

**TEST DATA**

**ON**

**750 MHz TO 1250 MHz**

**(FREQUENCY RANGES FROM 100 MHz TO 2.0 GHz AVAILABLE)**

**-65 dBm TO +5 dBm DYNAMIC RANGE**

**(OTHER DYNAMIC RANGES AVAILABLE)**

**HARD LIMITED IF OUTPUT**

**TRUELY DC-COUPLED**

**25 nS RISE TIME**

**HIGH RELIABILITY**

**SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER  
(SDLVA)**

**PMI MODEL No:**

**SDLVA-0120-70-CONDOR**

**(SCD No: 136079 REV. A)**

**SERIAL NUMBERS: SDL60614 SDL51019, SDL51020, SDL51023, SDL51026,  
SDL60105, SDL60106, SDL60610, SDL60611, SDL60613**

**DESIGNED  
BY  
A. K. GORWARA**

**TESTED  
BY  
B. BAKER**

**REPORTED  
BY  
P. WOOD**

**2<sup>ND</sup> OCTOBER 1997**

***PLANAR MONOLITHIC INDUSTRIES, INC.***

**CORPORATE & ENGINEERING OFFICES : 1112 PERKIOMENVILLE ROAD, PERKIOMVILLE, PA 18951  
SALES & MANUFACTURING OFFICE : 7311-G GROVE ROAD, FREDERICK, MD 21704  
TEL. No: 301-662-4700 FAX No: 301-662-4938**

**750 MHz TO 1250 MHz  
70 dB DYNAMIC RANGE & HARD LIMITED IF OUTPUT  
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER**

- -65 TO +5 dBm LOGGING RANGE
- MINIATURE SIZE
- HARD LIMITED IF OUTPUT
- MIC/MMIC RELIABILITY
- TRULY DC-COUPLED
- HIGH SPEED

**SPECIFICATIONS**

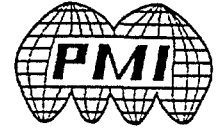
- FREQUENCY RANGE : 750 MHz TO 1250 MHz  
(OTHER FREQUENCY RANGES FROM 100 MHz TO 2.0 GHz ARE AVAILABLE)
- BANDWIDTH : 600 MHz @ 1 dB POINTS
- INPUT LOGGING RANGE : -65 dBm, MAX. TO +5 dBm, MIN.
- INPUT NOISE FLOOR :  $< -70$  dBm
- LOG VIDEO OUTPUT : 20 mV/dB, MIN. TO 30 mV/dB, MAX.
- LOG VIDEO DC OFFSET : 100 mV, NOMINAL (ADJUSTABLE  $\pm 50\%$ )
- LOG VIDEO LINEARITY :  $\pm 2.5$  dB MAX. @ 1 GHz (FROM BEST FIT STRAIGHT LINE @ ROOM TEMPERATURE)
- LOG VIDEO SLOPE VARIATION :  $\pm 3.0$  mV, MAX. (OVER FREQUENCY AND DYNAMIC RANGE FROM BEST FIT STRAIGHT LINE)
- LIMITED OUTPUT : -6 dBm  $\pm 2$  dB NOMINAL ( $\pm 2.5$  dB FROM  $-40^{\circ}\text{C}$  TO  $+70^{\circ}\text{C}$ , POWER VARIATION TO BE MONOTONIC WITH TEMPERATURE VARIATION)
- LIMITED OUTPUT FLATNESS :  $\pm 1.75$  dB MAX. (OVER FREQUENCY, INPUT = -65 TO +5 dBm, AND ANY FIXED OPERATING TEMPERATURE)
- SECOND HARMONIC : -10 dBc, MAX. (OVER FREQUENCY AND DYNAMIC RANGE)
- RISE TIME : 25 nS, MAX. (10% TO 90% POINTS)
- FALL TIME : 30 nS, MAX. (90% TO 10% POINTS)
- SETTling TIME : 40 nS, MAX. (TO WITHIN 1 dB)
- DIFFERENTIAL DELAY : 10 nS, MAX. (FROM LIMITED RF OUTPUT TO VIDEO OUTPUT)
- OVERSHOOT : 1.5 dB, MAX.
- RF LEAKAGE LEVELS : -60 dBm MAX. (WITH THE LIMITED RF OUTPUT TERMINATED INTO  $50 \Omega$  AND +5 dBm INPUT POWER LEVEL)
- VSWR INPUT : 1.8:1 MAX. @  $+25^{\circ}\text{C}$
- VSWR OUTPUT : 2.5:1 MAX. @  $+25^{\circ}\text{C}$
- VIDEO LOAD :  $100 \Omega \pm 10\%$
- POSITIVE POWER SUPPLY : +9 vdc TO +18 vdc,  $\pm 0.5$  volts, @ 200 mA MAX.
- NEGATIVE POWER SUPPLY : -9 vdc TO -18 vdc,  $\pm 0.5$  volts, @ 200 mA MAX.
- WEIGHT : 3.5 OZ. MAX.

**ENVIRONMENTAL SPECIFICATIONS**

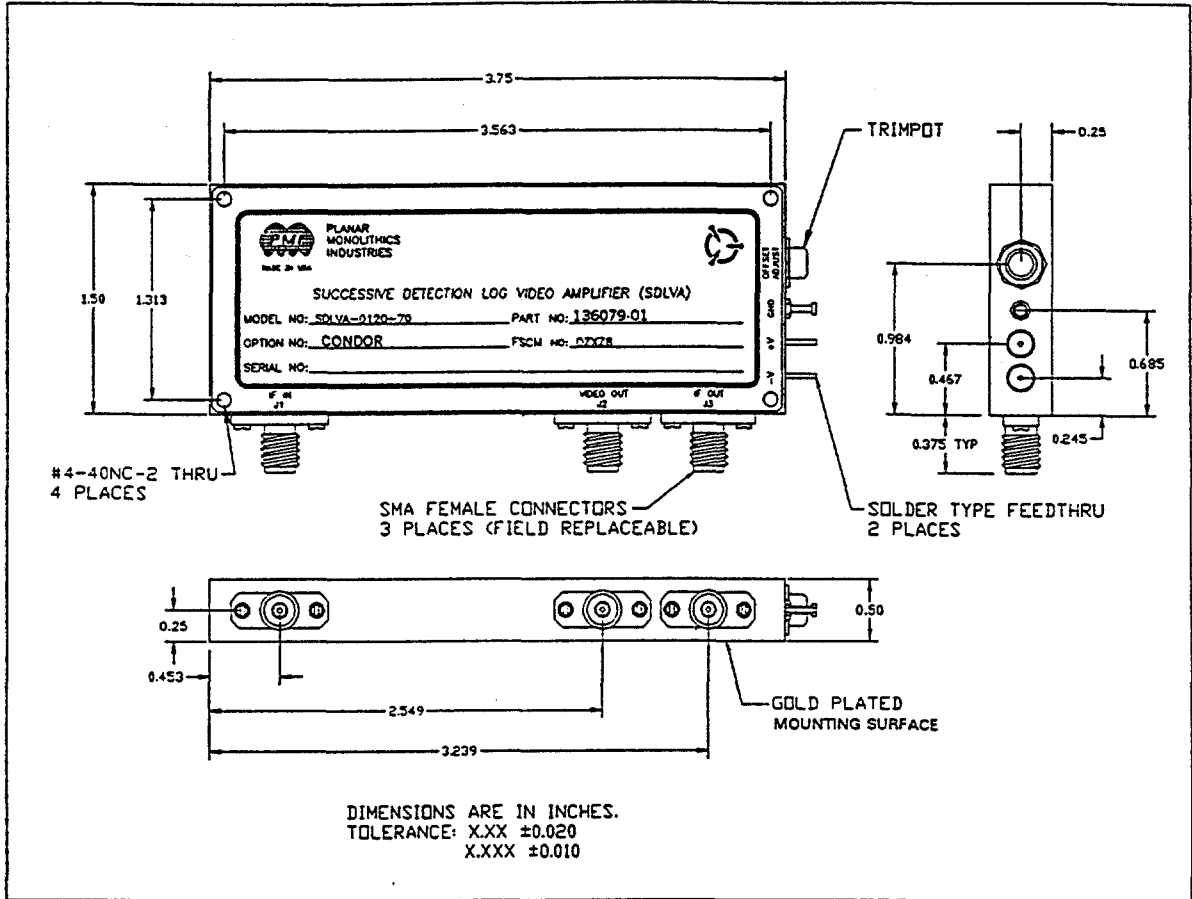
- TEMPERATURE :  $-40^{\circ}\text{C}$  TO  $+70^{\circ}\text{C}$ , FULL COMPLIANCE ( $-55^{\circ}\text{C}$  TO  $+85^{\circ}\text{C}$  WITH SOME DEGRADATION)
- ALTITUDE : MIL-STD-202F, METHOD 105C, CONDITION B, 100 TO 10,000 FEET OPERATIONAL
- HUMIDITY : MIL-STD-202F, METHOD 103B, CONDITION B, 95% RH
- VIBRATION : MIL-STD-202F, METHOD 204D, CONDITION B, 10 G PEAK TO PEAK, 60 Hz
- SHOCK : HALF SINE 11 ms DURATION MIL-STD-202F, METHOD 213B, CONDITION B, 30 G PEAK TO PEAK

