REPORT OF MEASUREMENTS FOR CELLULAR SPECIALTIES, INC. BI-DIRECTIONAL AMPLIFIER MODEL: CSI-BDA51080-P7 FCC ID: NVRCSI510-P7

CERTIFICATION APPLICATION

Applicant/Manufacturer:	Cellular Spect 670 North Con Manchester, N	mmercial Street
Equipment under Test (EUT):	The EUT is a	Bi-Directional Amplifier
Model:	CSI-BDA5108	80-P7
FCC ID Number:	FCC ID: NV	RCSI510-P7
Applicable Test Standard:	FCC Parts 2 &	& 90
Device Classification:	Mobile	
EUT Frequency Range Band:	Uplink: Downlink:	764MHz TO 776MHz 794MHz TO 806MHz
EUT Gain:	Uplink: Downlink:	78.51dB 78.26dB
Power Output Rating Based on max input single channel (For Certification Grant):	Uplink: Downlink:	+25.34dBm = .342W +25.49dBm = .354W
Modulation Type:	FM (F1D), TI	DMA (DXW)
RF Exposure + Antenna Installation:	See Attached	Installation/Users Manual and MPE Evaluation
Measurements Required by FCC:	-	ection 1 (Summary of Test Program) ving Test Report Data Attachments:
	-Occupied Ba -Spurious Em -Effective Rac	tion Characteristics (Two-Tone)

SECTION 1 SUMMARY OF TEST PROGRAM

INTERMODULATION CHARACTERISTICS (TWO TONE)

Measurement Procedure:

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

OCCUPIED BANDWIDTH

Measurement Procedure:

For Occupied Bandwidth, measurements were made to compare the input signal to the output signal. The signal generator output was connected to the spectrum analyzer. A TDMA modulation signal was then applied to the carrier. Waveforms were then noted on an X-Y plot. Next, the signal generator was connected to the EUT and the output of the EUT was connected to the spectrum analyzer. The output waveform after amplification was then compared to the original input signal to ensure that no significant differences occurred between the input signal and the amplified signal. Testing was performed at one frequency within each passband (uplink and downlink). Testing was repeated with FM Modulation. See Occupied Bandwidth Data. An explanation of the data is as follows: There are two signals superimposed on each plot, one signal is the waveform before modulation, the other is the modulated carrier. In each case the center of the grid shows a narrowband signal projecting out from the center of the modulation envelope. This signal is actually the stored unmodulated signal.

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 within each passband (uplink and downlink). The level of any spurious emission was recorded. Testing was performed in the frequency range of 30MHz to 9GHz. Testing was performed for FM & TDMA modulation types. The spurious emissions limit is -13dBm as specified in FCC Part 90. All emissions were below the specified -13dBm limit. See attached test data.

EFFECTIVE RADIATED POWER OF SPURIOUS RADIATION

Measurement Procedure:

The test sample was placed on a 80cm high wooden test stand which was located 3 meters from the test antenna on an FCC listed test site. A signal generator was connected to the input of the amplifier. The signal generator output was set to provide the input power level necessary to achieve maximum output power of the amplifier at 3 frequencies 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 TIA/EIA-603. The frequency range of the test was 30MHz – 9GHz. The limit for out of band spurious emissions is -13dBm as specified in Part 90. All emissions were below the specified -13dBm limit. See attached test data.

RF POWER OUTPUT

A signal generator was connected in turn to the uplink and downlink input ports of the test sample. The signal generator was set to maximum input rating and the amplifier was operating at maximum gain. The maximum single channel output power for both the uplink and downlink was measured with a spectrum analyzer connected to the output port. The measured output power was 0.342W for the uplink and 0.354W for the downlink which matched the manufacturer's rated output power. See attached test data.

FREQUENCY STABILITY MEASUREMENTS

The test sample does not contain any carrier frequency generation, translation or stabilizing circuitry and frequency stability measurements were not required/performed.

SECTION 2

EQUIPMENT LISTS

Spurious Radiated Emissions

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due
3116	Pre-Amplifier	Miteq	0.1 GHz - 18 GHz	AFS42-35	8/25/2006	8/25/2007
3117	Power Supply	B&K Precision	0-30 Vdc, 3.0 A	1630	1/23/2007	1/23/2008
3258	Double Ridge Guide	EMCO	1 - 18 GHz	3115	11/21/2006	11/21/2007
4029B	Test Site Attenuation	Retlif	3 / 10 Meters	RNH	5/24/2006	5/24/2007
5053	Biconilog	EMCO	26 MHz - 3 GHz	3142C	2/8/2006	6/8/2007
5070	EMI Test Receiver	Rohde & Schwarz	20Hz - 40GHz	ESIB40	11/22/2006	11/22/2007

RF Power Output/Occupied Bandwidth/Antenna Spurious/Intermodulation

EN	Туре	Manufacturer	Description	Model No.	Cal Date	Due
4895	Spectrum Analyzer	Hewlett Packard	9kHz - 22GHz	8593EM	2/13/2007	2/13/2008
5016	Attenuator	Narda	DC - 18 GHz	776B-30	1/25/2007	1/25/2008
5030B	10 DB Atten. (50 ohm)	Narda	DC - 12.4 GHz	757C-10	11/8/2006	11/8/2007
R420A	Signal Generator	Agilent	250kHz - 3GHz	AT-E4436B	9/29/2006	9/29/2008

SETUP PHOTOGRAPHS

SPURIOUS RADIATED EMISSIONS



SPURIOUS RADIATED EMISSIONS



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



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				EMISSIC	NS DAT	A SHEET		1999 - S V.					
rest Method:		RF Power Ou				-	8						
Customer:		Cellular Spec				Job No:	R-4816N						
Fest Sample:	1	Bidirectional A	Amplifier										
Nodel No:		I	-BDA51080-P7 Serial No: ENG										
Fest Specific	ation:	FCC Part 2				Paragraph: 2	.1046						
Operating Me	ode:	Amplifying inp	out signal										
echnician:		M.Seamans]Date:	5/14/2007						
lotes:		Uplink Freque Peak Detecto			wnlink Freque	ency Range: 7	94-806 MHz	Input Signals:	770 MHz & 8	00 MHz			
Input		Output	Input		Gain	Power							
Frequency		Reading	Reading						<u> </u>				
MHz		dBm	dBm		dB	m₩							
Uplink													
770.00		25.34	-53.17		78.51	342.0		 	<u> </u>				
Downlink		25.40	-52,77		78.26	354.0							
800.00		25.49	-52,77		/8.20	354.0							
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Data Sheet	t 1 of 1			······					······	R-4816N			

