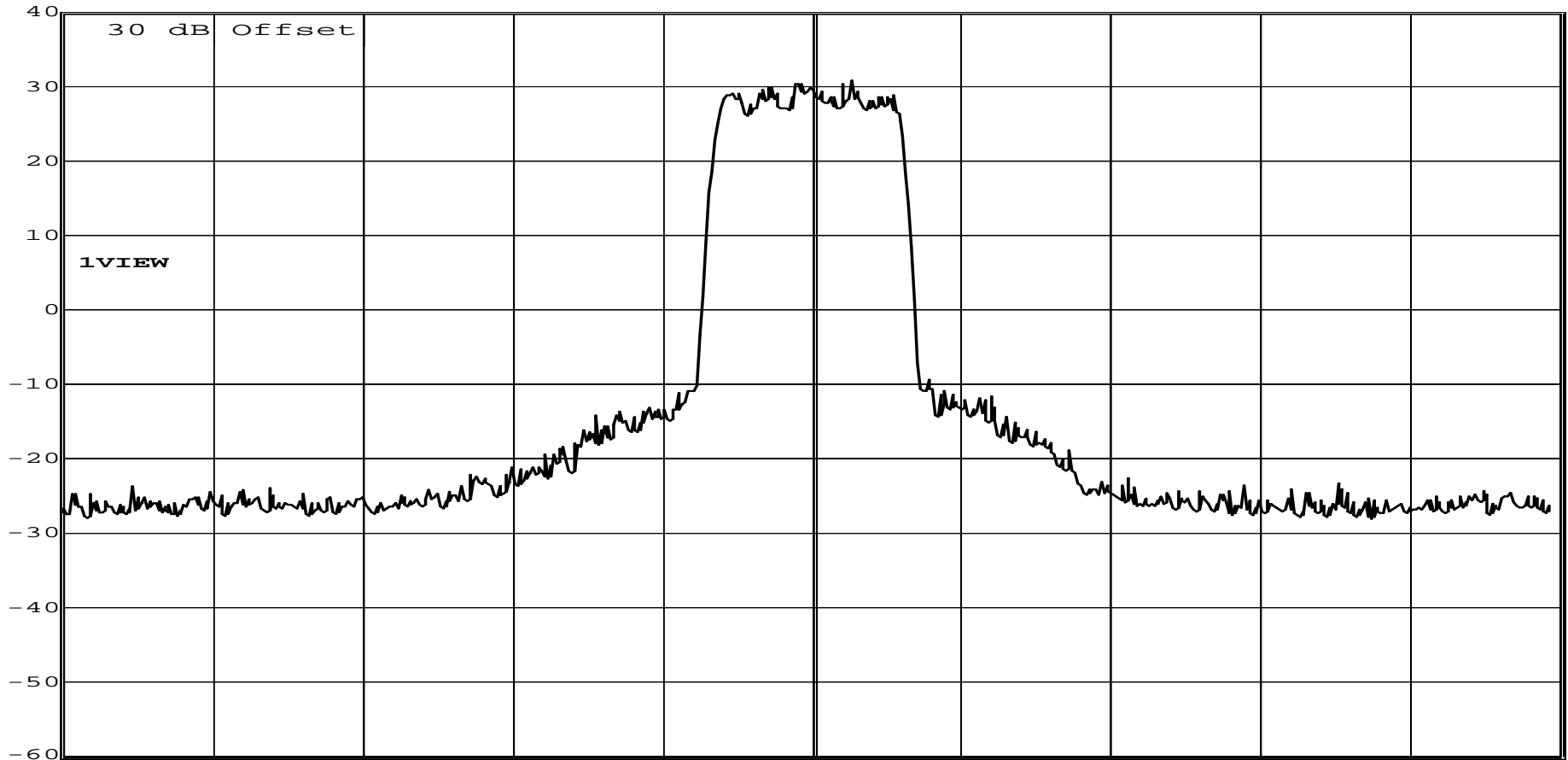
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink - Output at 881.5 MHz		



Ref Lvl  
40 dBm

RBW 30 kHz RF Att 30 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Center 881.5 MHz      1 MHz /      Span 10 MHz

Date: 1 .DEC. 2010 15:12:45

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink - Input at 881.5 MHz		



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Center 881.5 MHz      1 MHz/      Span 10 MHz

Date: 1.DEC.2010 15:38:28

# RETLIF TESTING LABORATORIES

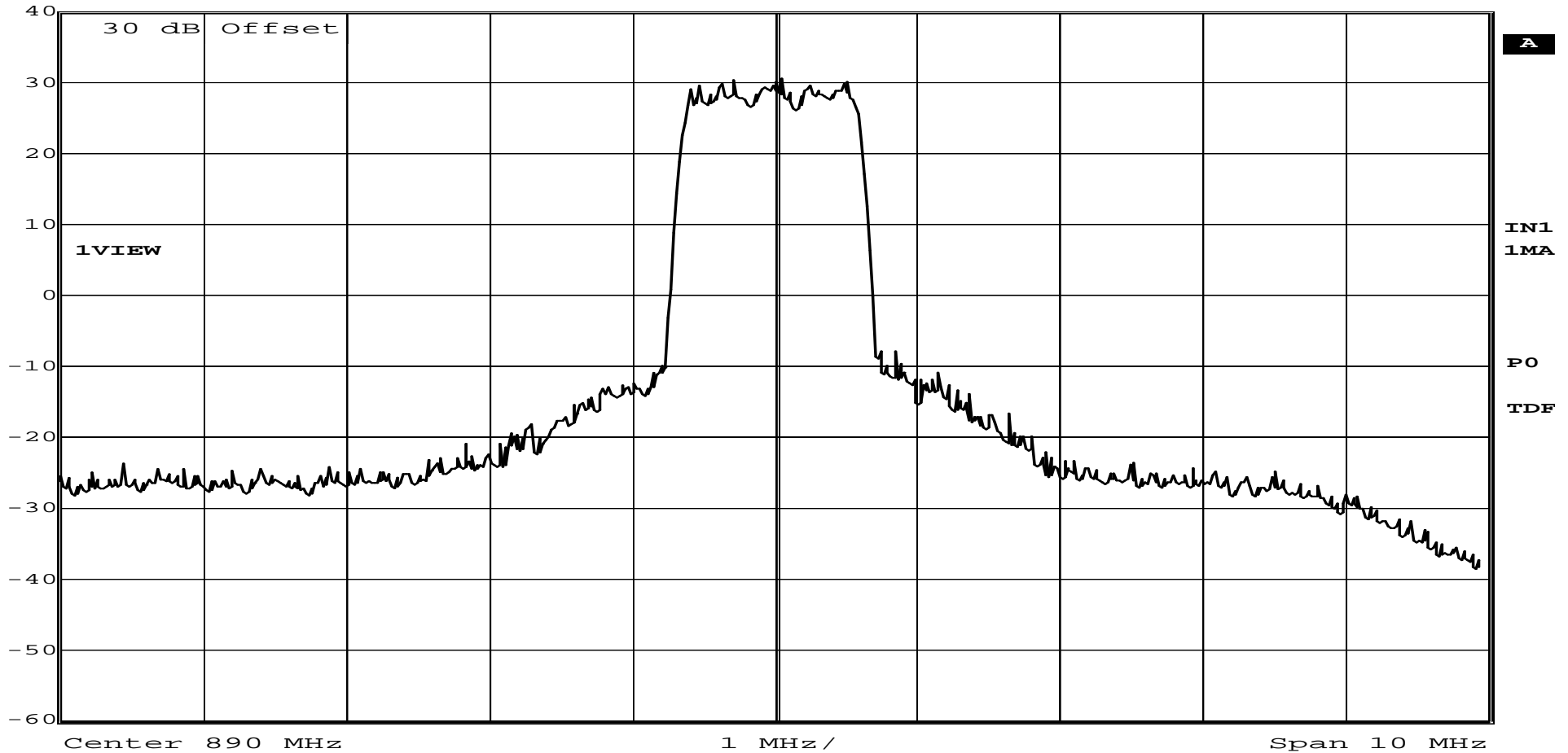
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink - Output at 890 MHz		



Ref Lvl  
40 dBm

RBW 30 kHz RF Att 30 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Date: 1.DEC.2010 15:13:46



# RETLIF TESTING LABORATORIES

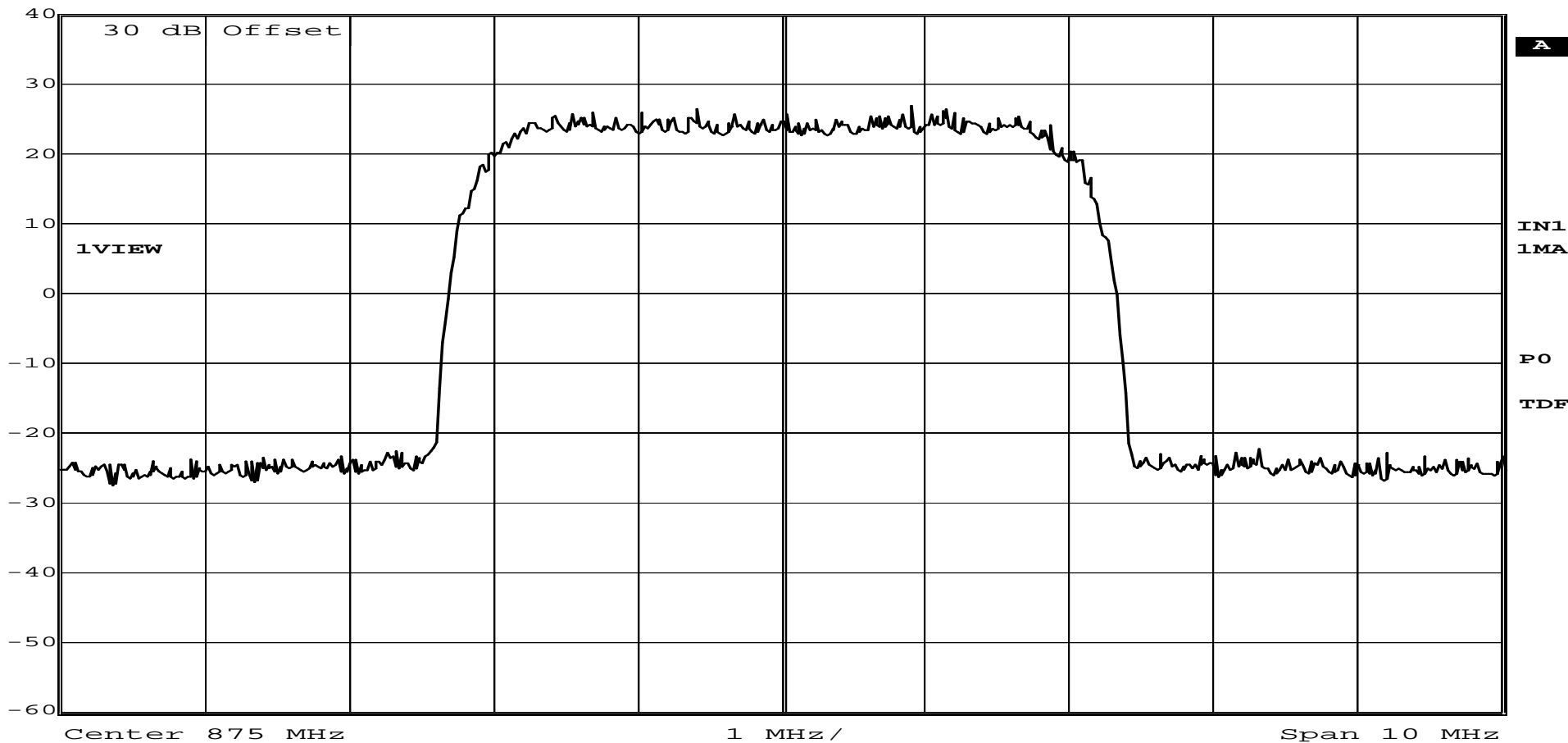
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink - Output at 875 MHz		