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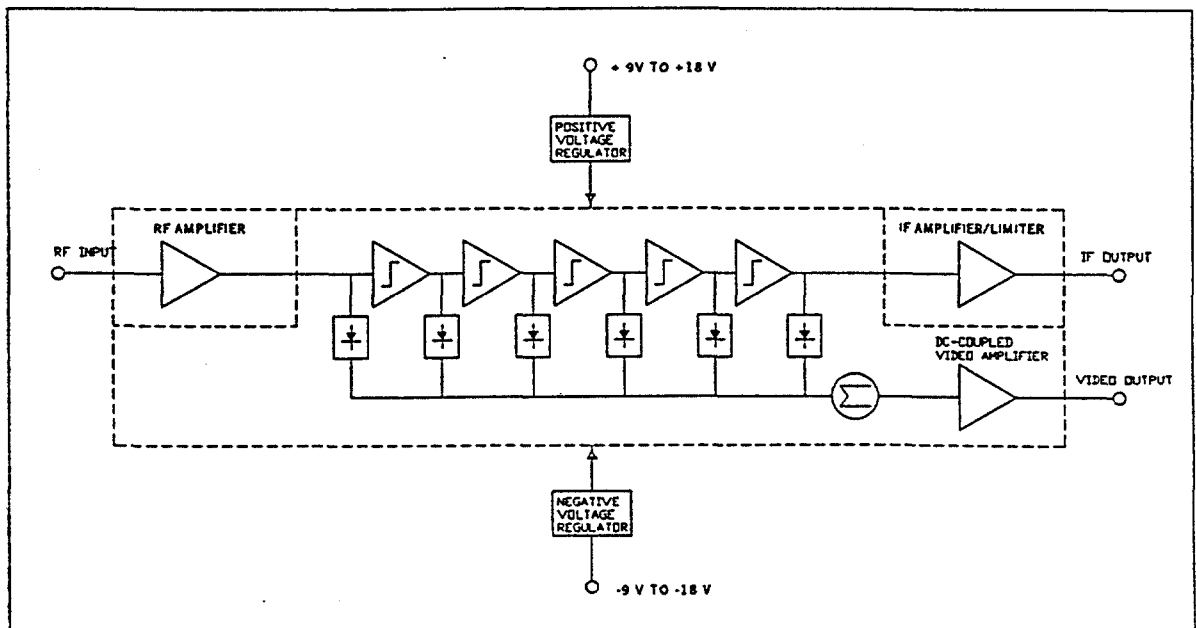
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TEL. No: 301-662-4700 FAX No: 301-662-4938



**MECHANICAL OUTLINE**



**FUNCTIONAL SCHEMATIC**





TEST DATA

ON

700 MHz TO 1250 MHz  
(FREQUENCY RANGES FROM 100 MHz TO 2.0 GHz AVAILABLE)

-65 dBm TO +5 dBm DYNAMIC RANGE  
(OTHER DYNAMIC RANGES AVAILABLE)

HARD LIMITED IF OUTPUT

TRUELY DC-COUPLED

25 nS RISE TIME

HIGH RELIABILITY

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER  
(SDLVA)

PMI MODEL No:  
SDLVA-0120-70-CONDOR  
(SCD No: 136076)

SERIAL NUMBER: SDL60614

AS TESTED FROM 600 MHz TO 1400 MHz

DESIGNED  
BY  
A. K. GORWARA

2<sup>ND</sup> OCTOBER 1997



**SUMMARY TEST DATA**  
 AS PRESENTED TO THE CUSTOMER  
 SDLVA-0120-70-CONDOR SERIAL No: SDL60614

FORM: SCOND102-50917P



JOB NO: 50917P

SUMMARY TEST DATA  
 ON  
 SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA.

CUSTOMER: CONDOR  
 JOB NO: 50917P  
 MODEL NO: SDLVA-0120-70-CONDOR  
 SERIAL NO: SDL60614

TESTED BY: B.B.  
 TEMPERATURE: -40°C TO 70°C  
 DATE: 7/12/96

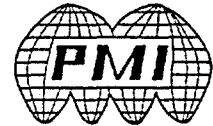
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	CENTER FREQUENCY	1 GHz	PASS	✓
2	BANDWIDTH @ 1 dB POINTS	600 MHz (min)	PASS	✓
3	INPUT LOGGING RANGE	-65 to +5 dBm (min)	PASS	✓
4	INPUT NOISE FLOOR	-70 dBm (min)	PASS	✓
5	LOG VIDEO OUTPUT	20 mV/dB(min) 30mV/dB(max)	PASS	✓
6	LOG VIDEO LINEARITY BEST FIT STRAIGHT LINE (-65 dBm to +5 dBm)	±2.5 dB(max) @ 1 GHz @ ROOM TEMPERATURE	+1.55dB	✓
7	LIMITED OUTPUT	-6 dBm (Norm), ±2.0 dB (max) @ Room ±2.5 dB (max) Over Temperature	-4.3 TO -6.4 dB @ Room -4.3 TO -8.5 dB @ 100°C	✓
8	LIMITED OUTPUT FLATNESS	±1.75 dB (max) @ ROOM	±0.6dB	✓
9	VSWR (+25°C) - INPUT	1.8:1 (max)	PASS	✓
10	VSWR (+25°C) - OUTPUT	2.5:1 (max)	PASS	✓
11	DC POWER +9 TO +18V	200 mA (max)	PASS	✓
12	D.C. POWER -9 TO -18V	200 mA (max)	PASS	✓