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est Method	:	Spurious Em			Terminals 30								
ustomer:		Cellular Spec	ialties. Inc.			Job No:	R-4816N						
est Sample	:	Bidirectional /				1							
						1	L						
lodel No:		CSI-BDA5108	30-P7			Serial No:	ENG						
est Specifi	ation:	FCC Part 2				Paragraph: 2	1051						
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perating M		Amplifying Inp	ut signal										
echnician:	29 C C R	M.Seamans				Date:	5/14/2007						
lotes:		l ' '	plink Frequency: 764-776 MHz Downlink Frequency: 794-806 MHz DMA and FM modulations tested, no spurious emissions observed with any modulation type.										
	X 4	L					-						
Uplink Input Signal	Test Frequency	Harmonic Frequencies	Reading	Limit	Downlink Input Signal	Test Frequency	Harmonic Frequencies	Reading	Limit				
dBm	MHz	MHz	dBm	dBm	dBm	MHz	MHz	dBm	dBm				
-44.80	765.00	· · · · · · · · · · · · · · · · · · ·			-44.80	795.00	1111 16						
		1530.00	•	-13.0	1		1590.00		-13.0				
1		2295.00			1		2385.00		1				
I		3060.00	-	I	l		3180.00		1				
t	I	3825.00	-	l	1		3975.00	-	1				
1		4590.00	-	l	1	ł	4770.00	-	I				
1		5355.00		<u> </u>	· I		5565.00	-	1				
<u> </u>		6120.00	-	I	<u> </u>	<u> </u>	6360,00	-	I				
44.00	1	6885.00	-		11.00		7155.00		.1				
-44.80	765.00	7650.00	-	-13.0	-44.80	795.00	7950.00	-	-13.0	· · · · · ·			
-44.80	770.00				-44.80	800.00							
	1	1540.00	-	-13.0	1		1600.00	-	-13.0				
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-44.80	770.00	7700.00	-	-13.0	-44.80	800.00	8000.00	- `	-13.0				
14.90	775.00				44.00	805.00							
-44.80	1	1550.00		-13.0	-44.80	805.00	1610.00		-13.0				
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	<u> </u>	6975.00		<u> </u>	· 1	I	7245.00	-	1				
-44.80	775.00	7750.00	-	-13.0	-44.80	805.00	8050.00	-	-13.0				

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				EMISSIC	NS DATA	SHEET									
Test Method	l:	Spurious Radi	ated Emissior	ns (ERP) 30 MH	Hz to 9GHz										
Customer:		Cellular Speci	alties, Inc.			Job No:	R-4816N								
Test Sample	n -	Bidirectional A	mplifier				8								
Model No:		CSI-BDA5108	0-P7			Serial No:	ENG								
Test Specifi	cation:	FCC Part 2.10	53												
		TIA/EIA-603				Paragraph: 2.	1053								
Operating M	lode:	Amplifying inp	ut signal							· · ·]					
Technician:		M.Seamans				Date:	5/14/2007								
Notes:		Uplink Freque Peak Detecto				ormed at 3 inp formed at 3 an		s, 765 MHz, 770 distances	0 MHz, 775 MH	z					
Test	Antenna	Reference													
Frequency	Position	Reading	Level	Gain					Reading	Limit					
MHz	(H/V) - Height	dBuV	dBm	dBl					dBm	dBm					
30.00	-	-	-	-					-	-13.00					
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	No emissions	observed abov	e the noiseflo	or of the test ec	upment whic	n was a minim	um of 10dB b	elow the limit.							
Data Shee	t 1 of 2									R-4816N					

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				EMISSIO	NS DAT	A SHEET							
Test Method	:	Spurious Rad	iated Emissior	ns (ERP) 30 MH	Iz to 9 GHz								
Customer:		Cellular Speci	alties, Inc.			Job No:	R-4816N						
Fest Sample		Bidirectional A	Amplifier										
Nodel No:		CSI-BDA5108	0-P7			Serial No:	ENG						
est Specifi	ation:	FCC Part 2.10)53										
		TIA/EIA-603				Paragraph: 2	.1053						
perating M	ode:	Amplifying inp	nplifying input signal										
echnician:		M.Seamans				Date:	5/14/2007						
lotes:		Downlink Frec Peak Detecto				performed at 3 formed at 3 ar			, 800 MHz, 805	MHz			
Test	Antenna	Reference	Signal Gen	Reference Ant					Corrected	Spurious			
Frequency	Position	Reading	Level	Gain			·		- Reading	Limit			
MHz	(H/V) - Height	dBuV	dBm	dBl					dBm	dBm			
30.00	-	-	-	-					-	-13.00			
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	No emissions	observed abov	e the noiseflo	or of the test ea	quipment whic	ch was a minin	num of 10dB b	elow the limit.					
													
	t 2 of 2									R-4816N			

EMISSIONS DATA SHEET Test Method: Intermodulation Characteristics Customer: Cellular Specialties, Inc. Test Sample: Bidirectional Amplifier Job No: R-48 Model No: CSI-BDA51080-P7 Serial No: ENG Technician: M.Serial No:			LESTING.	LABORATORIES	
Customer: Cellular Specialties, Inc. Test Sample: Bidirectional Amplifier Job No: R-48 Model No: CSI-BDA51080-P7 Serial No: ENG Technician: M.Se Test Specification: FCC Part 2 Paragraph: 2.1047 Date: 5/14/ Operating Model Amplifying input signal Amplifying input signal Constant of the second of the			EMISSIONS D	ATA SHEET	
Model No: CSI-BDA51080-P7 Serial No: ENG Technician: M.Serial No: Test Specification: FCC Part 2 Paragraph: 2.1047 Date: 5/14/ Operating Mode: Amplifying input signal FCC Part 2 FCC Par	Fest Method:	Intermodulation Characteristics			
Test Specification: FCC Part 2 Paragraph: 2.1047 Date: 5/14/ Operating Mode: Amplifying input signal Implifying input sinput signal Implifying input sinput sign	Customer:		Test Sample:		Job No: R-4816N
Operating Mode: Amplifying input signal	Nodel No:		Serial No:	ENG	Technician: M.Seamans
	Test Specification:	FCC Part 2	Paragraph: 2.1	047	Date: 5/14/2007
Notes: TDMA - Downlink	Operating Mode:				
	Notes:	TDMA - Downlink			
14: 27: ØB MAY 11, 2ØØ7 REF 36. Ø dBm AT 2Ø dB PEAK -17.89 dBm LOG -17.89 dBm AB/ -17.89 dBm OFFST -13.9 BL -13.9 VA SB -10 CORR -10 MART 794.00 MHz #VBW 300 KHz START 794.00 MHz #VBW 300 KHz Data Sheet 1of 2 Data Sheet 1of 2	REF 3 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm VA SB SC FC CORR START #1	6.ØdBm AT 2ØdB 1 1		-17.89 dBm	R-4816 N