Ref Lvl  
40 dBm

RBW	30 kHz	RF Att	30 dB
VBW	100 kHz		
SWT	28 ms	Unit	dBm



Date: 1.DEC.2010 15:10:42



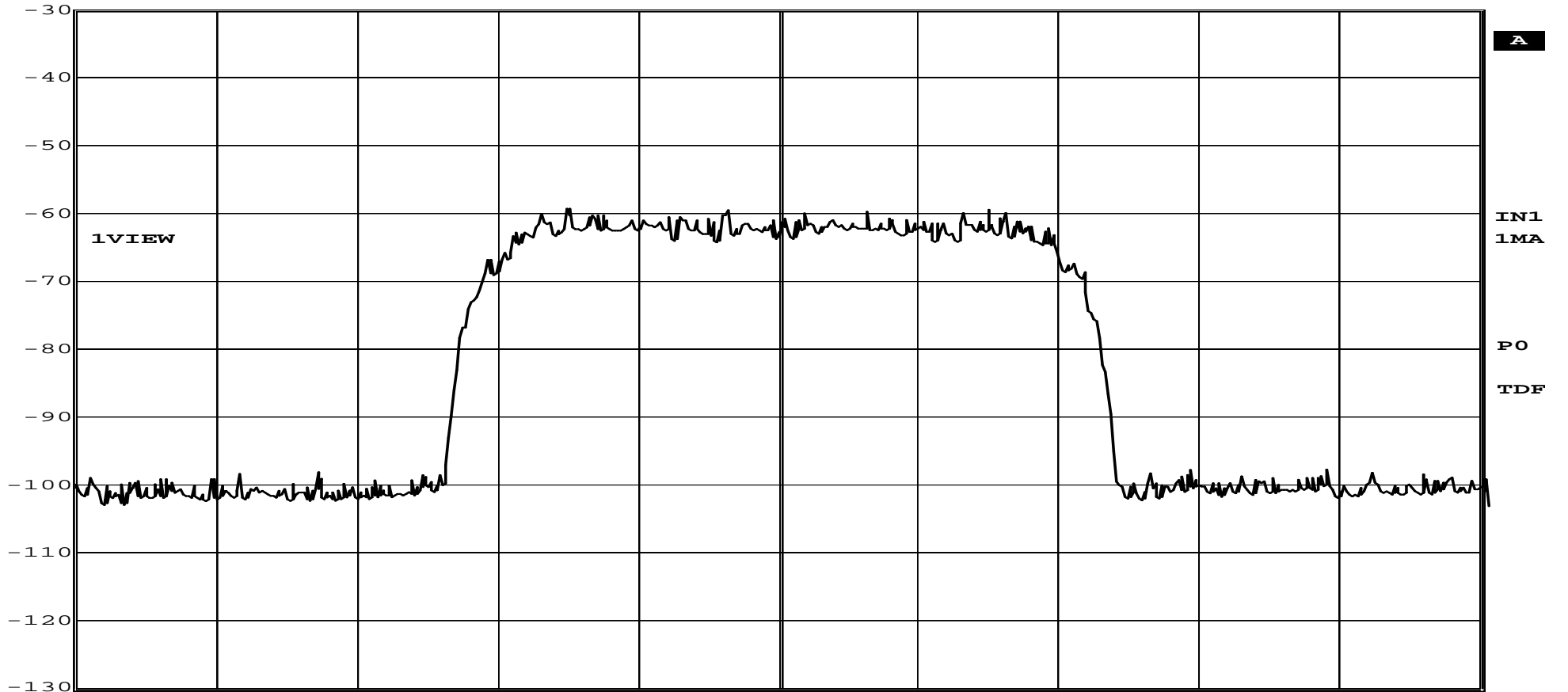
# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink - Input at 875 MHz		



Ref Lvl	RBW	30 kHz	RF Att	0 dB
-30 dBm	VBW	100 kHz	Unit	dBm
	SWT	28 ms		



Center 875 MHz
1 MHz /
Span 10 MHz

Date: 1.DEC.2010 15:45:08

# RETLIF TESTING LABORATORIES

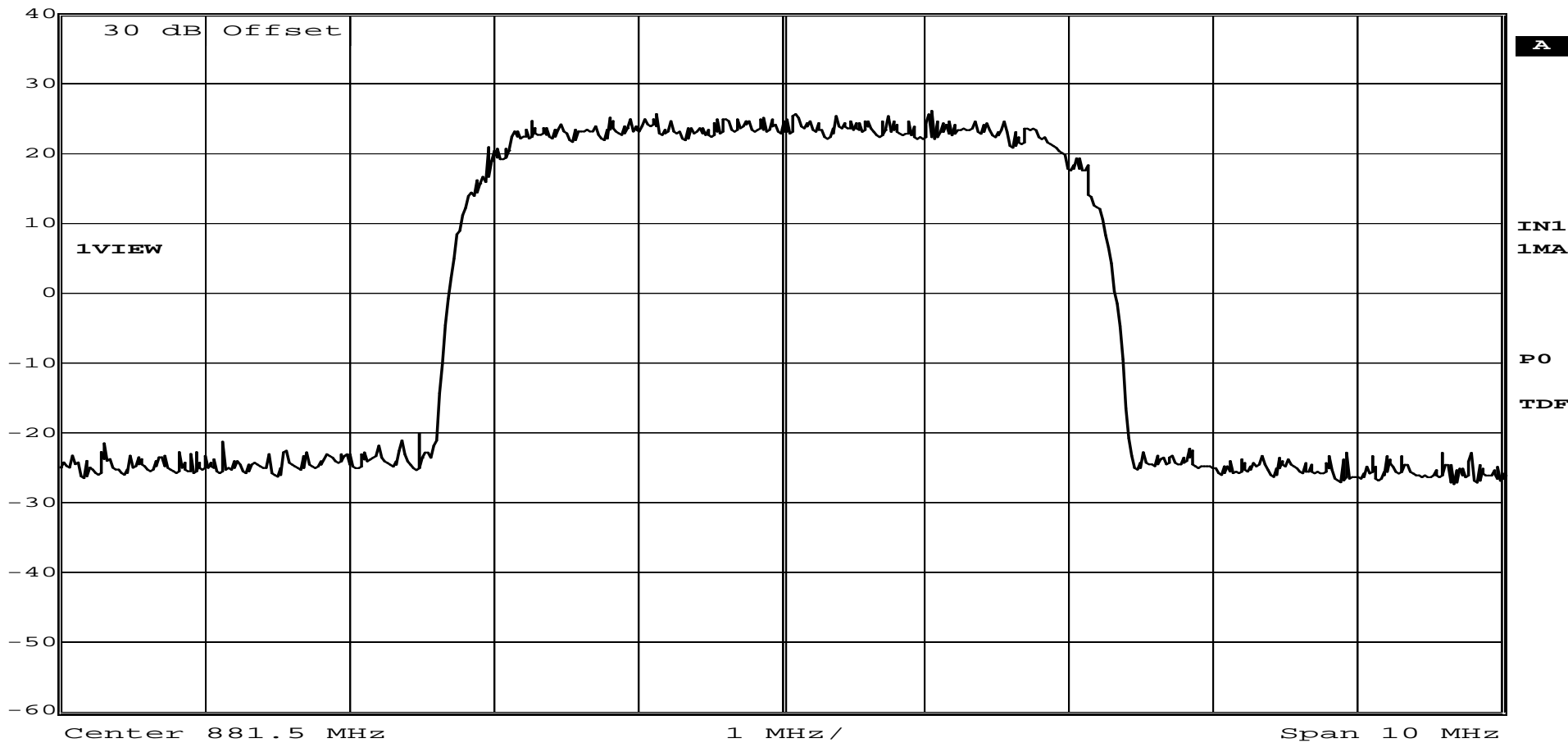
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink - Output at 881.5 MHz		



Ref Lvl  
40 dBm

RBW	30 kHz	RF Att	30 dB
VBW	100 kHz		
SWT	28 ms	Unit	dBm



Date: 1.DEC.2010 15:09:46

# RETLIF TESTING LABORATORIES

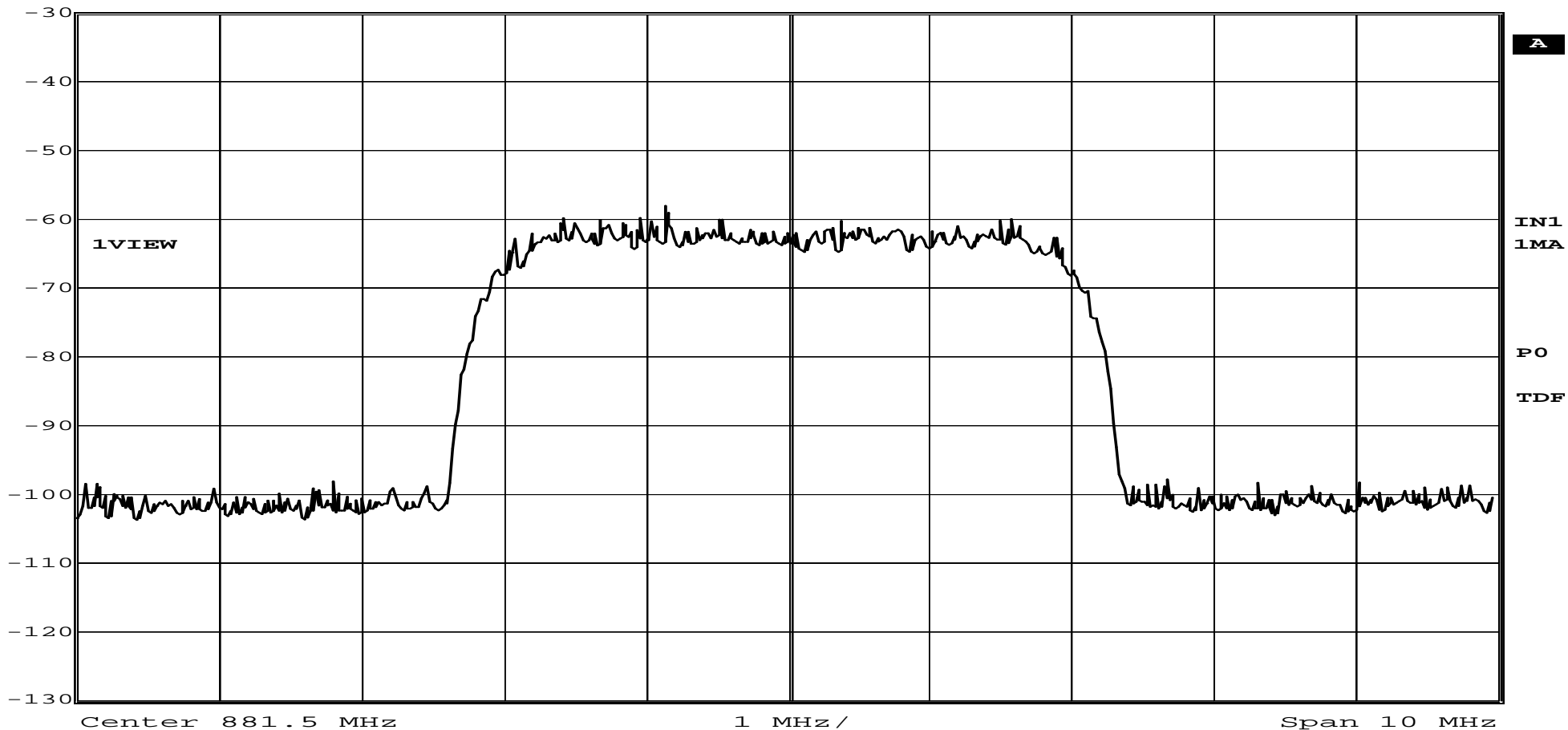
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth			
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater	
Model No:	CSI-DSP85-255-CP	Serial No:	N/A	
Test Specification:	FCC Part 2	Paragraph:	2.1049	
Operating Mode:	Amplifying input signal			
Notes:	WCDMA - Downlink - Input at 881.5 MHz			
Job No:	R-5398N-2		Technician:	M.Seamans
Date:	12/1/2010			



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
VBW 100 kHz  
SWT 28 ms Unit dBm