PRODUCTION MANAGER APPROVAL: [Signature] DATED: 7/12/96

QA/QC APPROVAL: [Signature] DATED: 7/12/96

Approved  
 [Signature]  
 May 31st, 1996

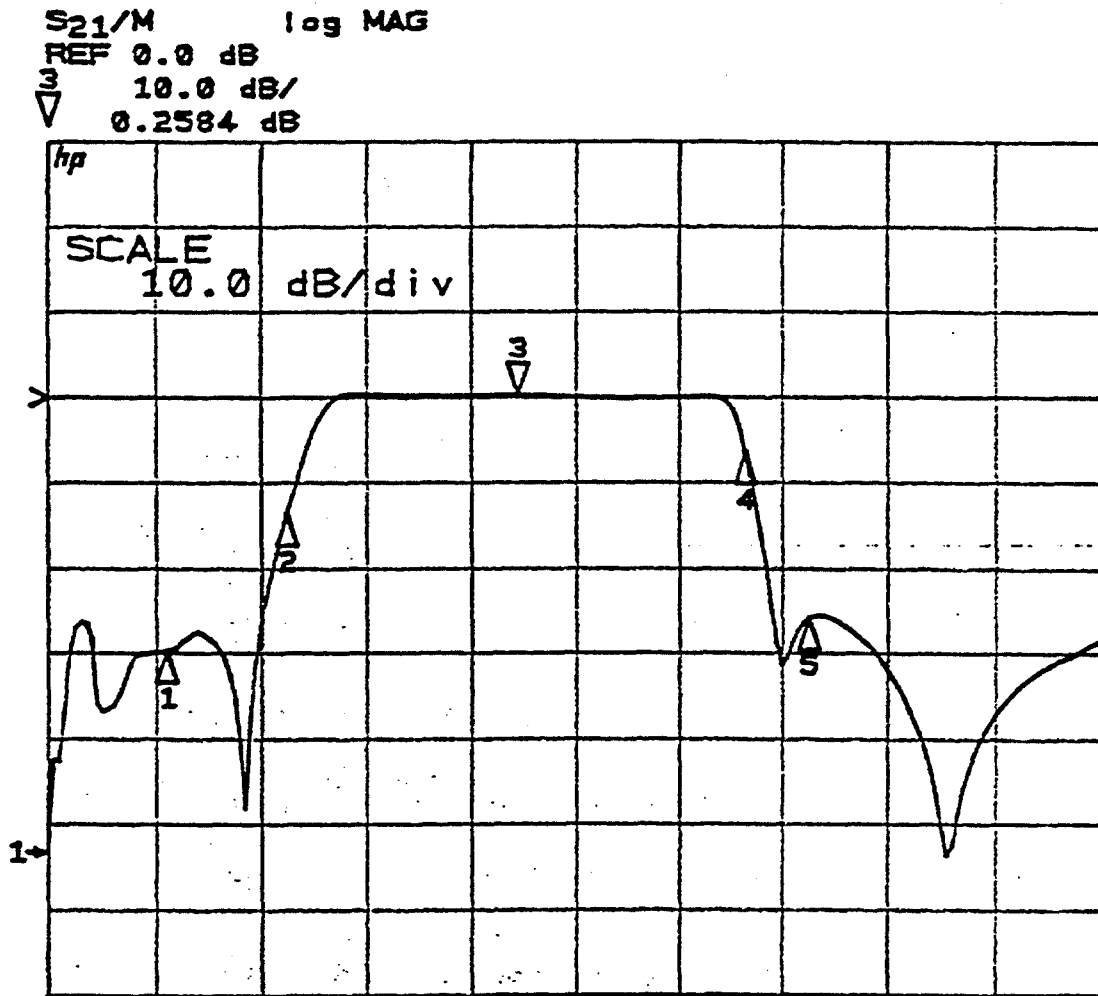
B.B.



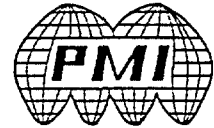
### FREQUENCY RESPONSE

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
AS MEASURED FROM 200 MHz TO 2000 MHz

MARKERS AT: #1 = 400 MHz, #2 = 600 MHz, #3 = 1000 MHz, #4 = 1400 MHz, & #5 = 1500 MHz

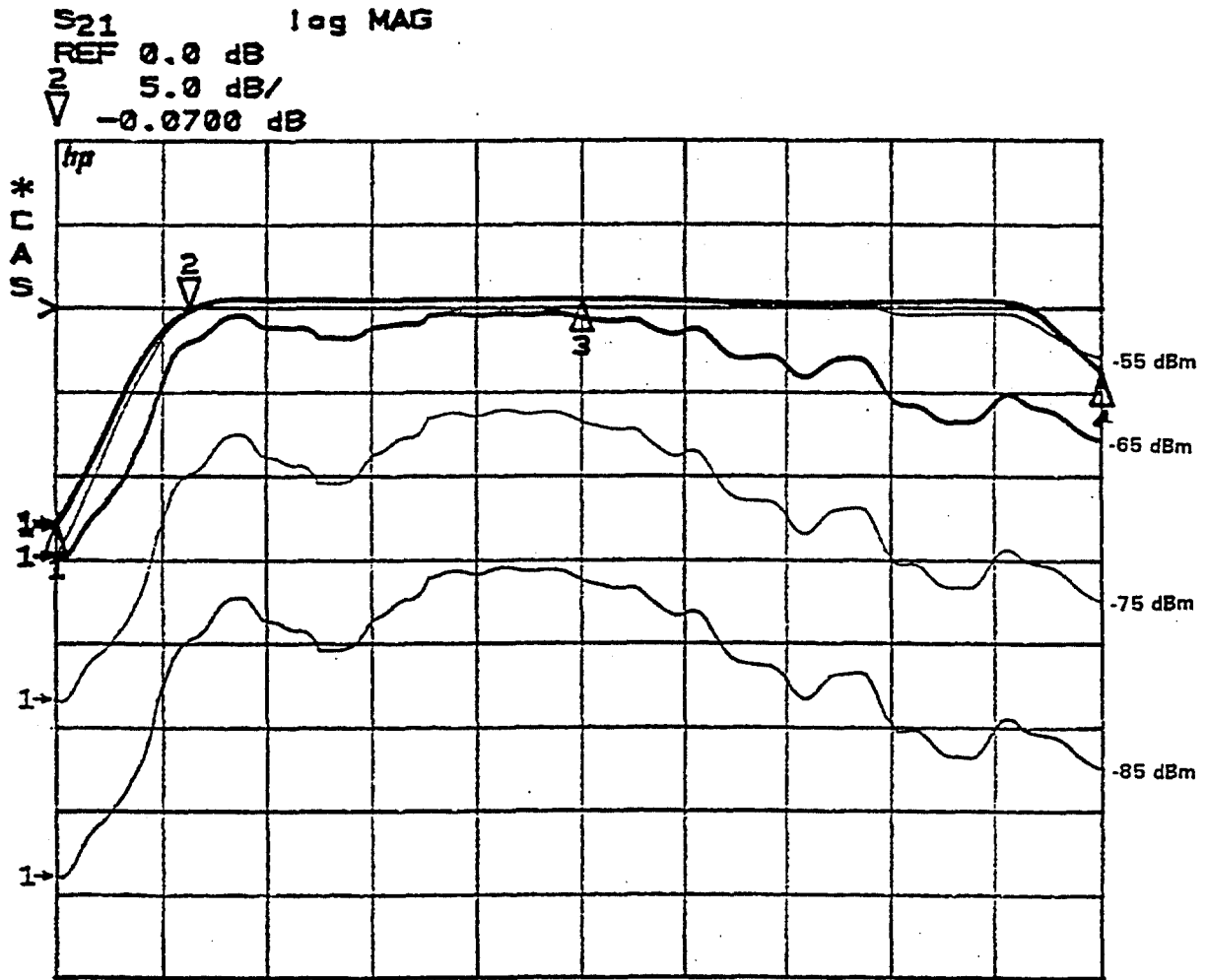


START 0.20000000 GHz  
STOP 2.00000000 GHz

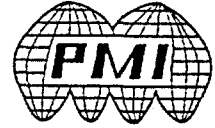


### GAIN vs RF INPUT POWER

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
AS MEASURED FROM 600 MHz TO 1400 MHz AT 5 dB PER DIVISION  
MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz,