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						SSIONS DA						
Test Method:	Intermodula	tion Characte	ristics									
Customer:	Cellular Spec	cialties, Inc.				Test Sample:	Bidirectional	Amplifier			Job No:	R-4816N
Model No:	CSI-BDA510	80-P7				Serial No:	ENG				Technician:	M.Seamans
Test Specification:	FCC Part 2					Paragraph: 2.10)47				Date:	5/14/2007
Operating Mode:	Amplifying in											
Notes:	TDMA - Dow	rnlink										
START	5.Ød	Bm	A T	2ø d		3ØØ K		STOP	8Ø7.Ø	ð dBm		
Data Sheet 2 of 3	2											R-4816N

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						SIONS DA						
Test Method:	Intermodulat	ion Character	ristics									
Customer:	Cellular Spec	ialties, Inc.			I	Fest Sample:	Bidirectional	Amplifier			Job No:	R-4816N
Model No:	CSI-BDA5108	30-P7				Serial No:	ENG				Technician:	M.Seamans
Test Specification:	FCC Part 2				F	Paragraph: 2.10	047				Date:	5/14/2007
Operating Mode:	Amplifying inp	out signal										
Notes:	TDMA - Dowr	nlink										
START	6.Ø di	Зт 	A T	2ø d				STOP	8Ø7.Ø	9 dBm		
Data Sheet 3 of 3	2											R-4816

		RE	TLIF TE	STING	LABO	RATO	RIES							
			EM	ISSIONS D	ATA SHEE	T								
Test Method:	Intermodulation Character	eristics												
Customer:	Cellular Specialties, Inc.			Test Sample:	Bidirectional A	Amplifier			Jo	b No: R-4	4816N			
Model No:	CSI-BDA51080-P7			Serial No:	ENG				Те	chnician: M.	Seamans			
Test Specification:	FCC Part 2			Paragraph: 2.1	047				Da	i te: 5/1	4/2007			
Operating Mode:	Amplifying input signal													
Notes:	TDMA - Downlink													
REF 30 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm VA SB SC FC CORR	er: Calidar Specialities, Inc. Test Sample: Bidrectional Amplifier Job No: R-4816N GSI-BDA510967 GSI-BDA510967 Amplifying input signal TOMA - Downlink 14: 27: 33 MAY 11, 2007 MKR 806.51 MHz REF 36.0 dBm AT 20 dB -19.31 dBm PEAK OG 00 00 00 00 00 00 00 00 00 0													
Data Sheet 4 of 3	2										R-4816N			

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			_			SIONS DA							
Test Method:	Intermodula	tion Characte	ristics										
Customer:	Cellular Spec	cialties, Inc.				Test Sample:	Bidirectional	Amplifier			Job	No:	R-4816N
Model No:	CSI-BDA510	80-P7			:	Serial No:	ENG				Tec	nnician:	M.Seamans
Test Specification:	FCC Part 2					Paragraph: 2.1047	7				Date	:	5/14/2007
Operating Mode:	Amplifying in	put signal											
Notes:	TDMA - Dow	nlink											
,14:19 REF 30 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm VA SB SC FC CORR START #F	5.Ød			2ø d	nnhmh	3ØØ K		STOP	8ø6.ø	Ø MHz			
Data Sheet 5 of 3	2												R-4816N

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						SIONS DA						
Test Method:	Intermodula	tion Characte	eristics									
Customer:	Cellular Spec	cialties, Inc.				Test Sample:	Bidirectional	Amplifier		Job I	No:	R-4816N
Model No:	CSI-BDA510	80-P7				Serial No:	ENG			Tech	nician:	M.Seamans
Test Specification:	FCC Part 2					Paragraph: 2.1047				Date		5/14/2007
Operating Mode:	Amplifying in											
Notes:	TDMA - Dow	nlink										
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Data Sheet 6 of 3	2											R-4816N

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	_					SIONS DA						
Test Method:		tion Characte	eristics									
Customer:	Cellular Spec					Test Sample:	Bidirectional	Amplifier				R-4816N
Model No:	CSI-BDA510	80-P7				Serial No:	ENG				Technician:	M.Seamans
•	FCC Part 2					Paragraph: 2.1047	7				Date:	5/14/2007
Operating Mode:	Amplifying in											
Notes:	TDMA - Dow	nlink										
14:14 REF 36 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm VA SB SC FC CORR START	5.Ød	Bm			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	3ØØ K		STOP	₩₩₩₩ ₩₩₩₩₩ 8Ø6.Ø	Ø MHz		
Data Sheet 7 of 3	2											R-4816N

			R	ETLI	TES	FING I	LABOR	RATO	RIES			
					EMISS	SIONS D/	ATA SHEE	T				
Test Method:	Intermodulation	n Characteris	tics									
Customer:	Cellular Specialt	ties, Inc.			т	est Sample:	Bidirectional	Amplifier			Job No:	R-4816N
Model No:	CSI-BDA51080-	·P7			s	Serial No:	ENG				Technician:	M.Seamans
Test Specification:	FCC Part 2				Р	aragraph: 2.1047	7				Date:	5/14/2007
Operating Mode:	Amplifying input	signal										
Notes:	TDMA - Downlin	nk										
REF 3 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm VA SB SC FC CORR	793.Ø9 RES BW	Ø MHz		2Ø d				y	www.~~	6 dBm		R-4816N

			I	RETLI	F TES	STING	LABO	RATO	RIES			
						SSIONS D						
Test Method:	Intermodula	ation Characte	eristics									
Customer:	Cellular Spe					Test Sample:	Bidirectional	Amplifier			Job No:	R-4816N
Model No:	CSI-BDA510)80-P7				Serial No:	ENG				Technician:	M.Seamans
Test Specification:	FCC Part 2					Paragraph: 2.1047	,				Date:	5/14/2007
Operating Mode:	Amplifying in	-										
Notes:	FM - Downlir	nk				,						
14: 19 REF 36 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm				Ø7 2Ø d	B				796.5			
VA SB SC FC CORR			1	mm	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	w	Mmm	mm	m.	mm		
START #F Data Sheet 9 of 3	RES BI				#VBW	ЗØØ к			8Ø6.Ø 2Ø.Ø			R-4816N