Date: 1.DEC.2010 15:44:34

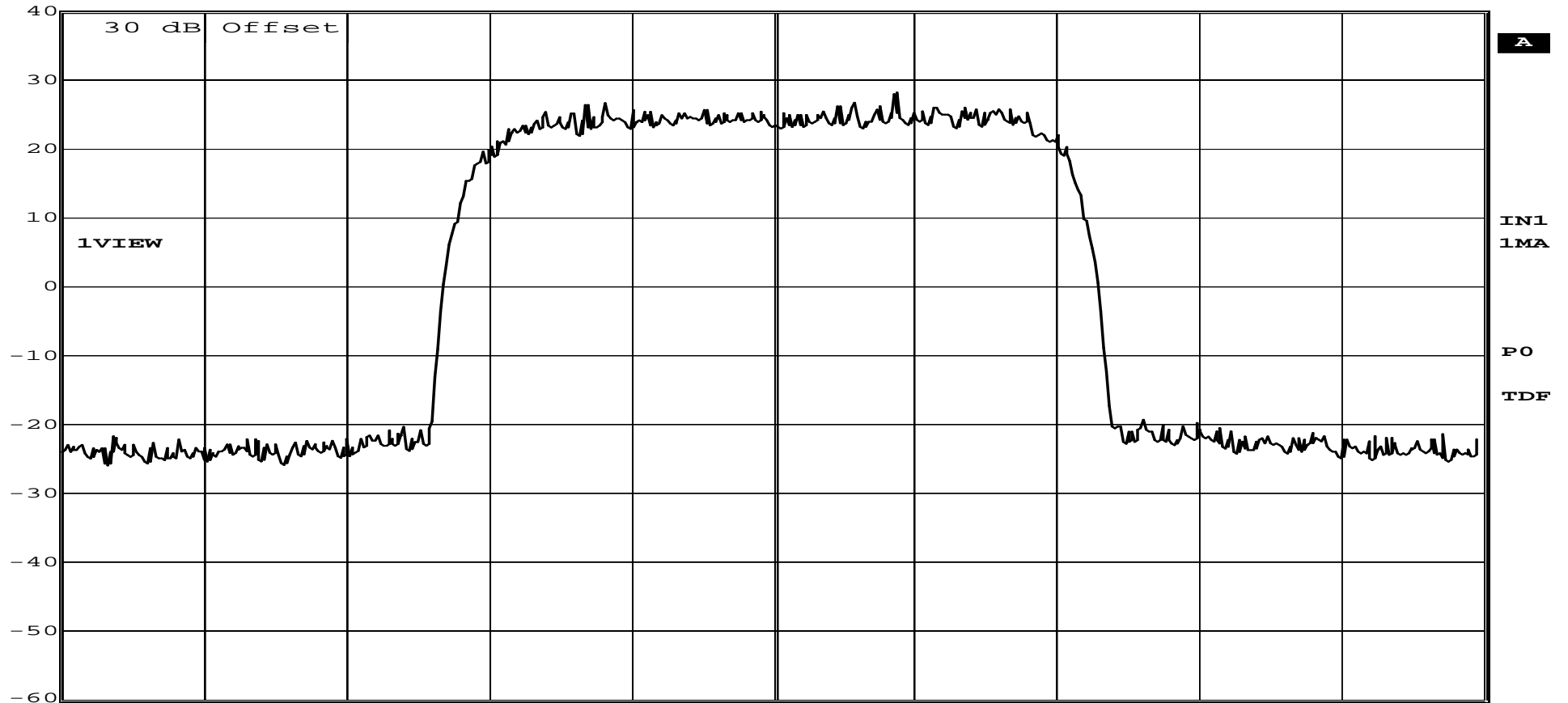
# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink - Output at 888 MHz		



Ref Lvl	RBW	30 kHz	RF Att	30 dB
40 dBm	VBW	100 kHz	Unit	dBm
	SWT	28 ms		



Center 888 MHz
1 MHz /
Span 10 MHz

Date: 1.DEC.2010 15:09:00

# RETLIF TESTING LABORATORIES

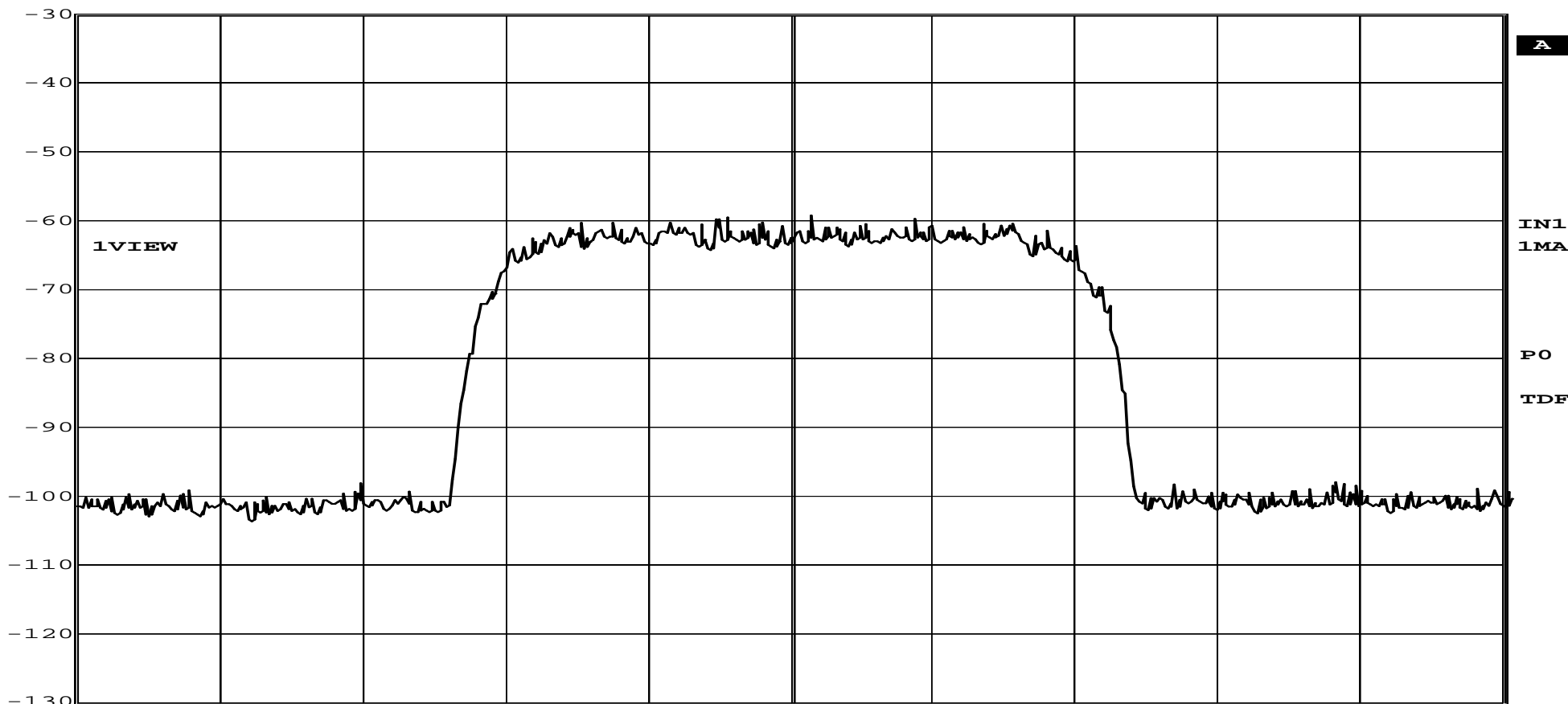
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink - Input at 888 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Date: 1.DEC.2010 15:44:04

# RETLIF TESTING LABORATORIES

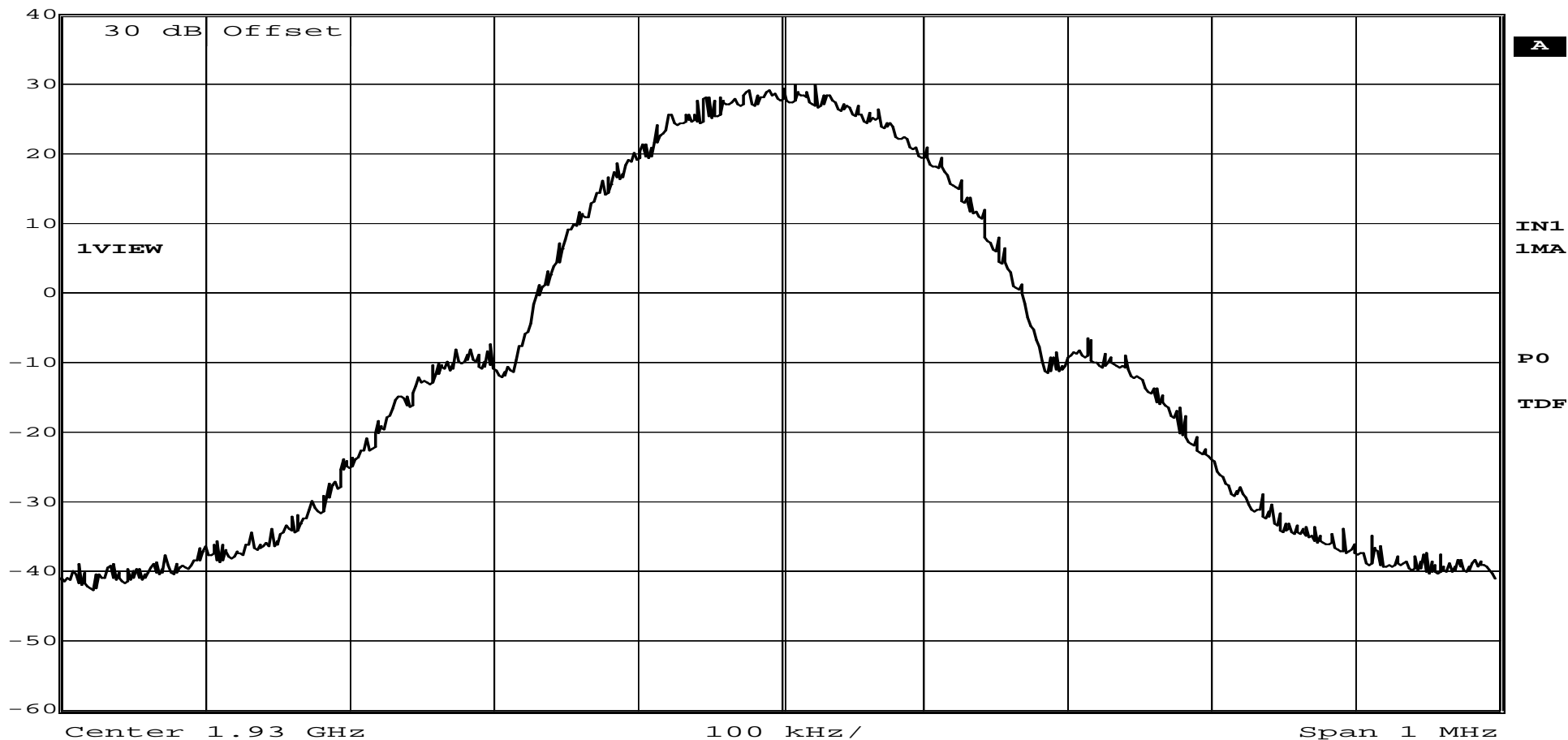
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Output at 1930 MHz		



Ref Lvl  
40 dBm

RBW 3 kHz RF Att 30 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm

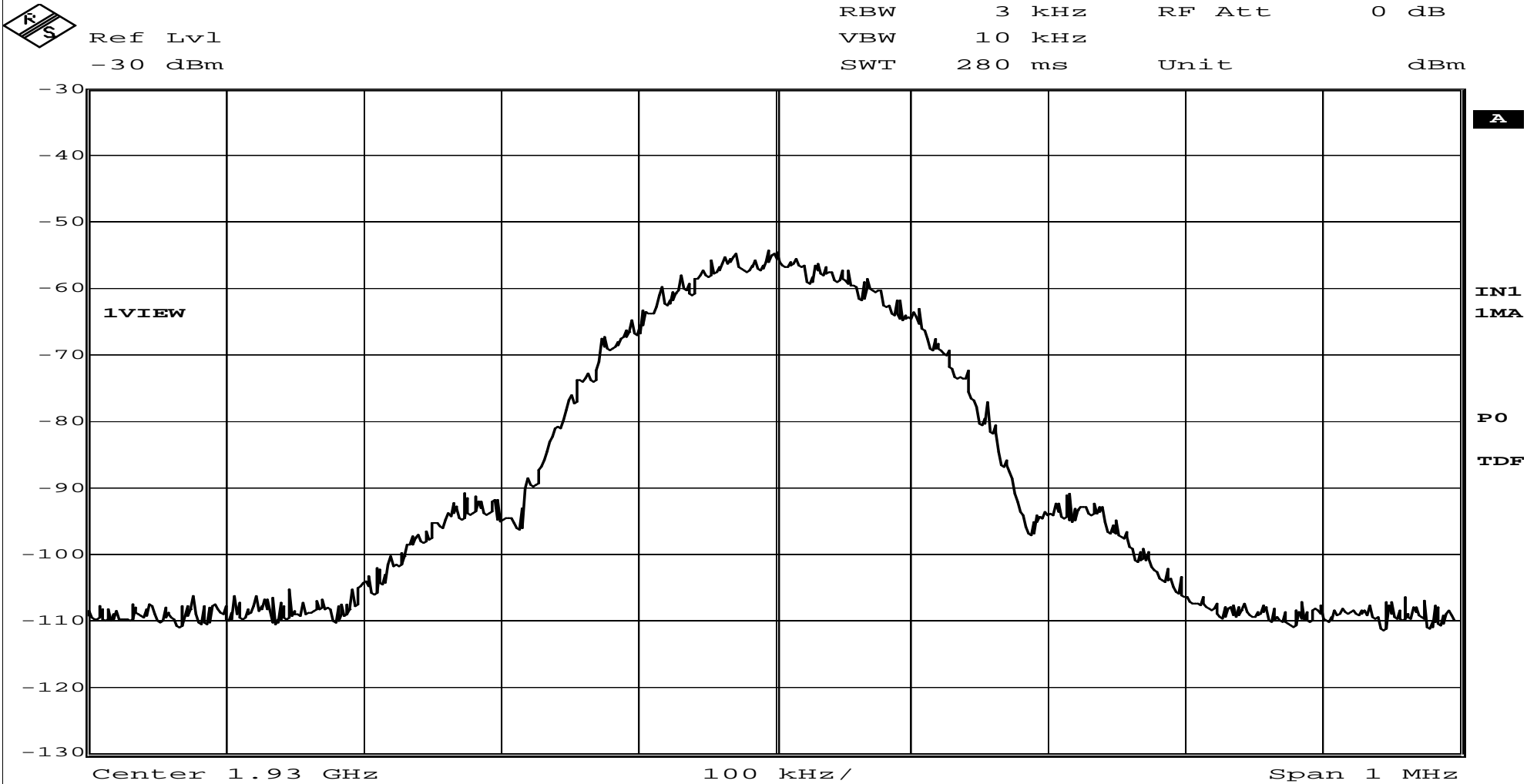


Date: 1.DEC.2010 15:19:31

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Input at 1930 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Date:                      1.DEC.2010    15:35:38