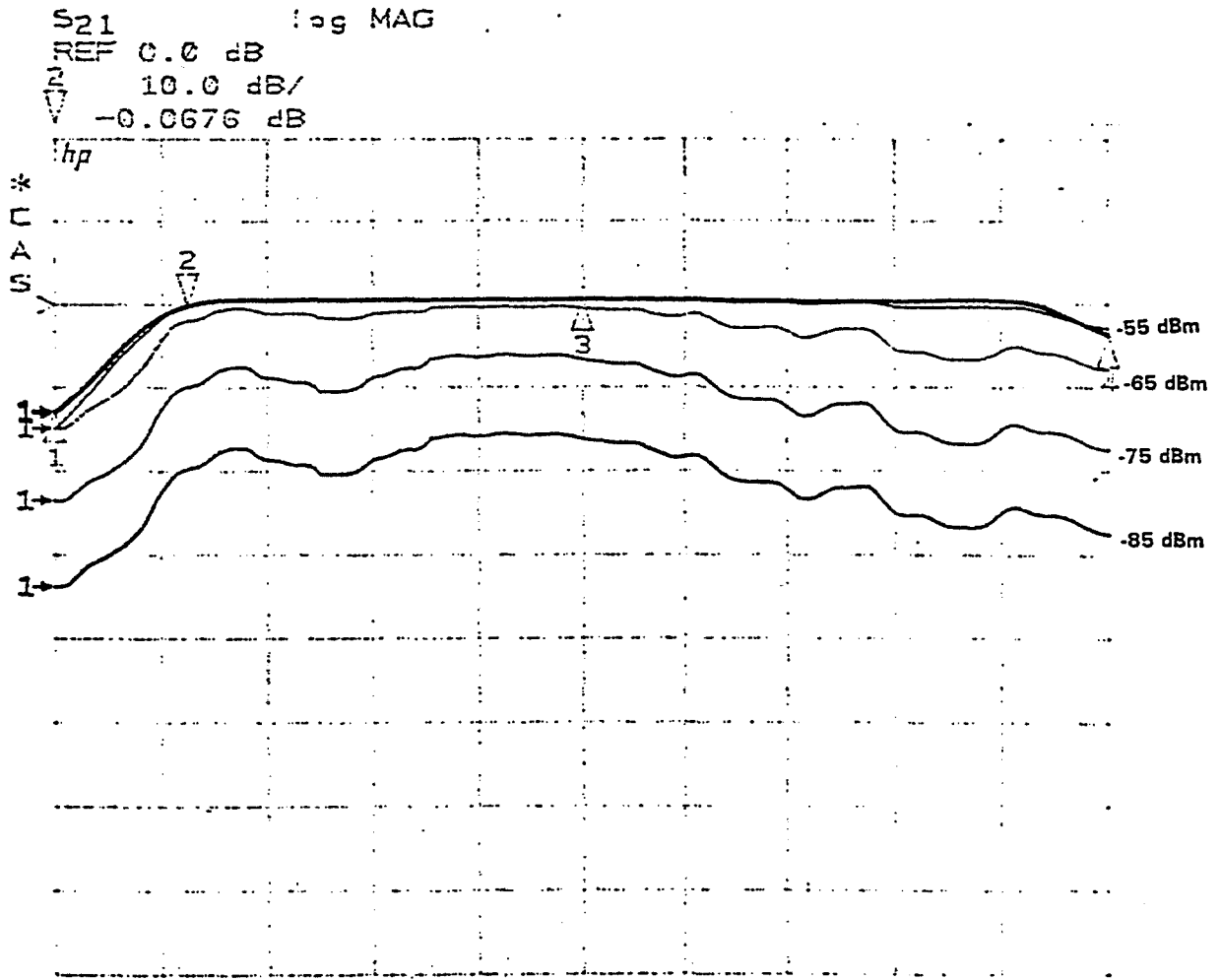


START 0.60000000 GHz  
STOP 1.40000000 GHz



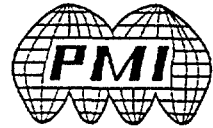
### GAIN vs RF INPUT POWER

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
AS MEASURED FROM 600 MHz TO 1400 MHz AT 10 dB PER DIVISION  
MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz.



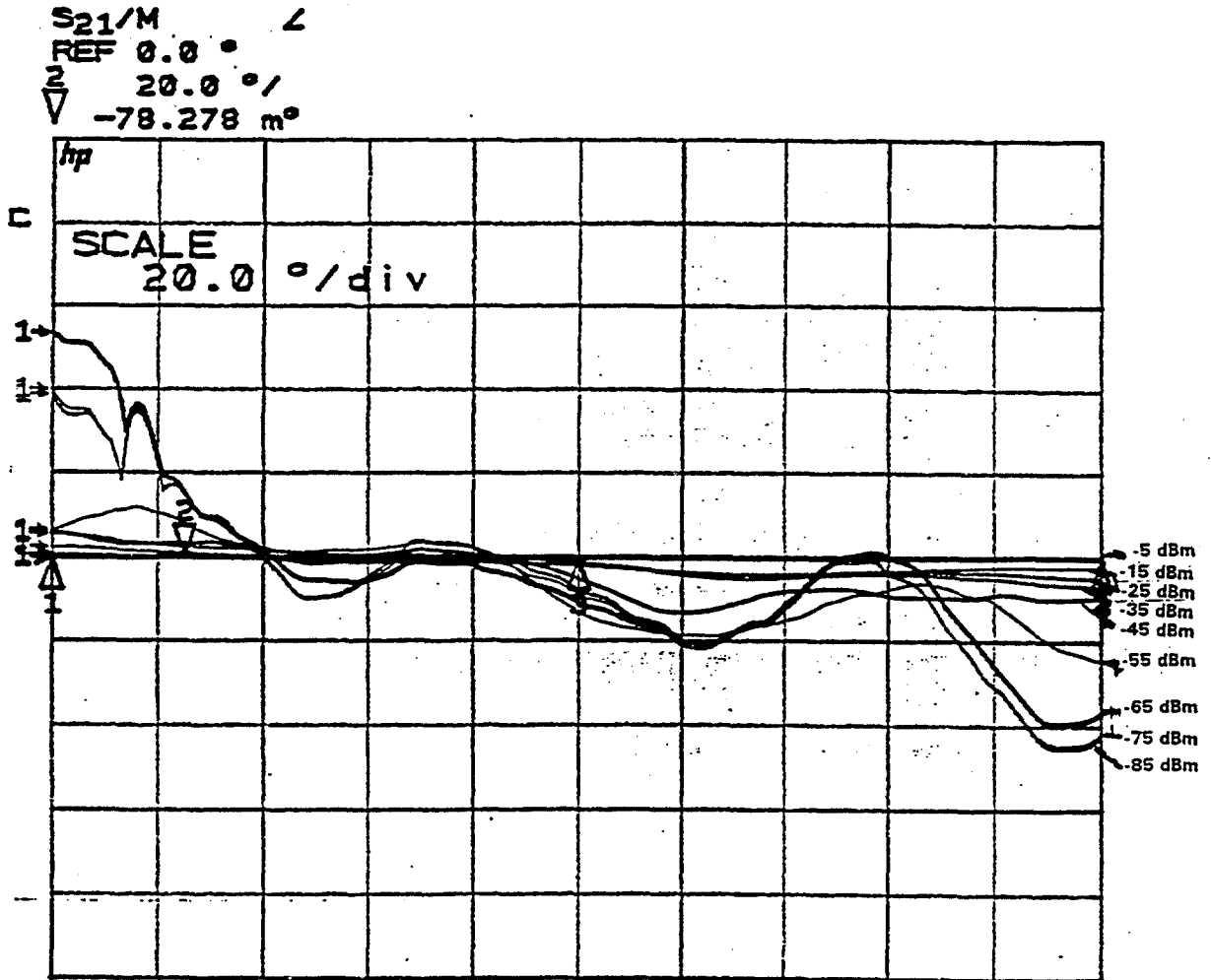
START 0.60000000 GHz  
STOP 1.40000000 GHz





### PHASE vs RF INPUT POWER

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
AS MEASURED FROM 600 MHz TO 1400 MHz AT 20° PER DIVISION  
MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz,



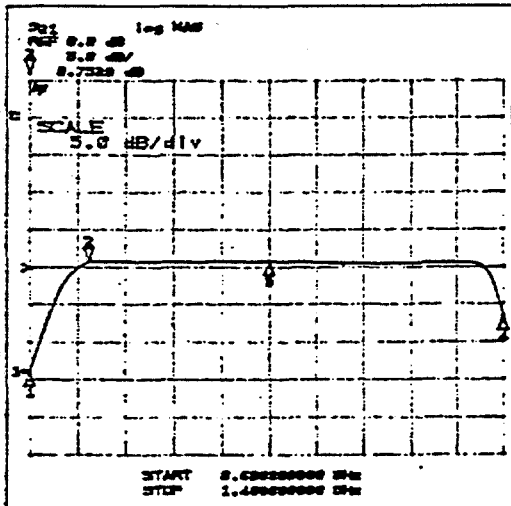
START 0.600000000 GHz  
STOP 1.400000000 GHz



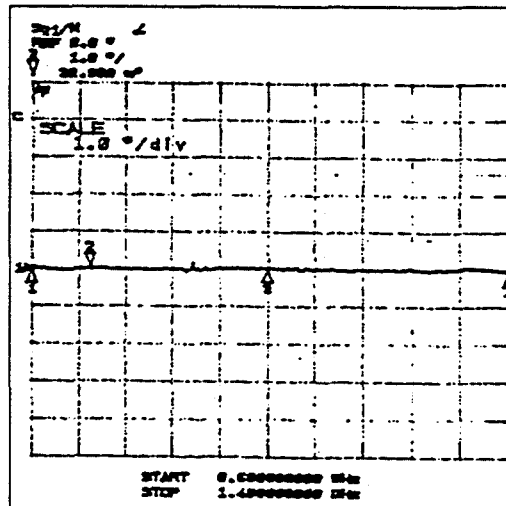
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
 AS MEASURED FROM 600 MHz TO 1400 MHz AT -5 dBm  
 MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz,