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	_					SIONS D							
Test Method:	Intermodula	ation Characte	eristics										
Customer:	Cellular Spe					Test Sample:	Bidirectional	Amplifier				Job No:	R-4816N
Model No:	CSI-BDA510	080-P7				Serial No:	ENG						M.Seamans
Test Specification:	FCC Part 2					Paragraph: 2.1	047				I	Date:	5/14/2007
	Amplifying in												
Notes:	FM - Downli	nk											
14: 19 REF 36 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm VA SB SC FC CORR START #F	5.Ød			2Ø d		ЭØØ К		STOP	8ø6.ø	6 dBm			
#⊢ Data Sheet 10 of :		ממד אי	КНZ		# V B W	א ששב א	ΠΖ	2M5	۵.۵۶	msec			R-4816N

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						SSIONS DA						
Test Method:	Intermodulation	n Characteri	istics									
Customer:	Cellular Special	ties, Inc.				Test Sample:	Bidirection	al Amplifier			Job No:	R-4816N
Model No:	CSI-BDA51080-	-P7				Serial No:	ENG				 Technician:	M.Seamans
Test Specification:	FCC Part 2					Paragraph: 2.10)47				Date:	5/14/2007
Operating Mode:	Amplifying input	i signal									 	
Notes:	FM - Downlink											
REF 3 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm VA SB SC FC CORR	793.Ø	M Ø MHz		2ø d				STOP		1 dBm		R-4816N

		R	ETLIF	TESTI	NG J	LABO	RATO	RIES		
				EMISSIO						
Test Method:	Intermodulation Ch	naracteristics								
Customer:	Cellular Specialties,	Inc.		Test S	Sample:	Bidirectional	Amplifier		Job No:	R-4816N
Model No:	CSI-BDA51080-P7			Serial	No:	ENG			Technician:	M.Seamans
Test Specification:	FCC Part 2			Parag	raph: 2.10)47			Date:	5/14/2007
Operating Mode:	Amplifying input sigr	nal								
Notes:	FM - Downlink								 	
-	6.Ø dBm		2Ø dB	3	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Mmm		793.5 -16.1		
		MHZ 1ØØ KHZ	#	VBW 30	ðØ K		STOP SWP	8Ø6.Ø 2Ø.Ø		R-4816N

			I	RETLI	F TES	STING	LABO	RATO	RIES			
					EMIS	SIONS DA	ATA SHEE	ET				
Test Method:	Intermodulat	ion Characte	ristics									
Customer:	Cellular Speci	alties, Inc.				Test Sample:	Bidirectional	Amplifier			Job No:	R-4816N
Model No:	CSI-BDA5108	80-P7				Serial No:	ENG				Technician:	M.Seamans
Test Specification:	FCC Part 2					Paragraph: 2.1047	7				Date:	5/14/2007
Operating Mode:	Amplifying inp	out signal										
Notes:	FM- Downlink											
START	5.Ø de	3m 	A T	2ø d	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	3ØØ KI		STOP	8Ø6.4 -17.5 -17.5 	7 dBm		
Data Sheet 13 of 3	32											R-4816N

			I	RETLI	F TES	TING	LABO	RATO	RIES			
					EMIS	SIONS D	ATA SHEE	T				
Test Method:	Intermodula	tion Characte	ristics									
Customer:	Cellular Spec	ialties, Inc.			T	est Sample:	Bidirectional /	Amplifier			Job No:	R-4816N
Model No:	CSI-BDA510	80-P7			s	Serial No:	ENG				Technician:	M.Seamans
Test Specification:	FCC Part 2				Р	aragraph: 2.1047	7				Date:	5/14/2007
Operating Mode:	Amplifying in	out signal										
Notes:	FM - Downlin	k										
START	5.ød	Bm wm/w/ ØØ MH:	АТ				Hz	л. Л.	8Ø7.Ø	Ø MHz		
Data Sheet 14 of 3	32											R-4816N

		RETLIF	FESTING I	LABORATO	DRIES	
			EMISSIONS DA	ATA SHEET		
Test Method:	Intermodulation Characteris	stics				
Customer:	Cellular Specialties, Inc.		Test Sample:	Bidirectional Amplifier		Job No: R-4816N
Model No:	CSI-BDA51080-P7		Serial No:	ENG		Technician: M.Seamans
Test Specification:	FCC Part 2		Paragraph: 2.1047	7		Date: 5/14/2007
Operating Mode:	Amplifying input signal					
Notes:	FM - Downlink					
REF 3 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm VA SE SC FC CORF	794.ØØ MHz RES BW 1ØØ			STOP	8Ø4.5Ø MHz 22.6Ø dBm	R-4816N

		•	ŀ	RETLI	F TES	TING I	LABO	RATO	RIES			
	_					SSIONS DA						
Test Method:	Intermodula	tion Characte	ristics									
Customer:	Cellular Spec	cialties, Inc.				Test Sample:	Bidirectional	Amplifier			Job No:	R-4816N
Model No:	CSI-BDA510	80-P7				Serial No:	ENG				Technician:	M.Seamans
Test Specification:	FCC Part 2					Paragraph: 2.1047	•				Date:	5/14/2007
Operating Mode:	Amplifying in											
Notes:	FM - Downlir	nk										
START	5.Ø d	Вт 	A T	2ø d		3ØØ KI		STOP 1	8Ø3.49 -16.4 ////////////////////////////////////	7 dBm		
Data Sheet 16 of	20											D 404 (N)
Data Sheet 16 0f	JZ											R-4816N

			F	RETLI	F TES	TING I	LABO	RATO	RIES			
						SIONS DA						
Test Method:	Intermodulati	on Characte	ristics									
Customer:	Cellular Specia	alties, Inc.				Test Sample:	Bidirectional	Amplifier			Job No:	R-4816N
Model No:	CSI-BDA5108	0-P7				Serial No:	ENG				Technician:	M.Seamans
Test Specification:	FCC Part 2					Paragraph: 2.1047	7				Date:	5/14/2007
Operating Mode:	Amplifying inp	ut signal										
Notes:	TDMA - Uplink	(
REF 3 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm VA SB SC FC CORR START #F	764.Ø RES BW	3m 	A T	2Ø d		3ØØ k		STOP	773.4 -17.3	Ø MHz		
Data Sheet 17 of	32											R-4816N