# RETLIF TESTING LABORATORIES

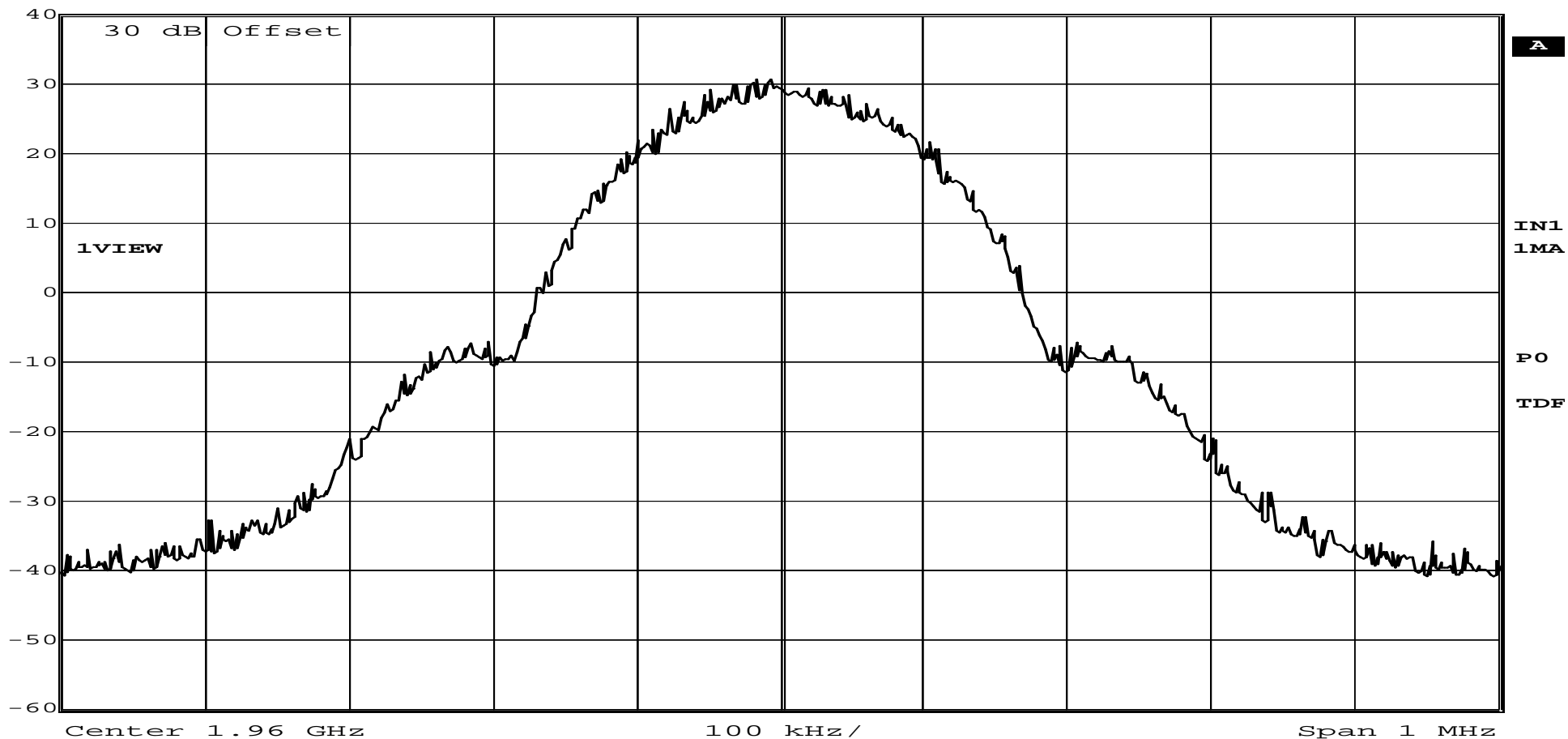
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Output at 1960 MHz		



Ref Lvl  
40 dBm

RBW 3 kHz RF Att 30 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



Date: 1.DEC.2010 15:18:34



# RETLIF TESTING LABORATORIES

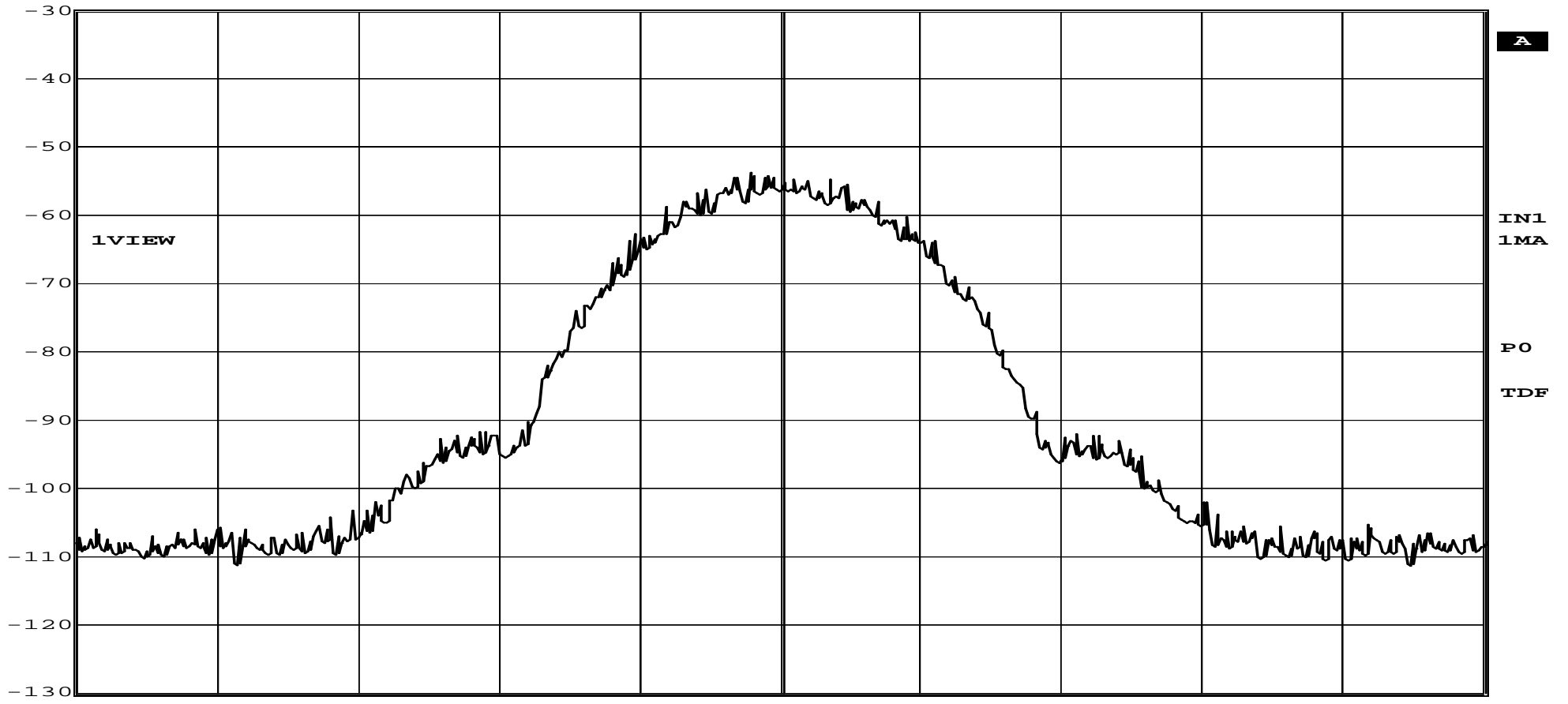
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Input at 1960 MHz		



Ref Lvl  
-30 dBm

RBW 3 kHz RF Att 0 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



Date: 1.DEC.2010 15:36:06

# RETLIF TESTING LABORATORIES

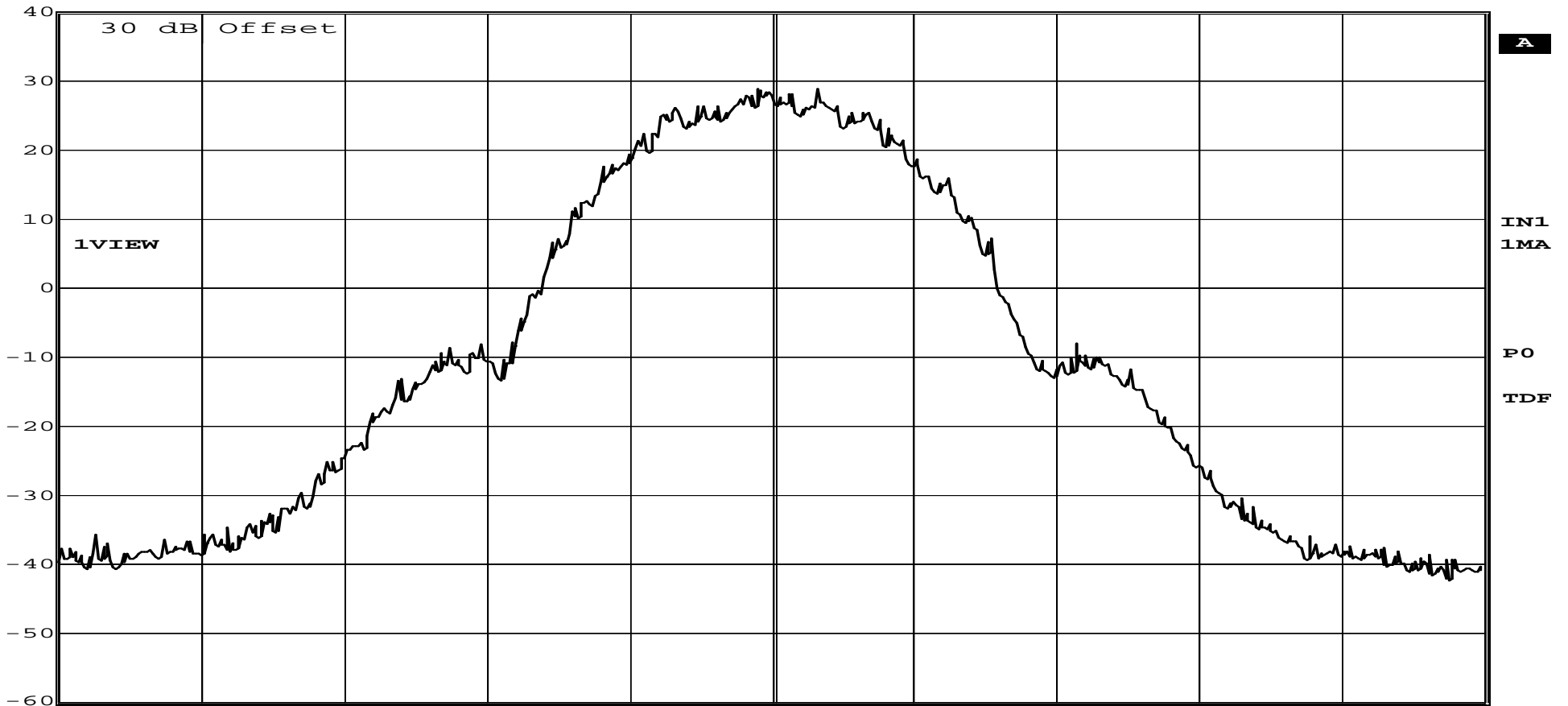
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Output at 1990 MHz		
Job No:	R-5398N-2		Technician:
		M.Seamans	