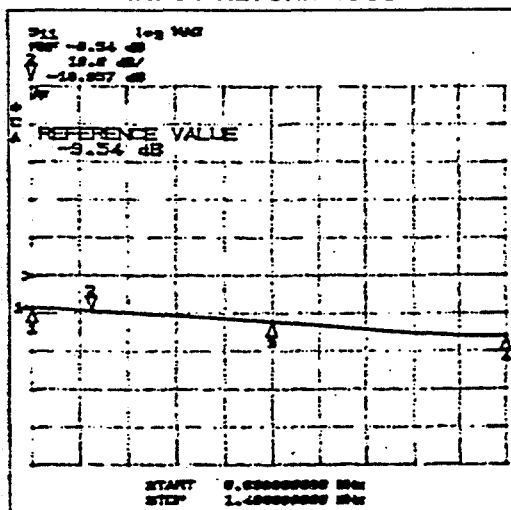
**GAIN**



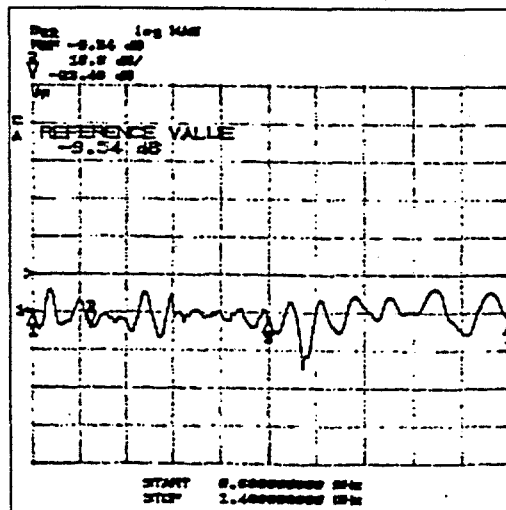
**PHASE**



**INPUT RETURN LOSS**

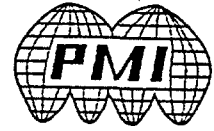


**OUTPUT RETURN LOSS**



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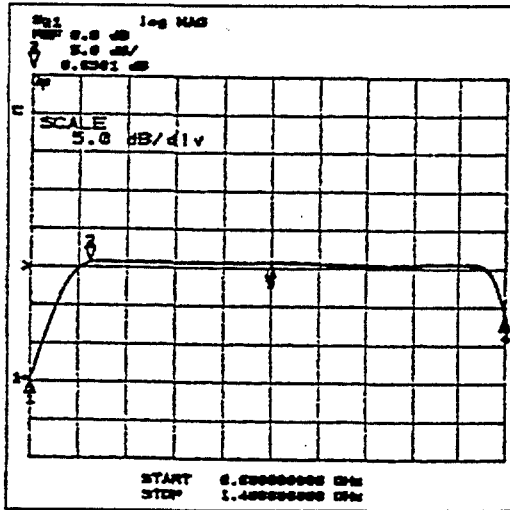
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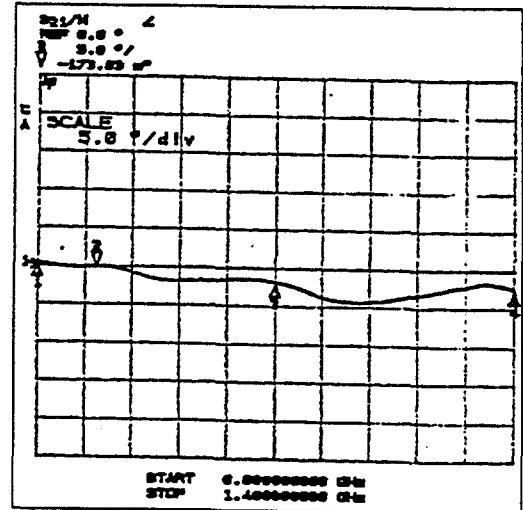
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
 AS MEASURED FROM 600 MHz TO 1400 MHz AT -15 dBm  
 MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz,

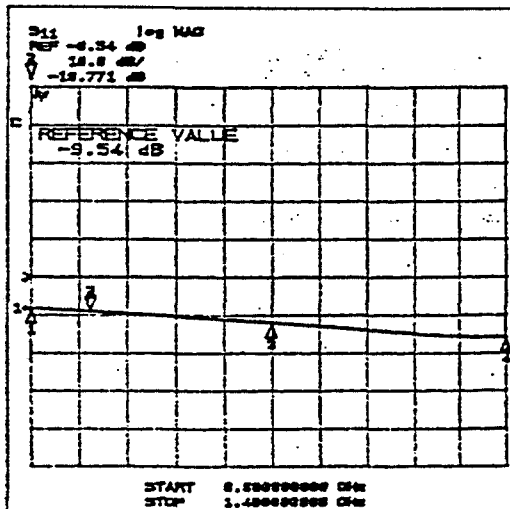
**GAIN**



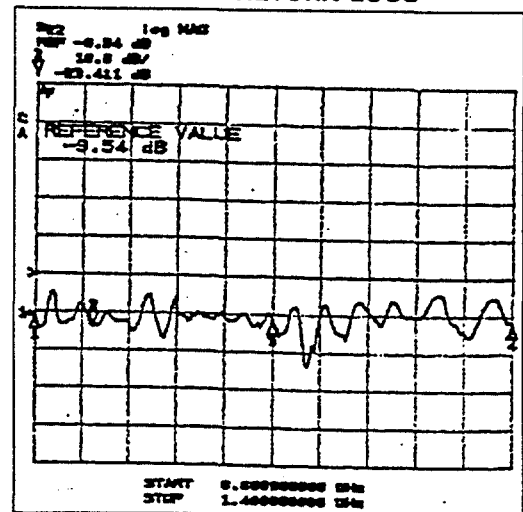
**PHASE**

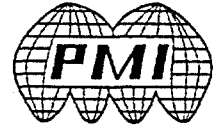


**INPUT RETURN LOSS**



**OUTPUT RETURN LOSS**

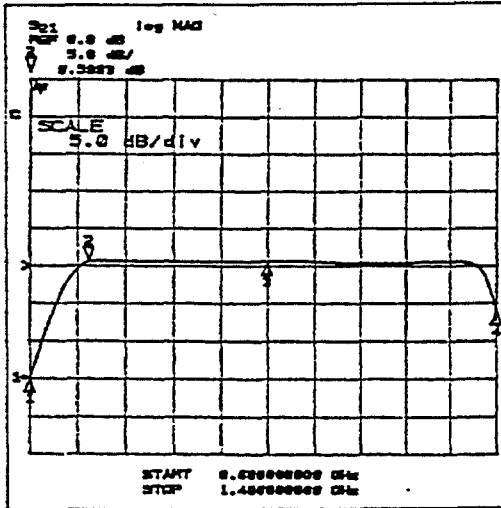




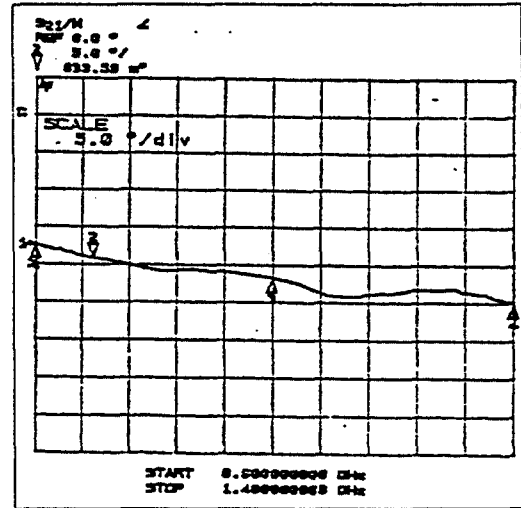
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
 AS MEASURED FROM 600 MHz TO 1400 MHz AT -25 dBm  
 MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz,