			F	RETLI	F TES	TING I	LABOI	RATO	RIES				
					EMIS	SIONS DA	ATA SHEE	ET					
Test Method:	Intermodula	tion Characte	eristics										
Customer:	Cellular Spec	cialties, Inc.				Test Sample:	Bidirectional	Amplifier		Job No:	R-4816N		
Model No:	CSI-BDA510	80-P7				Serial No:	ENG				·	Technician: M.Seamans	
Test Specification:	FCC Part 2					Paragraph: 2.1047	•					Date:	5/14/2007
Operating Mode:	Amplifying in												
Notes:	TDMA - Uplir	nk											
14:0 777 REF 36 PEAK LOG 10				ø7 2ø d	B			мкв	774.5	Ø MHZ 7 dBm			t
1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm													
VA SB SC FC CORR	mm	um Min	mm	num	mm	Lunn	www.ww	\mathcal{N}	\bigvee	M			
START #F Data Sheet 18 of	RES BI				#VBW	ЗØØ к			777.Ø 2Ø.Ø				R-4816N

			F	RETLI	F TES	TING I	LABOI	RATO	RIES			
						SIONS DA						
Test Method:	Intermodula	tion Characte	ristics									
Customer:	Cellular Spec	cialties, Inc.				Test Sample:	Bidirectional	Job No:	R-4816N			
Model No:	CSI-BDA510	80-P7				Serial No:	ENG	Technician: M.Seamans				
Test Specification:	FCC Part 2					Paragraph: 2.1047	7				Date:	5/14/2007
Operating Mode:	Amplifying in	put signal										
Notes:	TDMA - Uplin	hk										
AFST AB DL AB VA SC CORR	5.Ø dl	∃m		20 d					775.4	7 MHz B dBm		
START #F					#VBW	зøø к			777.Ø 2Ø.Ø			
Data Sheet 19 of	32										 	R-4816N

			F	ETLI	F TES	TING I	LABOI	RATO	RIES				
						SIONS DA							
Test Method:	Intermodula	tion Characte	ristics										
Customer:	Cellular Spec	cialties, Inc.				Test Sample:	Bidirectional	Job No:	R-4816N				
Model No:	CSI-BDA510	80-P7			:	Serial No:	ENG				Technician: M.Seamans		
Test Specification:	FCC Part 2					Paragraph: 2.1047	,				Date:	5/14/2007	
Operating Mode:	Amplifying in	put signal											
Notes:	TDMA - Uplir	nk											
	5.ød	Bm	A T	2Ø d					776.4				
START #F Data Sheet 20 of 5	RES B				#VBW	ЗØØ к			777.Ø 2Ø.Ø			R-4816N	

			F	RETLI	F TES	FING I	LABOI	RATO	RIES					
						SIONS DA								
Test Method:	Intermodula	tion Characte	eristics											
Customer:	Cellular Spec	cialties, Inc.			I	Fest Sample:	Bidirectional	Amplifier			Job No:	Job No: R-4816N		
Model No:	CSI-BDA510	80-P7			\$	Serial No:	ENG				Technicia	n: M.Seamans		
Test Specification:	FCC Part 2				F	Paragraph: 2.1047	,				Date:	5/14/2007		
Operating Mode:	Amplifying in													
Notes:	TDMA - Uplir	nk												
13: 49 REF 36 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm VA SB SC FC CORR START #F	5.Ø dl	Эm Л Л Л Л Л Л Л Л Л Л Л Л Л Л Л Л Л Л Л		2ø d		3ØØ K		M.M.	776.Ø	9 dBm				
Data Sheet 21 of	32											R-4816N		

]	RETLI	F TES	TING	LABO	RATO	RIES			
							ATA SHEI					
Test Method:	Intermodula	ation Charact	eristics									
Customer:	Cellular Spe	cialties, Inc.			т	est Sample:	Bidirectional	Amplifier	Job No:	R-4816N		
Model No:	CSI-BDA510	080-P7			s	erial No:	ENG		Technician:	M.Seamans		
Test Specification:	FCC Part 2				Р	aragraph: 2.1	047				Date:	5/14/2007
Operating Mode:	Amplifying in											
Notes:	TDMA - Upli	ink										
START	5.Ød	Bm		2ø d				Mumu STOP		7 dBm		
Data Sheet 22 of	20											D 404CN
Data Sheet 22 Of	32											R-4816N

			F	RETLI	F TES	TING	LABOI	RATO	RIES			
	_					SIONS DA						
Test Method:	Intermodulat	tion Characte	ristics									
Customer:	Cellular Spec	ialties, Inc.				Test Sample:	Bidirectional A	mplifier			Job No:	R-4816N
Model No:	CSI-BDA5108	80-P7				Serial No:	ENG				Technician:	M.Seamans
Test Specification:	FCC Part 2				F	Paragraph: 2.10)47				Date:	5/14/2007
	Amplifying inp											
Notes:	TDMA - Uplin	ık										
	763.Q	Зт Аларана Дарона Да Дарана Дарана Дарана Дарана Дарана Дарана Дарана Дарана Д		2ø d		3ØØ k		Mmm STOP	776.Ø	1 dBm		
Data Sheet 23 of 3		. 100							_p.p			R-4816N

			F	RETLI	F TES	TING	LABO	RATO	RIES			
						SIONS DA						
Test Method:	Intermodulation	h Character	istics									
Customer:	Cellular Specialti					Test Sample:	Bidirectional A	Amplifier			Job No:	R-4816N
Model No:	CSI-BDA51080-F	P7				Serial No:	ENG				Technician:	M.Seamans
•	FCC Part 2					Paragraph: 2.10)47				Date:	5/14/2007
	Amplifying input	signal										
Notes:	TDMA - Uplink					,				-		
REF 36 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm VA SB SC FC CORR	9: 36 MA 5.Ø dBn	n A A A A A A A A A A A A A A A A A A A		2ø d		3ØØ K		Mmm STOP	763.5 -15.8 - - - - - - - - - - - - - - - - - - -	4 dBm		
Data Sheet 24 of 3	32											R-4816N