Ref Lvl  
40 dBm

RBW 3 kHz RF Att 30 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



Center 1.99 GHz 100 kHz/ Span 1 MHz

Date: 1.DEC.2010 15:17:47

# RETLIF TESTING LABORATORIES

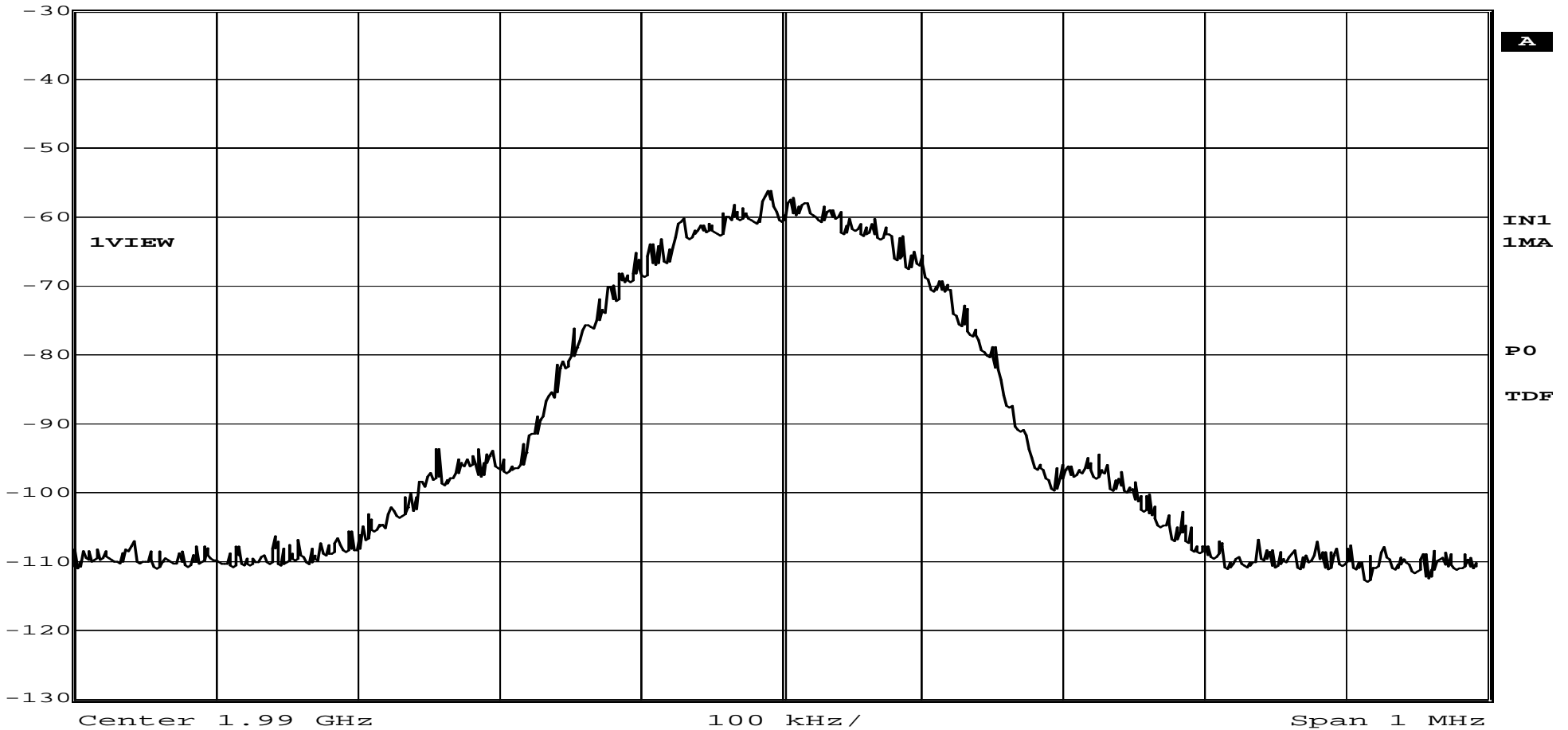
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	TDMA - Downlink - Input at 1990 MHz		



Ref Lvl  
-30 dBm

RBW 3 kHz RF Att 0 dB  
 VBW 10 kHz  
 SWT 280 ms Unit dBm



Date: 1 DEC 2010 15:36:45

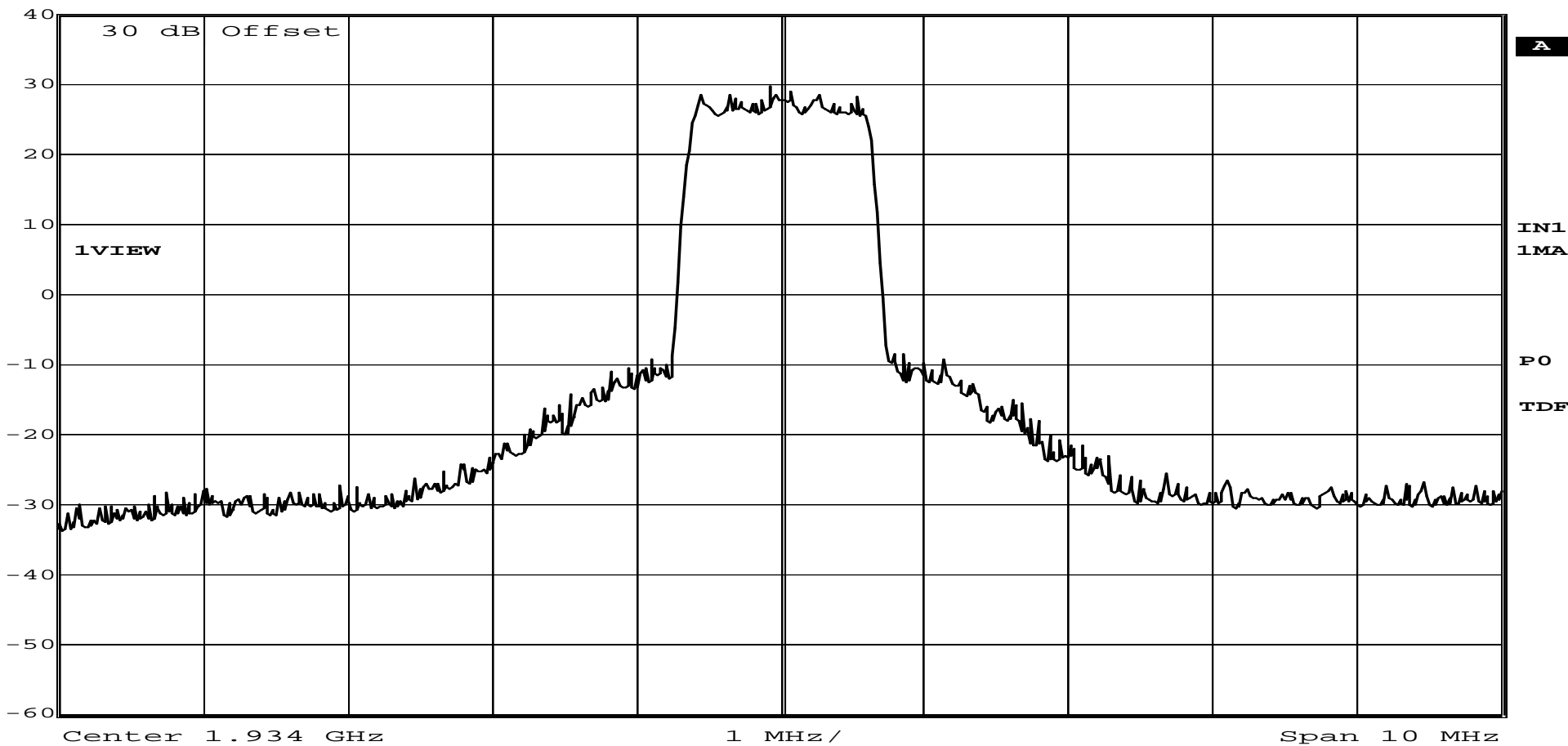
# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink - Output at 873 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Ref Lvl 40 dBm	RBW 30 kHz	RF Att 30 dB	
	VBW 100 kHz		
	SWT 28 ms	Unit dBm	



Date: 1.DEC.2010 15:14:46

# RETLIF TESTING LABORATORIES

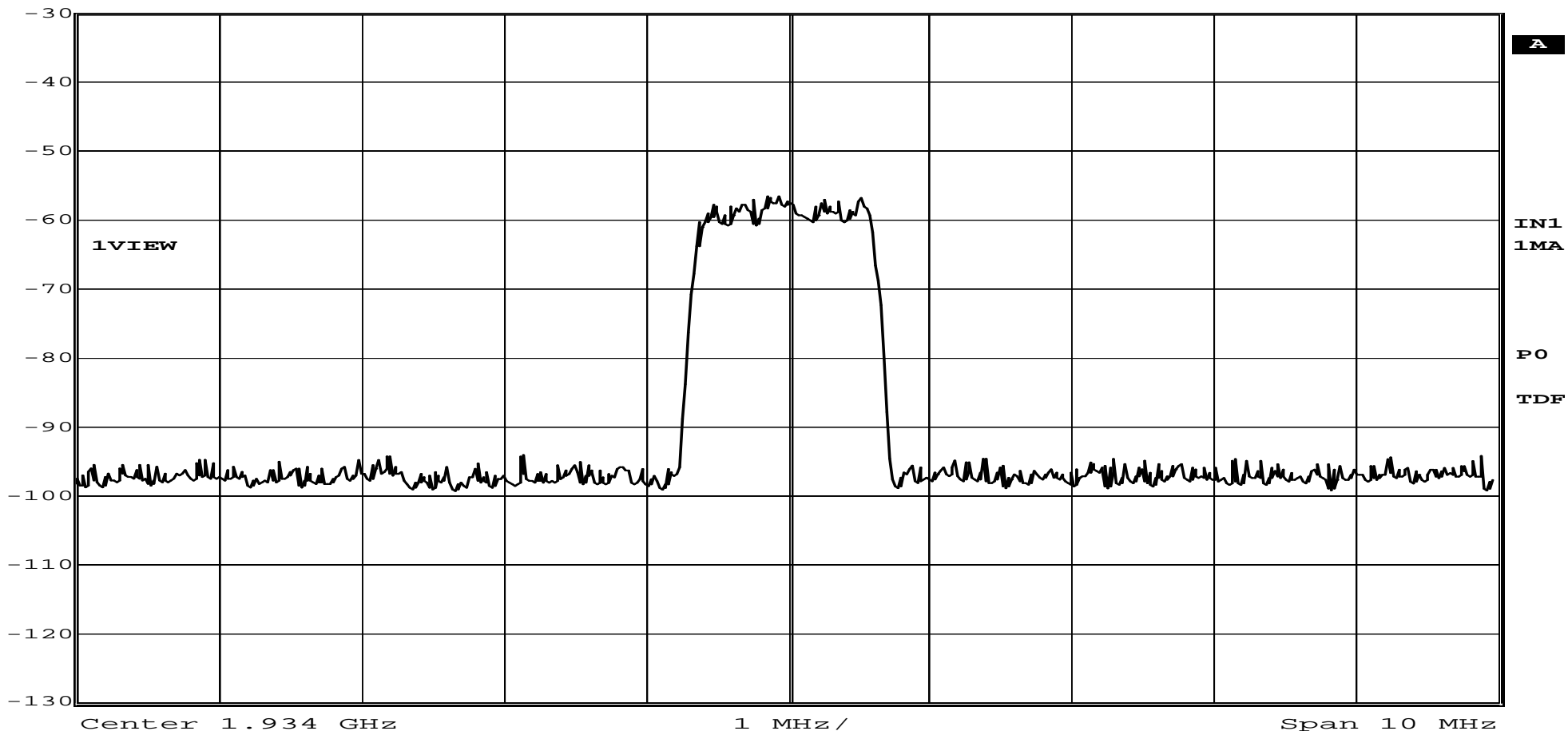
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink - Input at 873 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Ref Lvl  
-30 dBm