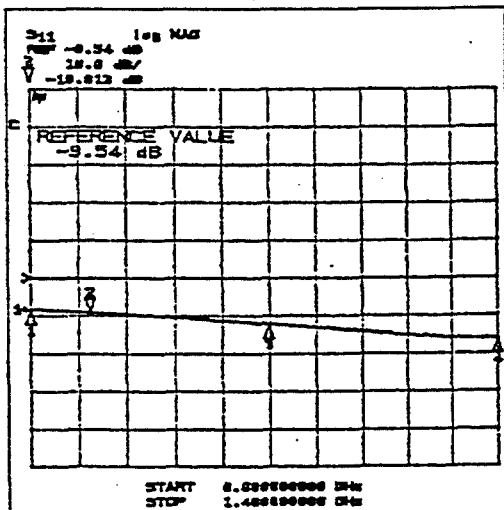
**GAIN**



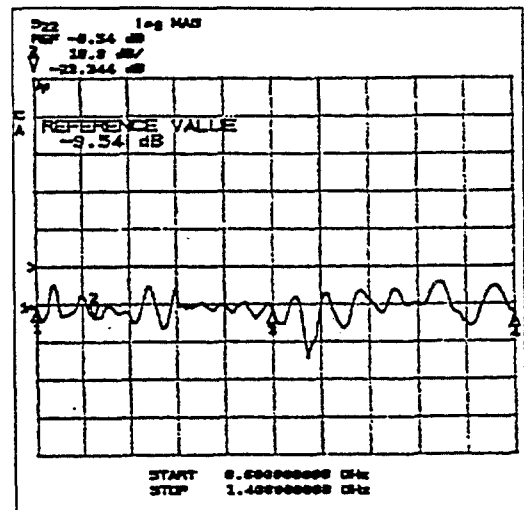
**PHASE**



**INPUT RETURN LOSS**

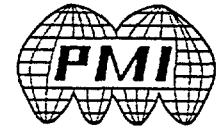


**OUTPUT RETURN LOSS**



**PLANAR MONOLITHIC INDUSTRIES, INC.**

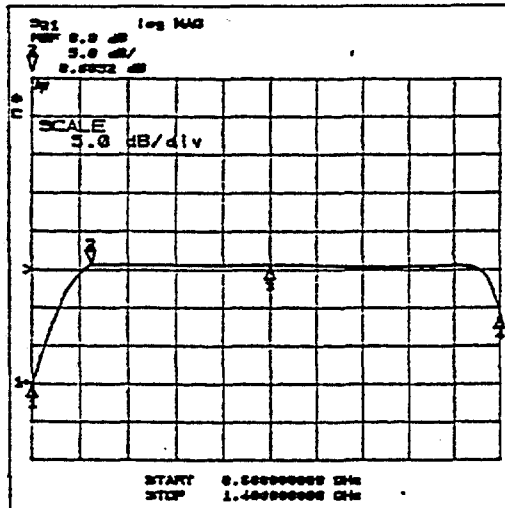
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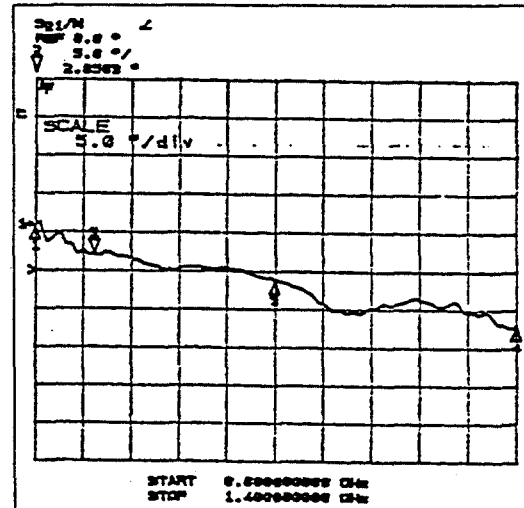
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
 AS MEASURED FROM 600 MHz TO 1400 MHz AT -35 dBm  
 MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz.

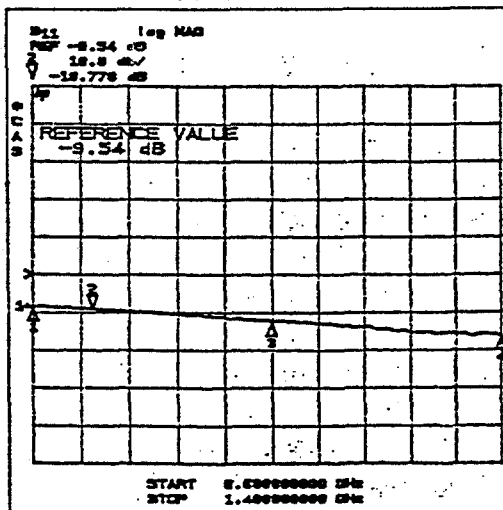
**GAIN**



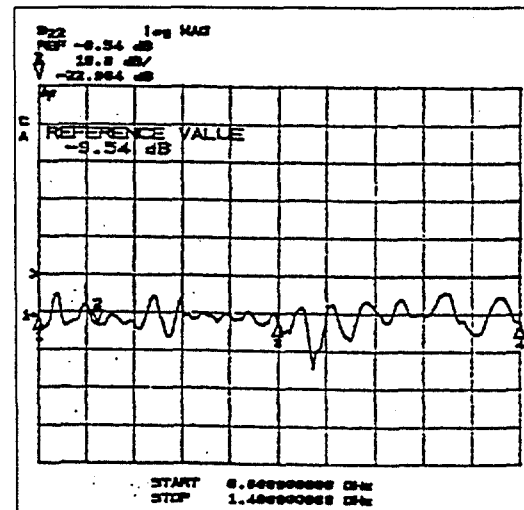
**PHASE**



**INPUT RETURN LOSS**

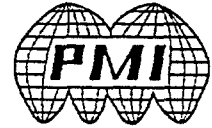


**OUTPUT RETURN LOSS**



**PLANAR MONOLITHIC INDUSTRIES, INC.**

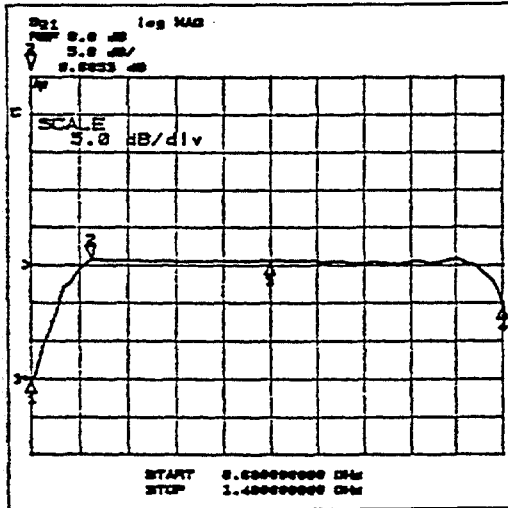
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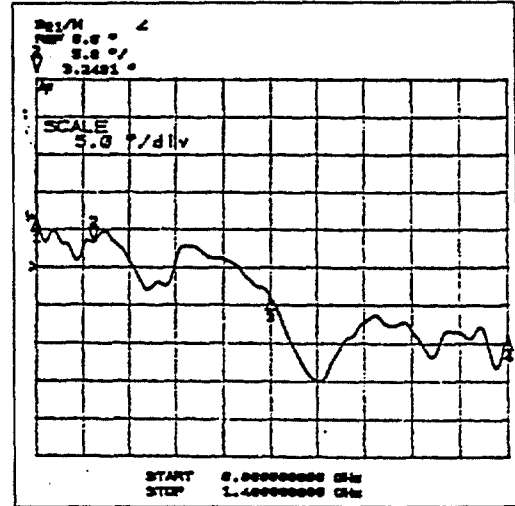
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
 AS MEASURED FROM 600 MHz TO 1400 MHz AT -45 dBm  
 MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz.