RETLIF TESTING LABORATORIES =====													
							ATA SHEE						
Test Method:	Intermodulatio	on Characte	ristics										
Customer:	Cellular Special	Ities, Inc.			T	Fest Sample:	Bidirectional	Amplifier				Job No:	R-4816N
Model No:	CSI-BDA51080	i-P7			ະ	Serial No:	ENG					Technician:	M.Seamans
Test Specification:	FCC Part 2				F	Paragraph: 2.10	047					Date:	5/14/2007
Operating Mode:	Amplifying input	t signal											
Notes:	FM - Uplink												
REF 3 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm MA SB SC FC CORR	763.Ø	Ø MH2	Z	2ø d	h			STOP	766.5 -18.4	6 dBm			R-4816N

	RETLIF TESTING LABORATORIES =====												
						SIONS DA							
Test Method:	Intermodulat	tion Characte	ristics										
Customer:	Cellular Spec	ialties, Inc.				Test Sample:	Bidirectional A	Amplifier			Job	No:	R-4816N
Model No:	CSI-BDA5108	80-P7				Serial No:	ENG				Тес	hnician:	M.Seamans
Test Specification:	FCC Part 2					Paragraph: 2.1047					Dat	e:	5/14/2007
	Amplifying inp	out signal											
Notes:	FM - Uplink												
13:5 REF 30 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm MA SB SC FC CORR START	5.Ø di		Z	20 d		3ØØ K		stop		Ø dBm			
	00												-
Data Sheet 26 of 3	32												R-4816N

RETLIF TESTING LABORATORIES													
							ATA SHEE						
Test Method:	Intermodula	tion Characte	ristics										
Customer:	Cellular Spec	ialties, Inc.]	Fest Sample:	Bidirectional	Amplifier				Job No:	R-4816N
Model No:	CSI-BDA510	80-P7				Serial No:	ENG					Technician:	M.Seamans
Test Specification:	FCC Part 2				F	Paragraph: 2.1047	7					Date:	5/14/2007
Operating Mode:	Amplifying in	out signal											
Notes:	FM - Uplink												
13:5 REF 3 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm MA SB SC FC CORR START	5.ø di	Bm	AT	2Ø d			Hz	stop		Ø MHz			
Data Shaat 07 of	20												D (0(0))
Data Sheet 27 of	32												R-4816N

	RETLIF TESTING LABORATORIES ========													
							ATA SHEE							
Test Method:	Intermodulat	tion Characte	ristics											
Customer:	Cellular Spec	cialties, Inc.				Test Sample:	Bidirectional /	Amplifier				Job No:	R-4816N	
Model No:	CSI-BDA5108	80-P7			:	Serial No:	ENG				1	Technician:	M.Seamans	
•	FCC Part 2				ŀ	Paragraph: 2.1047	7				[Date:	5/14/2007	
	Amplifying inp	put signal												
	FM - Uplink													
13:50 REF 30 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL -13.Ø dBm MA SB SC FC CORR	5.Ød	Вт Л (Л ØØ MH		2ø d	Ann				-18.7	2 MHz 3 dBm				
Data Sheet 28 of	32												R-4816N	

RETLIF TESTING LABORATORIES EMISSIONS DATA SHEET Test Method: Intermodulation Characteristics Customer: Cellular Specialties, Inc. Test Sample: Bidirectional Amplifier Job No: Model No: CSI-BDA51080-P7 Serial No: ENG Technician: Test Specification: FCC Part 2 Paragraph: 2.1047 Date: Operating Mode: FM - Uplink FM - Uplink EM - Uplink	R-4816N M.Seamans 5/14/2007
Customer:Cellular Specialties, Inc.Test Sample:Bidirectional AmplifierJob No:Model No:CSI-BDA51080-P7Serial No:ENGTechnician:Test Specification:FCC Part 2Paragraph: 2.1047Date:Operating Mode:Amplifying input signalControl of the second	M.Seamans
Model No: CSI-BDA51080-P7 Serial No: ENG Technician: Test Specification: FCC Part 2 Paragraph: 2.1047 Date: Operating Mode: Amplifying input signal Implifying input signal Implifying input signal	M.Seamans
Test Specification: FCC Part 2 Paragraph: 2.1047 Date: Operating Mode: Amplifying input signal	
Operating Mode: Amplifying input signal	5/14/2007
Notes: FM - Uplink	
14: Ø1: 33 MAY 11, 2ØØ7 MKR 776.48 MHz REF 36. Ø dBm AT 2Ø dB -16.93 dBm PEAK -16.93 dBm LOG -10.93 dBm ØB -10.93 dBm OFFST -13.0 BB -13.0 MA SB SC FC CORP -13.0 MA SB -10.90 MHz START 764.00 MHz #VBW 300 KHZ	
Data Sheet 29 of 32	R-4816N

RETLIF TESTING LABORATORIES													
							ATA SHEE						
Test Method:	Intermodula	tion Characte	ristics										
Customer:	Cellular Spe	cialties, Inc.				Test Sample:	Bidirectional /	Amplifier			J	ob No:	R-4816N
Model No:	CSI-BDA510)80-P7				Serial No:	ENG				Т	echnician:	M.Seamans
Test Specification:	FCC Part 2				F	Paragraph: 2.1047	7				D	ate:	5/14/2007
Operating Mode:	Amplifying in	put signal											
Notes:	FM - Uplink												
14: Ø REF 30 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø dB DL −13.Ø dBm MA SB SC FC CORR	6.Ø d			20 d				MKR	775.4 21.4	7 MHz 9 dBm			
START #F Data Sheet 30 of	RES B				#VBW] ЗØØ к			777.Ø 2Ø.Ø				R-48161