RBW	30 kHz	RF Att	0 dB
VBW	100 kHz	Unit	dBm
SWT	28 ms		



Date: 1.DEC.2010 15:39:39

# RETLIF TESTING LABORATORIES

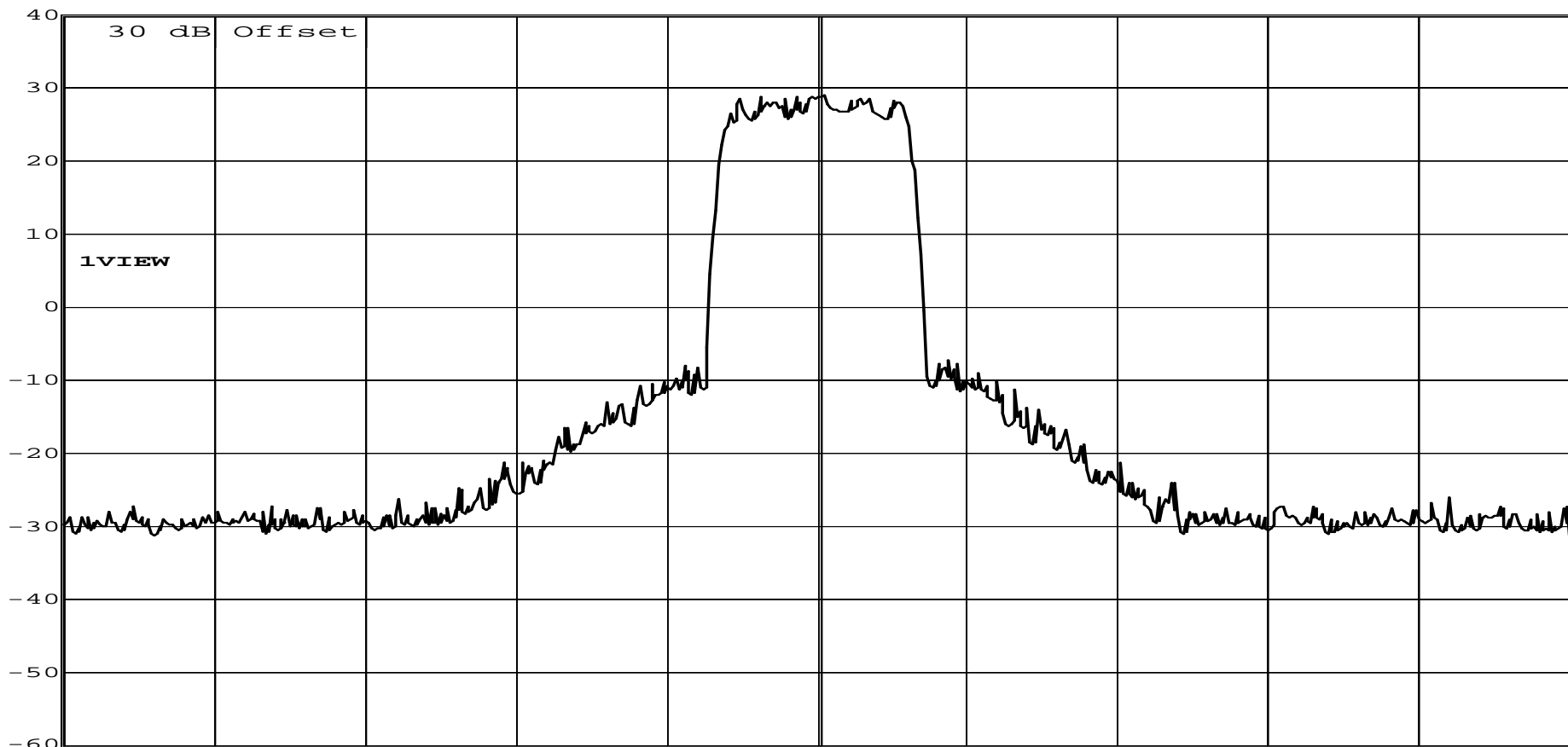
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink - Output at 881.5 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Ref Lvl  
40 dBm

RBW 30 kHz RF Att 30 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Center 1.96 GHz

1 MHz/

Span 10 MHz

Date: 1.DEC.2010 15:15:25

# RETLIF TESTING LABORATORIES

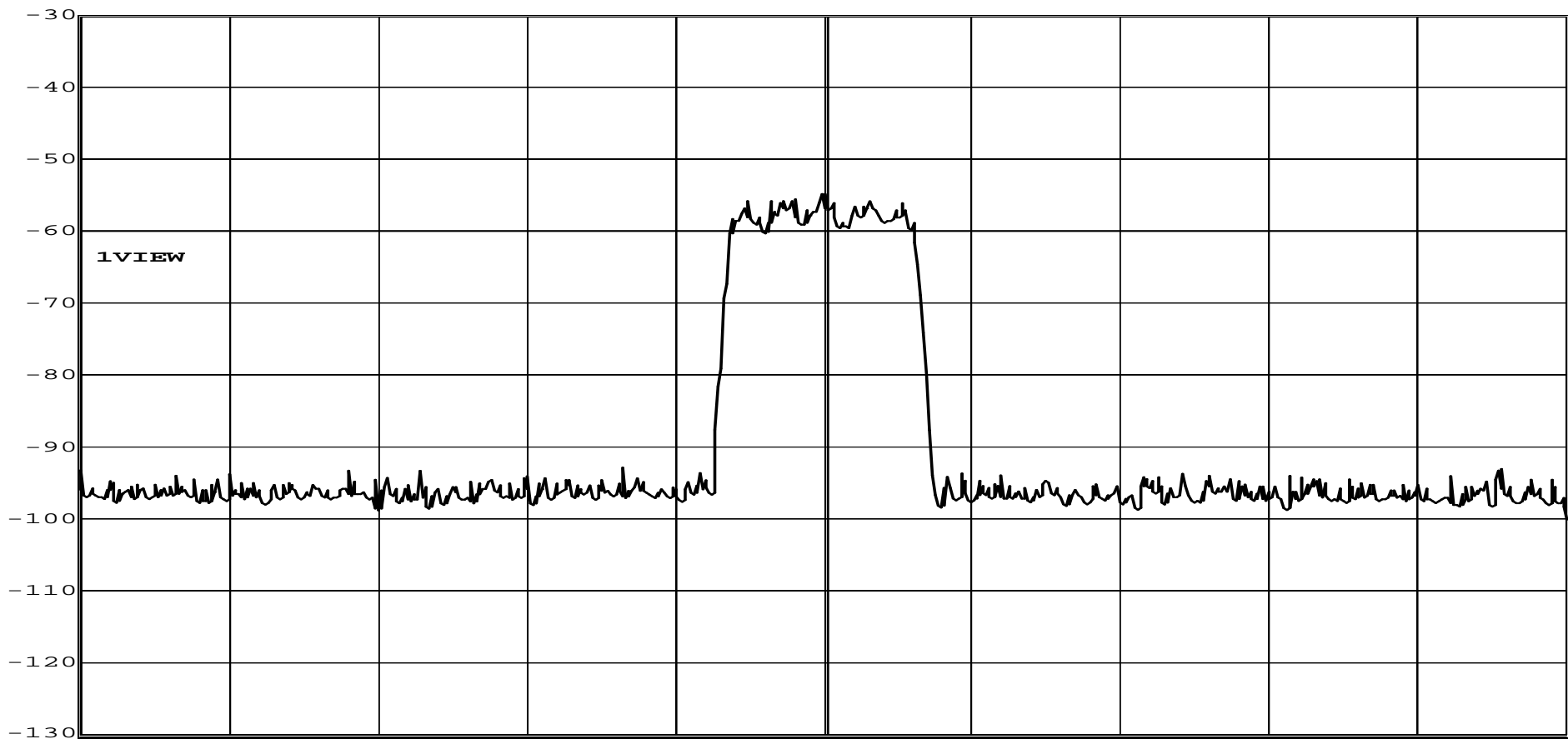
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth			
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater	
Model No:	CSI-DSP85-255-CP	Serial No:	N/A	
Test Specification:	FCC Part 2	Paragraph:	2.1049	
Operating Mode:	Amplifying input signal			
Notes:	CDMA IS-95 - Downlink - Input at 881.5 MHz			
Job No:	R-5398N-2		Technician:	M.Seamans
Date:	12/1/2010			



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



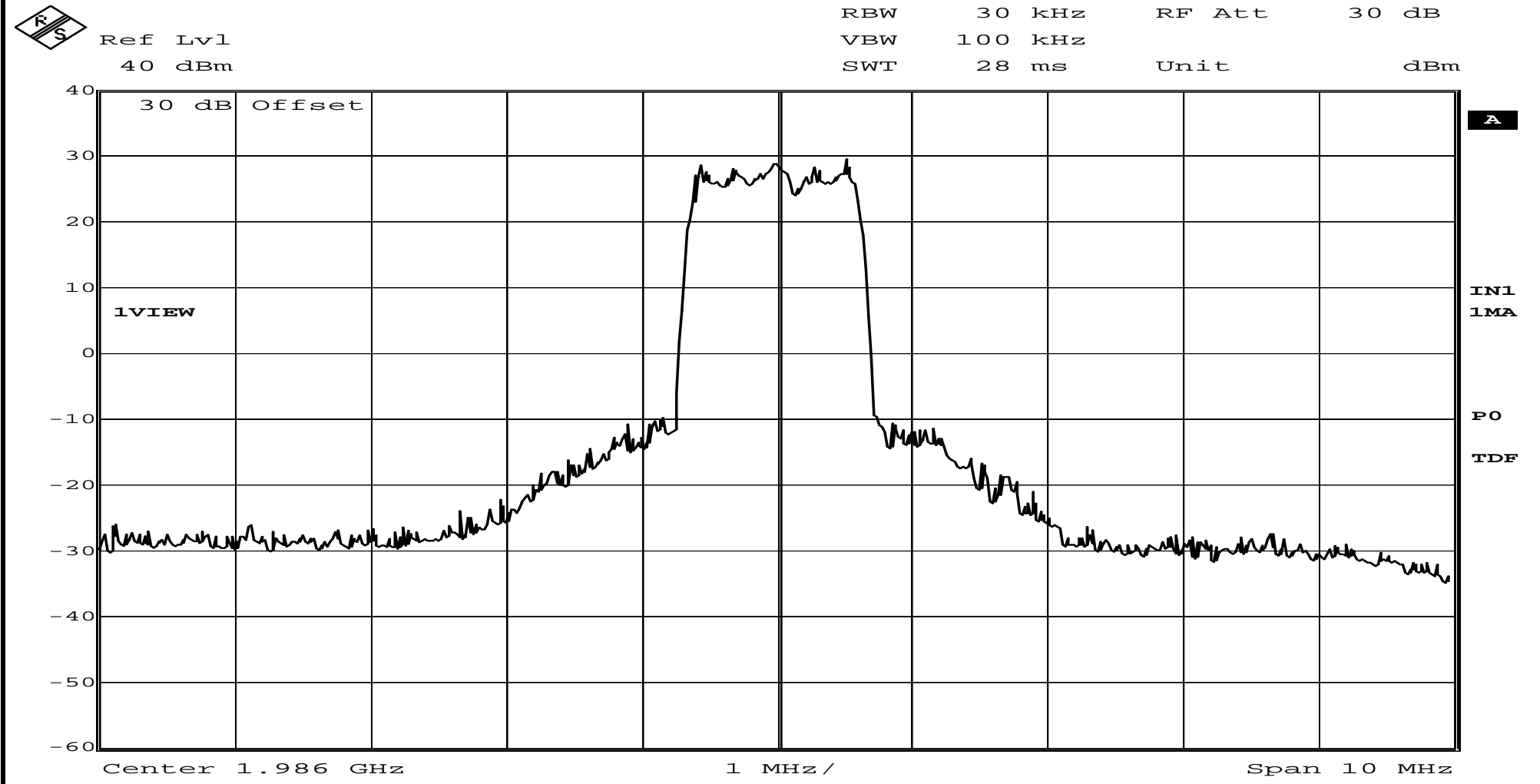
Center 1.96 GHz      1 MHz/      Span 10 MHz

Date: 1.DEC.2010 15:40:14

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink - Output at 890 MHz		



Date: 1.DEC.2010 15:16:18



# RETLIF TESTING LABORATORIES

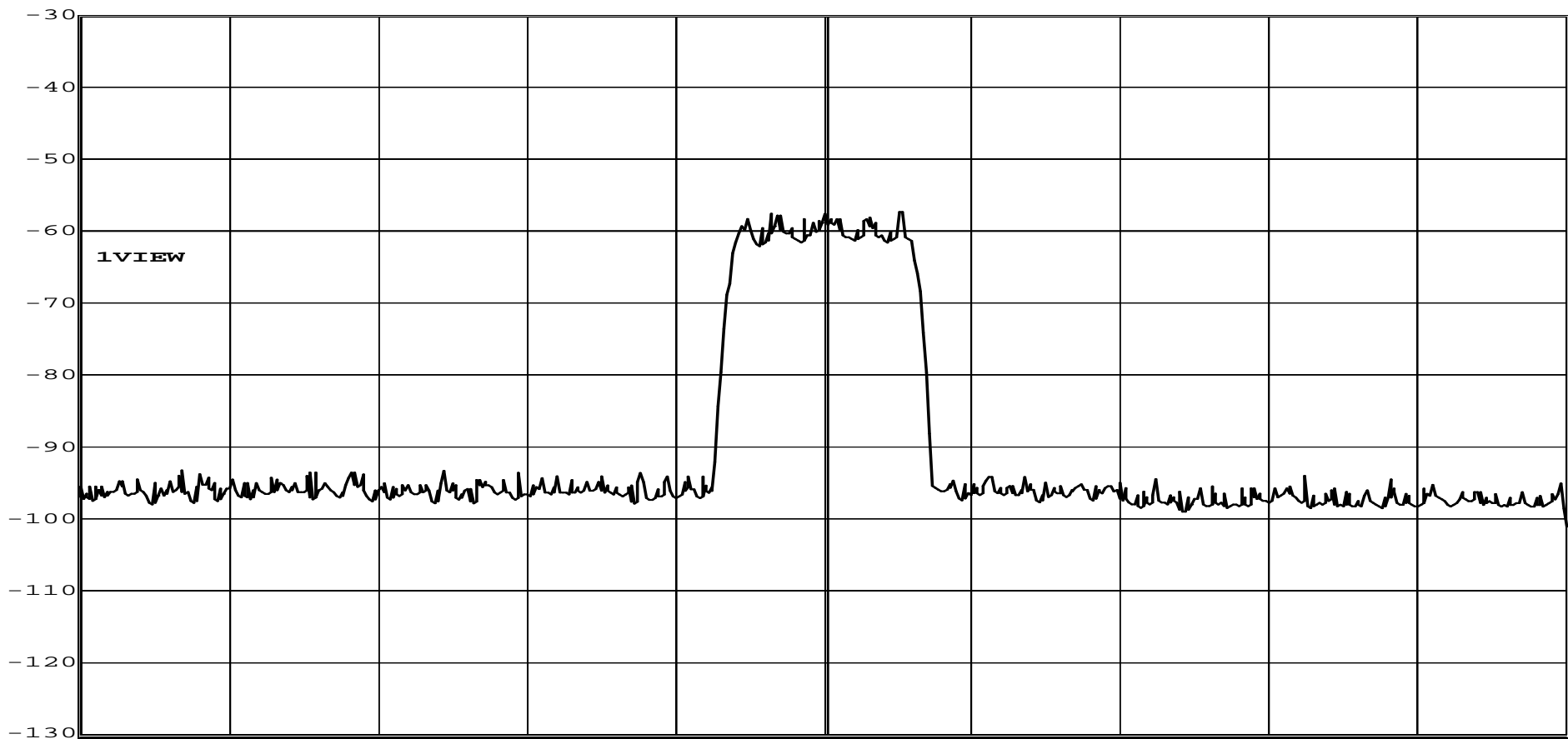
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	CDMA IS-95 - Downlink - Input at 890 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:			