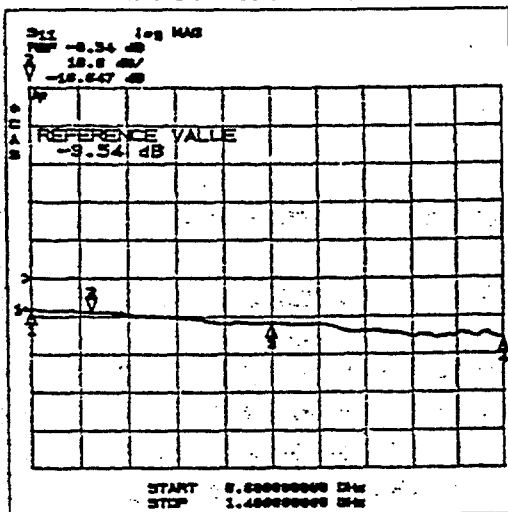
**GAIN**



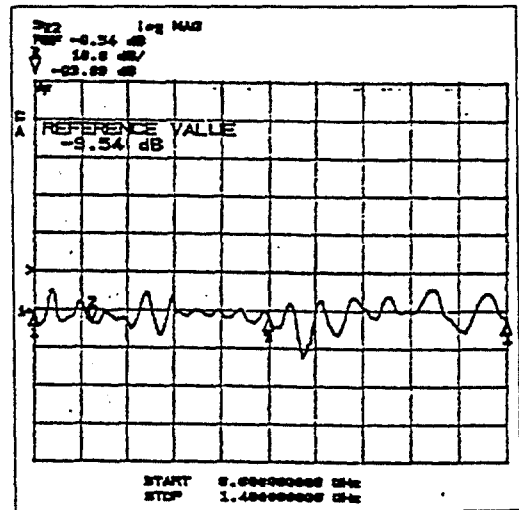
**PHASE**



**INPUT RETURN LOSS**



**OUTPUT RETURN LOSS**



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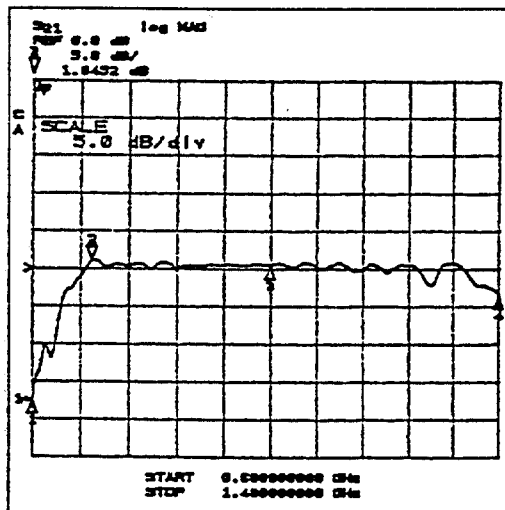
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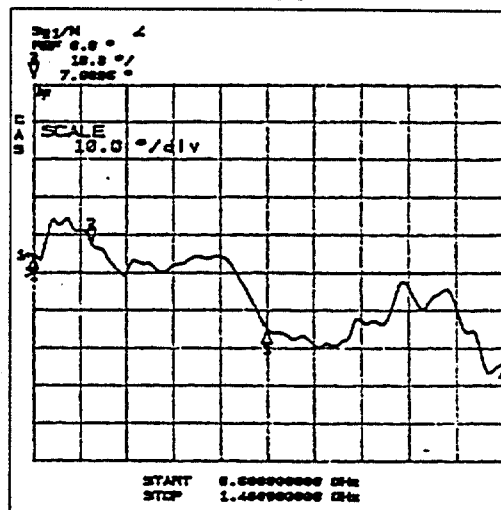
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
 AS MEASURED FROM 600 MHz TO 1400 MHz AT -55 dBm  
 MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz,

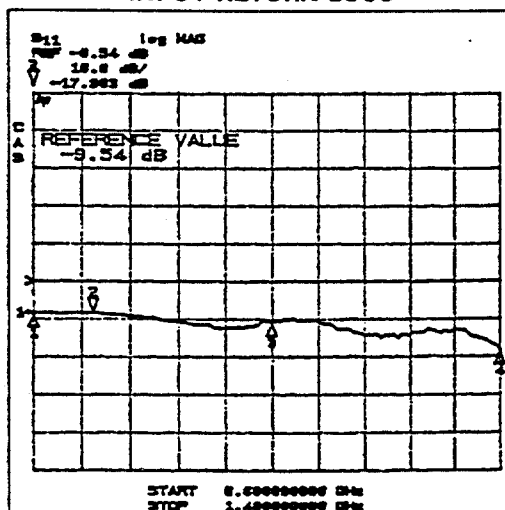
**GAIN**



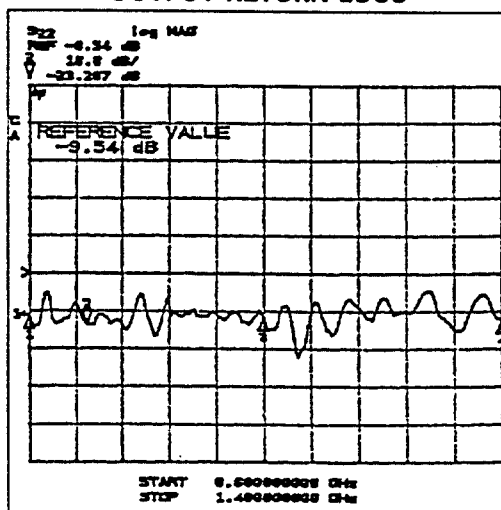
**PHASE**



**INPUT RETURN LOSS**

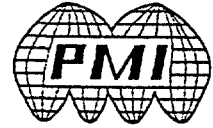


**OUTPUT RETURN LOSS**



**PLANAR MONOLITHIC INDUSTRIES, INC.**

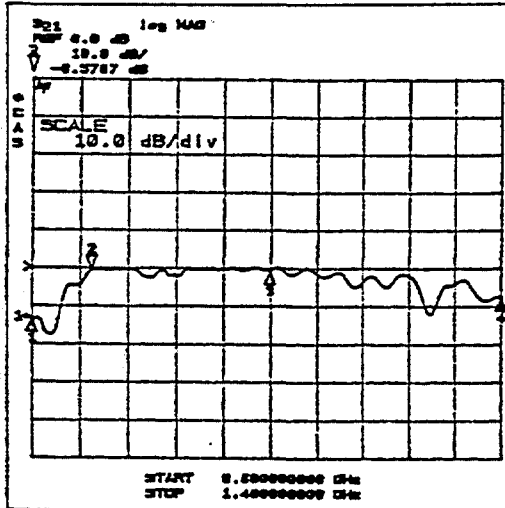
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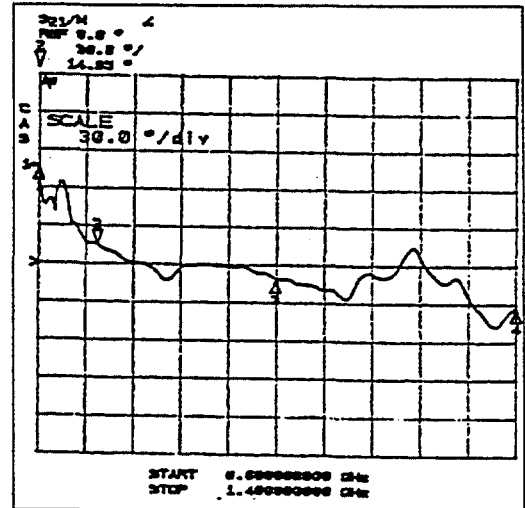
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
 AS MEASURED FROM 600 MHz TO 1400 MHz AT -65 dBm  
 MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz,