EMISSIONS DATA SHEET													
at Mathadi	Intermodulation	Charactori	etice		EIVII	5510N5 D/	ATA SHEE						
st Method: Istomer:	Cellular Specialt		51105			Test Complex	Bidirectional A	Amplifiar			Job No:	R-4816N	
	CSI-BDA51080-					Test Sample: Serial No:	ENG	Ampliner					
odel No:	FCC Part 2											M.Seamans	
		oignal				Paragraph: 2.1	047				Date:	5/14/2007	
perating Mode:	Amplifying input FM - Uplink	signal											
,14: Ø:	1:21 M/	AY 11	. 200	87									
hρ			~~					MKR	774.4	7 MHz			
REF 36	5.Ø dBr	n	ΑT	2Ø d1	3				21.9	ØdBm			
PEAK													
LOG													
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dB/									Νn				
OFFST									-/				
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dB DL													
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START	764.ØØ	ð MHz						STOP	777.Ø	Ø MHz			
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EMISSIONS DATA SHEET													
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			ristics					110					
tomer:	Cellular Speci					Test Sample:	Bidirectional A	Amplifier				R-4816N	
el No:	CSI-BDA5108	U-P7				Serial No:	ENG					M.Seamans	
•	FCC Part 2	ut ciercel				Paragraph: 2.10	047				Date:	5/14/2007	
	Amplifying inp FM - Uplink	ut signal											
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/14: Ø								MKR	773.4		, .** • *		
REF 3	6.ØdE	3m	AT	2Ø dE	3		_		-16.3	7 dBm			
PEAK													
LOG													
1Ø													
dB/ OFFST									Λ Λ				
3Ø.Ø	-								Π Π				
dB													
DL									$\ \cdot\ \to \ \cdot\ $				
-13.Ø									$ \setminus $				
dBm													
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MA SB SC FC								$[\Lambda]$	W	Λ			
CORR	mmm	mm	man	mmuh	nmi m	mmm	mm	$\mathcal{V}\mathcal{V}$		\bigvee			
START	764 0	101 ML	7				-I	STOP		 ∕⁄ M⊢->			
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		RE	FLIF TE	STING	LABO	RATO	RIES			
				SSIONS D						
Test Method:	Occupied Bandwidth				_					
Customer:	Cellular Specialties, Inc.			Test Sample:	Bidirectional	Amplifier			Job No:	R-4816N
Model No:	CSI-BDA51080-P7			Serial No:	ENG				Technician:	M.Seamans
Test Specification:	FCC Part 2			Paragraph: 2.1	049				Date:	5/14/2007
Operating Mode:	Amplifying input signal									
Notes:	FM - Uplink - Output at 77	0 MHz								
-	2:29 MAY 1	1, 2ØØ7 #AT 19								
VA VB SC FC CORR										
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	Я 77Ø.ØØØ RES BW 3.Ø		#VBW	1Ø K⊢	Iz		1.ØØ P 333			D 4040N
Jala Sheet 1 of 4	•									R-4816N

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						SSIONS DA							
Test Method:	Occupied Ba	andwidth											
Customer:	Cellular Spec					Test Sample:	Bidirectional A	Amplifier				Job No:	R-4816N
Model No:	CSI-BDA510	80-P7				Serial No:	ENG					Technician:	M.Seamans
Test Specification:	FCC Part 2					Paragraph: 2.10	049					Date:	5/14/2007
Operating Mode:	Amplifying in												
Notes:	FM - Uplink -	Input at 770 N	ИНz										
15: 38: Ø9 MAY 11, 2ØØ7 REF -27.Ø dBm #AT 1Ø dB PEAK LOG 1Ø dB/ IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII													
VA SB SC FC CORR													
	hmm	white	mm	MMM	mm	how	muhhhh	hh	mm	www			
CENTEF #F Data Sheet 2 of 4	RES BI			7	#∨BW	1Ø KH	Z		1.ØØ P 333				R-4816N

EMISSIONS DATA SHEET Test Method: Cecupied Bandwidth Cecupied Bandwidth Construction: Celuid: Specialities, Inc. Test Sample: Bidrectional Amplifier Job No: R=4816N Colspan="2">Celuid: Specialities, Inc. Test Specification: Colspan="2">Celuid: Specialities, Inc. Test Specification: Massimanna Colspan="2">Celuid: Specialities, Inc. Test Specification: Colspan="2">Celuid: Specialities, Inc. Test Specification: Massimanna Colspan="2">Colspan="2">Colspan="2">Colspan="2">Celuid: Specialities, Inc. Test Specification: Colspan="2">Colspan="2">Celuid: Specialities, Inc. Test Specification: Marging Inc. Celuid: Specialities, Inc. Celuid: Specialities, Inc. Test Specification: Marging Inc. Celuid: Specialities, Inc. Test Specification: Marging Inc. Celuid: Specialities, Inc. Celuid: Specialities, Inc. Test Specialities, Inc. Test Specialities, Inc.	RETLIF TESTING LABORATORIES													
Customer: Defaultities, Inc. Test Sample: Bidractional Amplifier Job No: R-4818N. CS BDAS1080-P7 Serial No: ENC Technician: Mode No: Technician: Mode No: Seamans Fest Specification: FCC Part 2 Paragraph: 2:104 Date: Mode No: Seamans Amplifying input signal														
Model No: Image: Site BDA51080-P7 Serial No: ENG Technician: M.Seamans Tots Specification: PCC Part 2 Paragraph: 2:1048 Date: \$142007 Operating Mode: PM-Downlink - Output signal Image: Site Part 2 Site Part 2 Site Part 2 Model: PM-Downlink - Output signal Image: Site Part 2 Part 2 Site Part 2 Site Part 2 Model: PM-Downlink - Output site 800 MHz Image: Site Part 2 Site Part 2 Site Part 2 Site Part 2 Model: PM-Downlink - Output site 800 MHz Image: Site Part 2 Site Part 2 Site Part 2 Site Part 2 Model: Image: Site Part 2 Image: Site Part 2 Image: Site Part 2 Site Part 2 Site Part 2 Model: Image: Site Part 2 Image: Site Part 2 Image: Site Part 2 Site Part 2 Site Part 2 Site Part 2 VA VB Image: Site Part 2 Image: Si	Test Method:	Occupied Bandwidth												
Test Specification: Proc Part 2 Paragraph: 2:1049 Date: ©/14/2007 Operating Mode: Amplifying input signal	Customer:	Cellular Specialties, Inc.			Test Sample:	Bidirectional	Amplifier			Job No:	R-4816N			
Operating Mode Amplifying input signal Notes: FM - Downlink - Output at 800 MHz 15: 42: 11 MAY 11, 2007 REF 30.0 dBm #AT 10 dB PEAK Image: Comparison of the compa	Model No:	CSI-BDA51080-P7			Serial No:	ENG				Technician:	M.Seamans			
Noise: PM-Downlink-Output at 800 MHz 15: 42: 11 MAY 11, 2007 REF 30.0 dBm #AT 10 dB PEAK 0 LOG 0 10 0 10 0 10 0 12 0 130.0 0 14 0 15: 42: 11 MAY 11, 2007 REF 30.0 dBm #AT 10 dB PEAK 0 10 0 10 0 10 0 10 0 10 0 10 0 11 0 12 0 130.0 0 130.0 0 130.0 0 130.0 0 130.0 0 140 0 1500 0 100 0 100 0 100 0 100 0 100 0 100 0 100 <t< td=""><td>•</td><td></td><td></td><td></td><td>Paragraph: 2.1</td><td>049</td><td></td><td></td><td></td><td>Date:</td><td>5/14/2007</td></t<>	•				Paragraph: 2.1	049				Date:	5/14/2007			
15: 42: 11 MAY 11. 2007 REF 30.0 dBm #AT 10 dB PEAK LOG 10 10 10 11 12 13 0 14 15: 42: 11 MAY 11. 2007 REF 30.0 dBm #AT 10 dB PEAK LOG 10 10 10 10 10 10 10 10 11 12 13 10 11 12 13 14 15 15 16 17 18 19 19 10 10 10 10 10 10 10 10 10 10 10 10														
REF 3Ø.Ø dBm #AT 1Ø dB PEAK	Notes:	FM - Downlink - Output at 8	00 MHz											
SC FC CORR CORR CORR CORR CENTER 8ØØ.ØØØ MHZ SPAN 1.ØØØ MHZ	REF 39 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø													
Data Sheet 3 of 4	SC FC CORR CENTER #F	RES BW 3.Ø	MHz		F		SPAN	1.ØØ						