Ref Lvl  
-30 dBm

RBW 30 kHz RF Att 0 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm



Center 1.986 GHz      1 MHz /      Span 10 MHz

Date: 1.DEC.2010 15:40:50

# RETLIF TESTING LABORATORIES

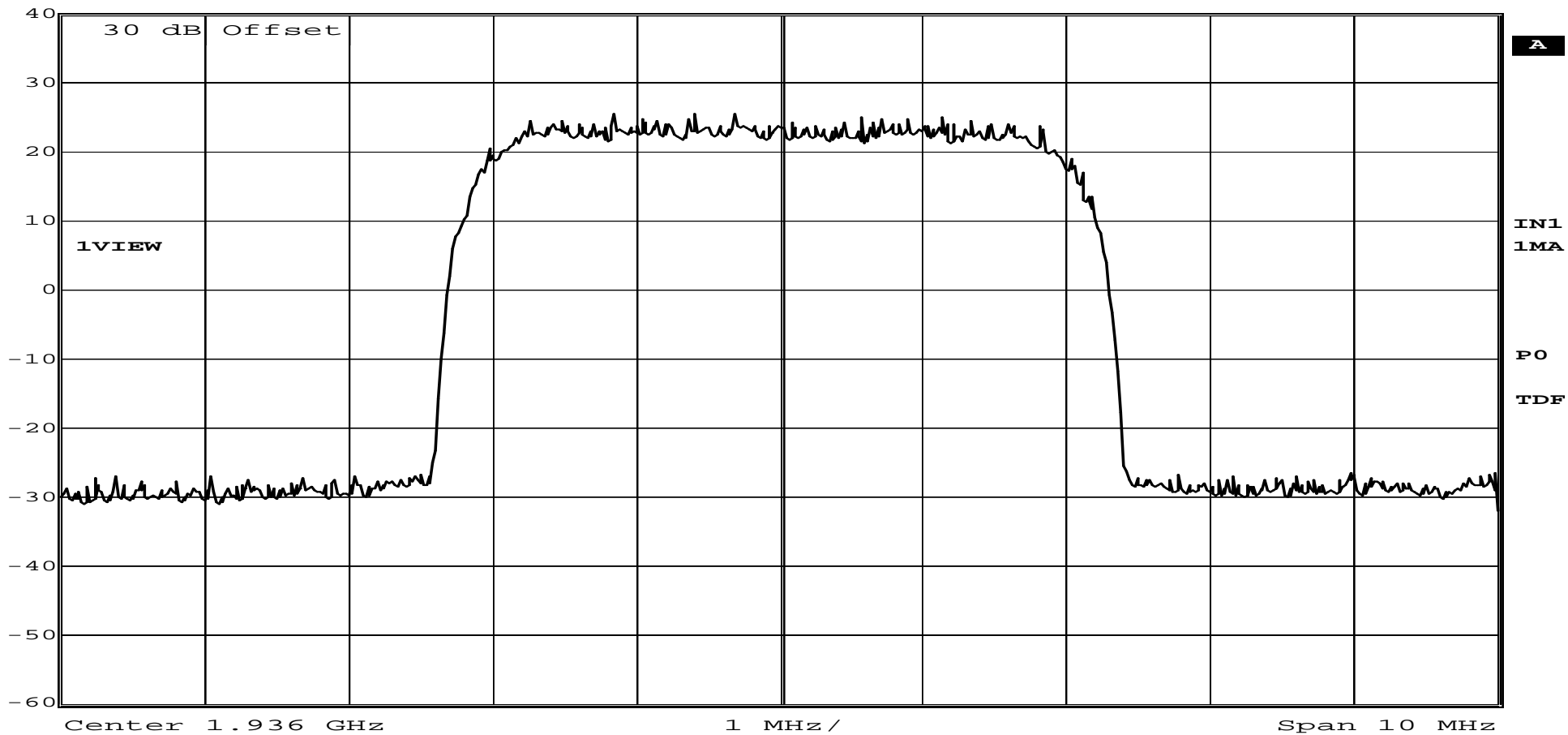
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date: 12/1/2010
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink - Output at 1936 MHz		



Ref Lvl  
40 dBm

RBW 30 kHz RF Att 30 dB  
 VBW 100 kHz  
 SWT 28 ms Unit dBm

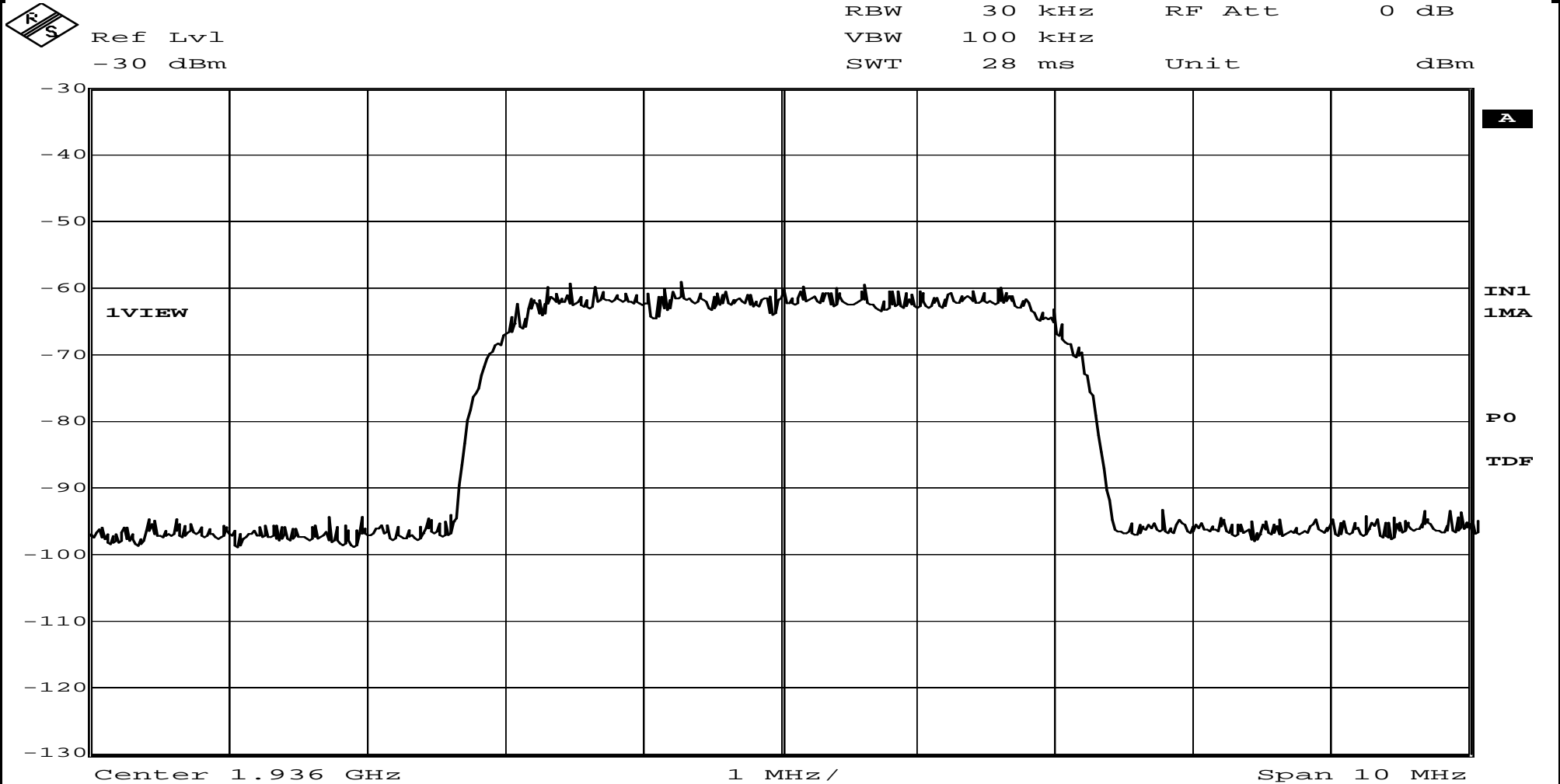


Date: 1.DEC.2010 15:08:04

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink - Input at 1936 MHz		

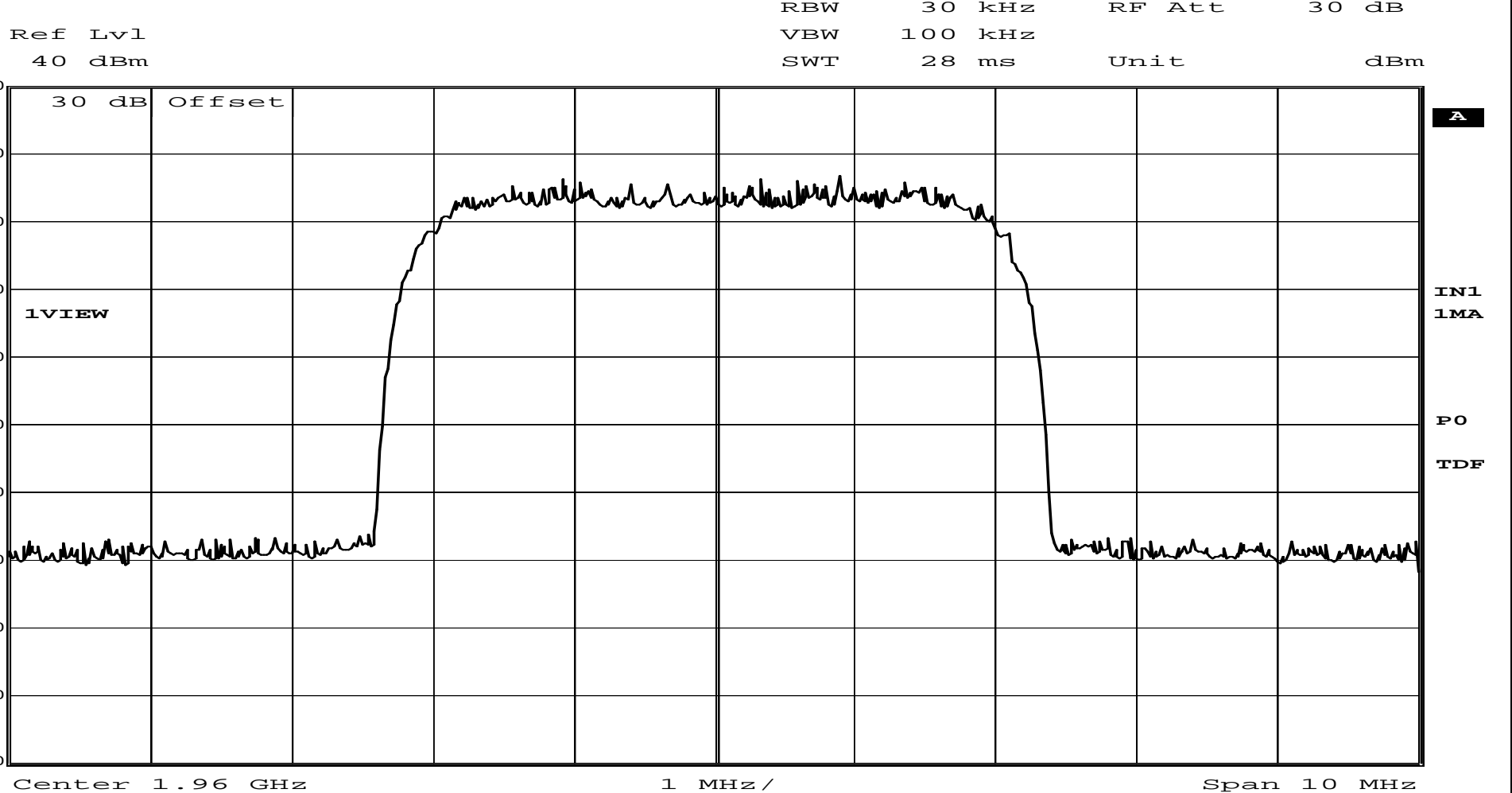


Date: 1.DEC.2010 15:43:31

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink - Output at 1960 MHz		



Date: 1.DEC.2010 15:07:08

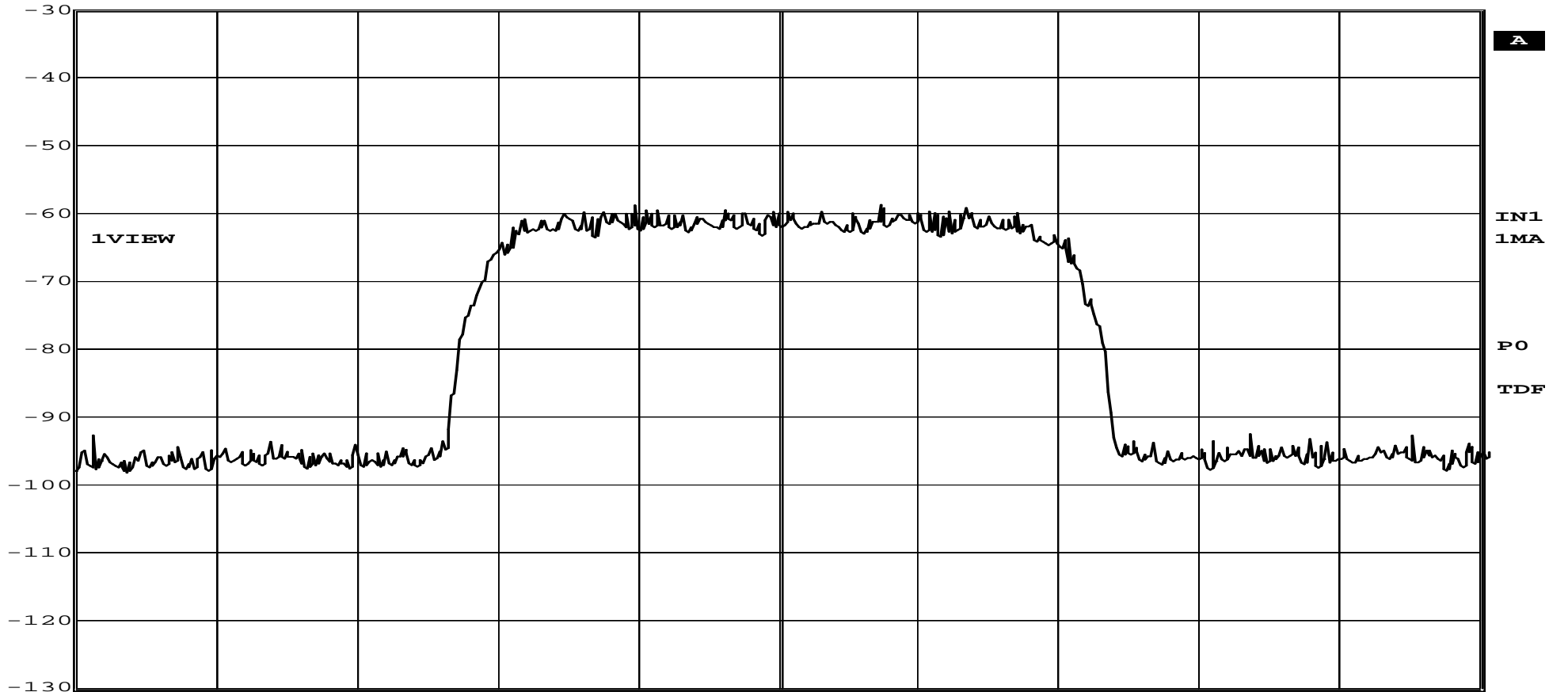
# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink - Input at 1960 MHz		



Ref Lvl -30 dBm	RBW 30 kHz	RF Att 0 dB	
	VBW 100 kHz	Unit dBm	
	SWT 28 ms		



Date: 1.DEC.2010 15:42:59

# RETLIF TESTING LABORATORIES

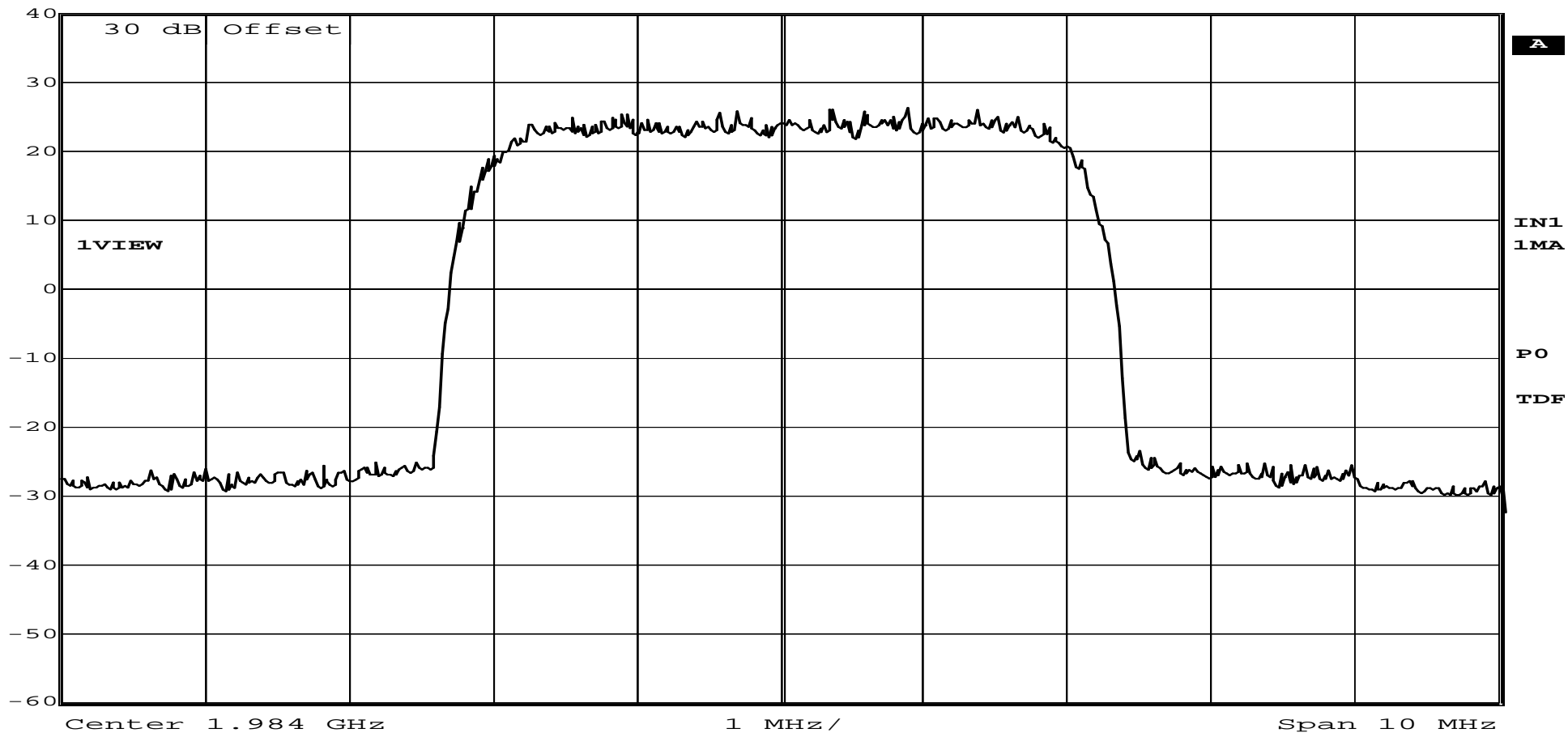
## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph: 2.1049	Date:
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink - Output at 1984 MHz		



Ref Lvl  
40 dBm

RBW	30 kHz	RF Att	30 dB
VBW	100 kHz	Unit	dBm
SWT	28 ms		

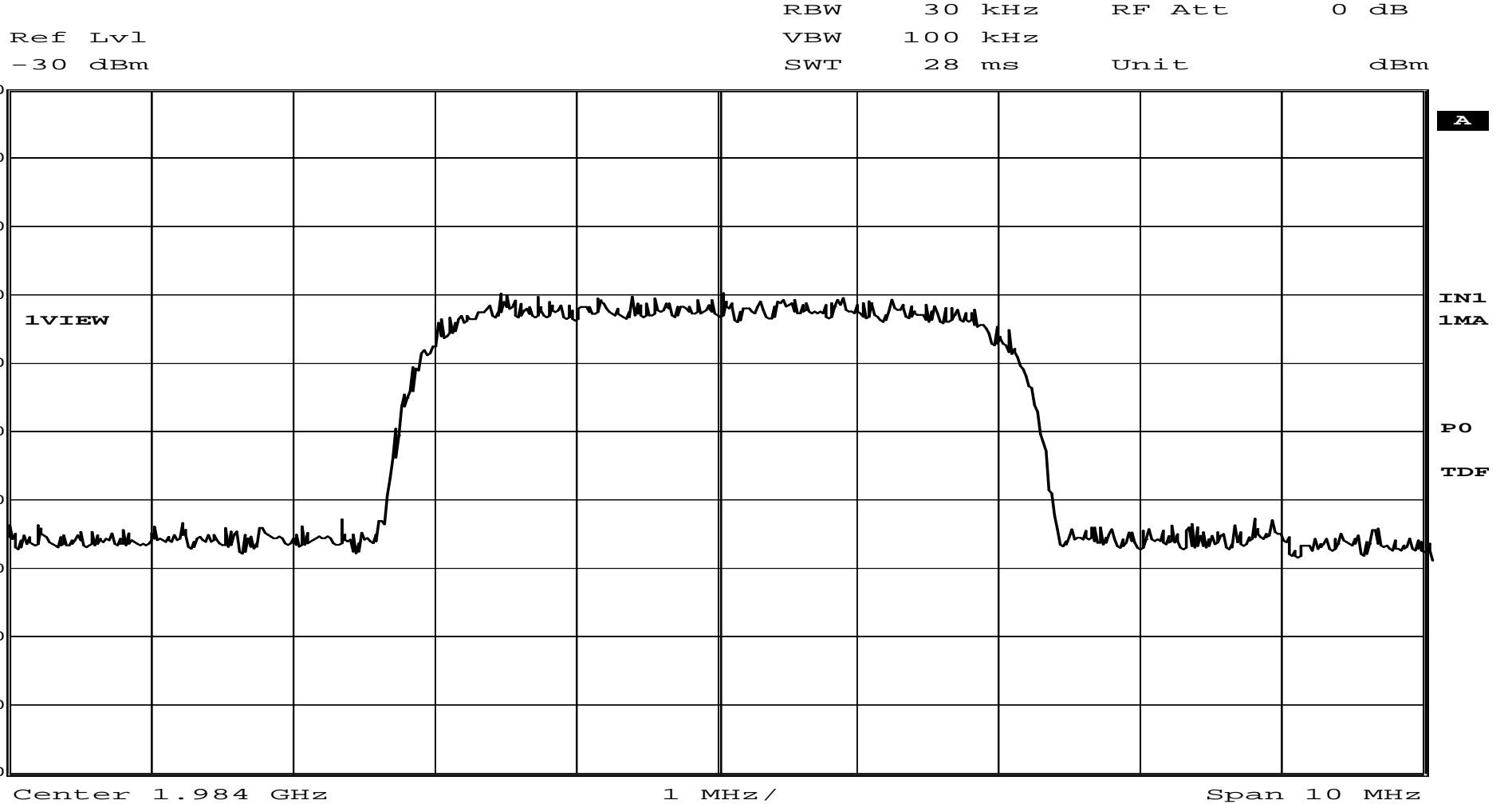


Date: 1 DEC 2010 15:06:16

# RETLIF TESTING LABORATORIES

## EMISSIONS DATA SHEET

Test Method:	Occupied Bandwidth		
Customer:	Cellular Specialties, Inc.	Test Sample:	Dual Band Digital Repeater
Model No:	CSI-DSP85-255-CP	Serial No:	N/A
Test Specification:	FCC Part 2	Paragraph:	2.1049
Operating Mode:	Amplifying input signal		
Notes:	WCDMA - Downlink - Input at 1984 MHz		
Job No:	R-5398N-2	Technician:	M.Seamans
Date:	12/1/2010		



Date: 1.DEC.2010 15:42:27



