RETLIF TESTING LABORATORIES =====														
						SSIONS D								
Test Method:	Occupied	Bandwidth												
Customer:		ecialties, Inc.				Test Sample:	Bidirectiona	Amplifier				Job No:	R-4816N	
Model No:	CSI-BDA51					Serial No:	ENG					Technician:	M.Seamans	
Test Specification:	FCC Part 2					Paragraph: 2.1	049					Date:	5/14/2007	
Operating Mode:	Amplifying i													
Notes:	FM - Down	link - Input at 8	00 MHz											
15:44:42 MAY 11, 2007 NV REF -25.0 dBm #AT 10 dB PEAK														
-														
LOG														
1Ø														
dB/														
ŀ														
				-										
			:	-		Λ								
-														
VA SB														
SC FC														
CORR														
Į	nnhm	mm	mm	hum	mm	harm	have	moun	hmmm	mm				
CENTER	R BØØ	.øøø	MHz					SPAN	1.ØØ	Ø MHz				
		w з.ø			#VBW	1Ø KH	Z		P 333					
Data Sheet 4 of 4													R-4816N	

			R	ETLIF	TES	TING	LABOI	RATO	RIES			
							ATA SHEE					
est Method:	Occupied Ba	andwidth										
ustomer:	Cellular Spec	cialties, Inc.				Fest Sample:	Bidirectional A	Amplifier			Job No:	R-4816N
lodel No:	CSI-BDA510	80-P7				Serial No:	ENG		Techniciar	: M.Seamans		
est Specification:	FCC Part 2					Paragraph: 2.1	049					5/14/2007
perating Mode:	Amplifying input signal											
lotes:	TDMA - Uplink - Output at 770 MHz											
14:54:36 MAY 11, 2007 加 REF 27.0 dBm AT 10 dB												
PEAK		[· · · · · · · · · · · · · · · · · · ·		·			T		[
LOG												
1Ø									-			
dB/					M	m						
OFFST		-	l		√ '	<u>μ' 'γ</u>						
ЗØ.Ø					ľ							
dB						\						
VA VB						M						
SC FC					N M	1 4						
CORR				M	/ /	1 4	Wh					
				-								
		٨			~ M	M.						
CENTE	B 77Ø	. ØØØØ	MHz	L				SPAN	25Ø	Ø kHz		
		W JØØ		ŧ	ŧ∨Β₩	1 kHz			8.33			
Data Sheet 1 of 4												R-4816N

			R	ETLI	F TES	FING	LABO	RATO	RIES			
							ATA SHE					
Test Method:	Occupied Ba	andwidth										
Customer:	Cellular Spec	ialties, Inc.			Т		Bidirectional	Amplifier			Job No:	R-4816N
Model No:	CSI-BDA510	80-P7			S		ENG					: M.Seamans
Test Specification:	FCC Part 2				Pa	aragraph: 2.1	049					5/14/2007
Operating Mode:	Amplifying input signal											
Notes:	TDMA - Uplink - Input at 770 MHz											
	ØØ: Ø1 -31.Ø		1, 2Ø9 AT	ð7 1Ø d		A MM						
	A A A E R Z Z A A A A A A A A A A A A A A A A A	.øøøø			MMM/ 				25ø.9 8.33	Ø kHz		R-4816N

RETLIF TESTING LABORATORIES											
			SSIONS D								
est Method:	Occupied Bandwidth										
sustomer:	Cellular Specialties, Inc.		Test Sample:	Bidirectional Ar	mplifier	Job No:	R-4816N				
lodel No:	CSI-BDA51080-P7		Serial No:	ENG		Technician:	M.Seamans				
est Specification:	FCC Part 2		Paragraph: 2.1	049				Date:	5/14/2007		
perating Mode:	Amplifying input signal TDMA - Downlink - Output at 800 MHz										
lotes:											
REF 2 PEAK LOG 1Ø dB/ OFFST 3Ø.Ø	9:23 MAY 11, 9.Ø dBm	#AT 1Ø dB	Mmy								
dB VA VB SC FC CORR		Man		MW M							
CENTE	R BØØ.ØØØØ M	1Hz			SPAN	25Ø.Ø	Ø kHz				
	RES BW 3ØØ H		I 1 KHz	•	SWP						
Data Sheet 3 of 4									R-4816N		

RETLIF TESTING LABORATORIES												
							ATA SHE					
Test Method:	Occupied Ba	andwidth				_						
Customer:	Cellular Spec	ialties, Inc.				Test Sample:	Bidirectional	Job No:	R-4816N			
Model No:	CSI-BDA510	80-P7				Serial No:	ENG	Technici	an: M.Seamans			
Test Specification:	FCC Part 2					Paragraph: 2.	1049	Date:	5/14/2007			
Operating Mode:												
Notes:	TDMA - Downlink - Input at 800 MHz											
,15:5 REF - PEAK LOG 1Ø dB∕				Ø7 1Ø d	В							
					Jm ¹	Mmh						
WA SB SC FC CORR												
CENTE	RES B			mJum	1	1 KH2	vh.m/hw/h z	SPAN	МЛЛЛ 25ø. 8.33			R-4816N