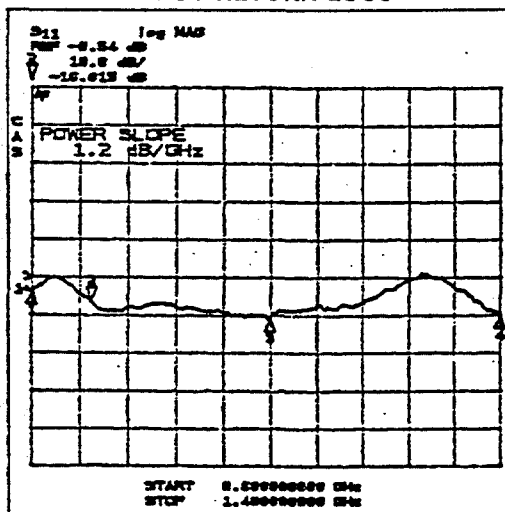
**GAIN**



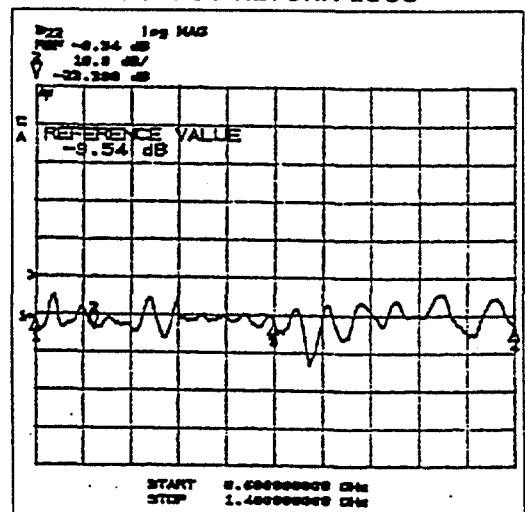
**PHASE**



**INPUT RETURN LOSS**



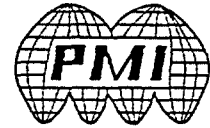
**OUTPUT RETURN LOSS**



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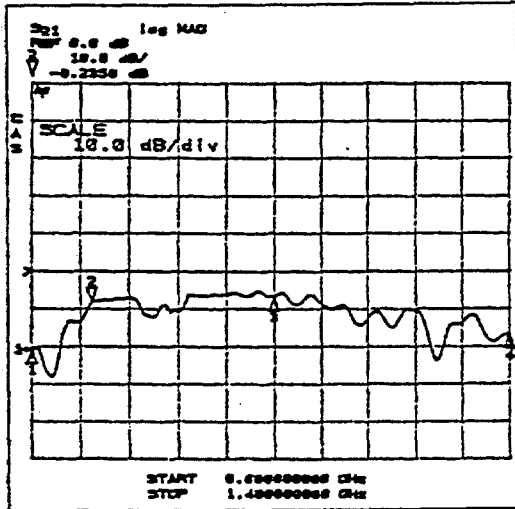




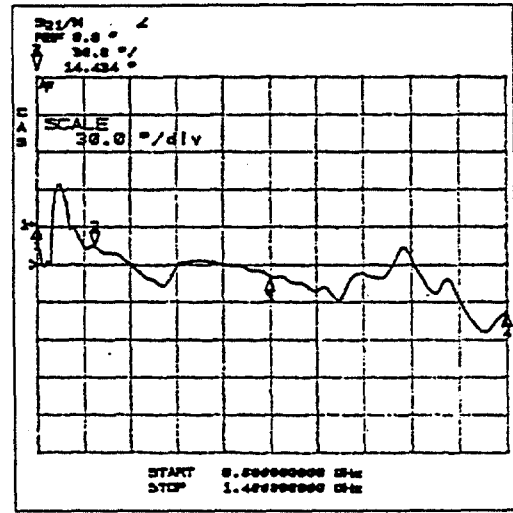
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
 AS MEASURED FROM 600 MHz TO 1400 MHz AT -75 dBm  
 MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz.

**GAIN**



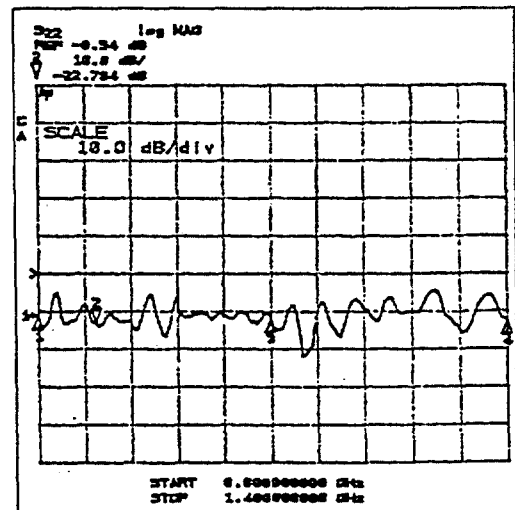
**PHASE**

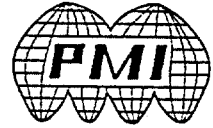


**INPUT RETURN LOSS**

ACCURATE DATA  
 NOT  
 AVAILABLE  
 DUE TO EXTREME  
 LOW POWER  
 MEASUREMENT

**OUTPUT RETURN LOSS**

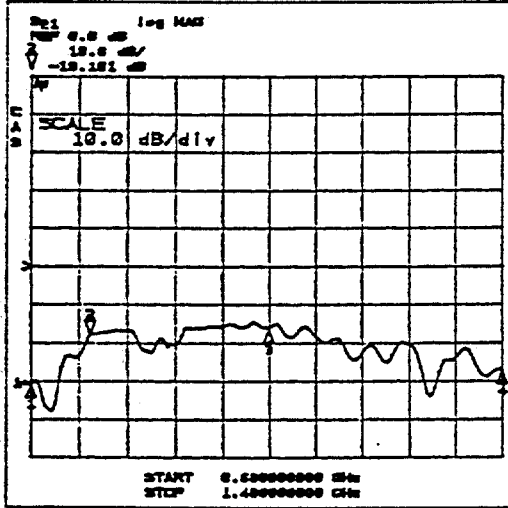




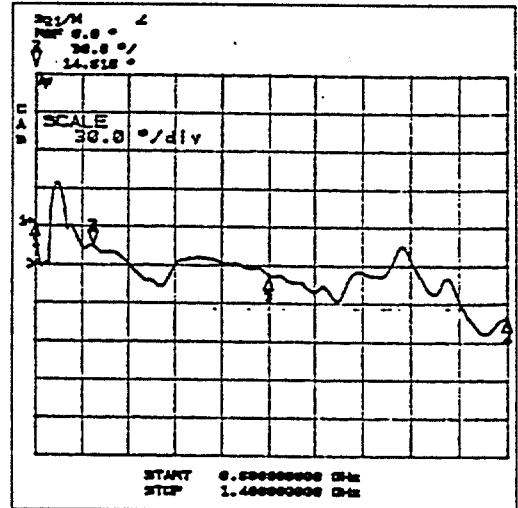
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
 AS MEASURED FROM 600 MHz TO 1400 MHz AT -85 dBm  
 MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz,

**GAIN**



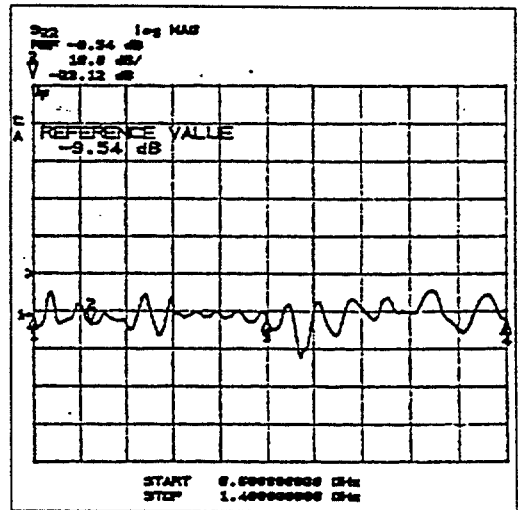
**PHASE**



**INPUT RETURN LOSS**

ACCURATE DATA  
 NOT  
 AVAILABLE  
 DUE TO EXTREME  
 LOW POWER  
 MEASUREMENT

**OUTPUT RETURN LOSS**





**TEST DATA**

**ON**

**700 MHz TO 1250 MHz**  
(FREQUENCY RANGES FROM 100 MHz TO 2.0 GHz AVAILABLE)

**-65 dBm TO +5 dBm DYNAMIC RANGE**  
(OTHER DYNAMIC RANGES AVAILABLE)

**HARD LIMITED IF OUTPUT**

**TRUELY DC-COUPLED**

**25 nS RISE TIME**

**HIGH RELIABILITY**

**SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER  
(SDLVA)**

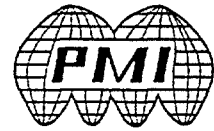
**PMI MODEL No:**  
**SDLVA-0120-70-CONDOR**  
(SCD No: 136076)

**SERIAL NUMBER: SDL60614**

**AS TESTED FROM 525 MHz TO 1500 MHz**

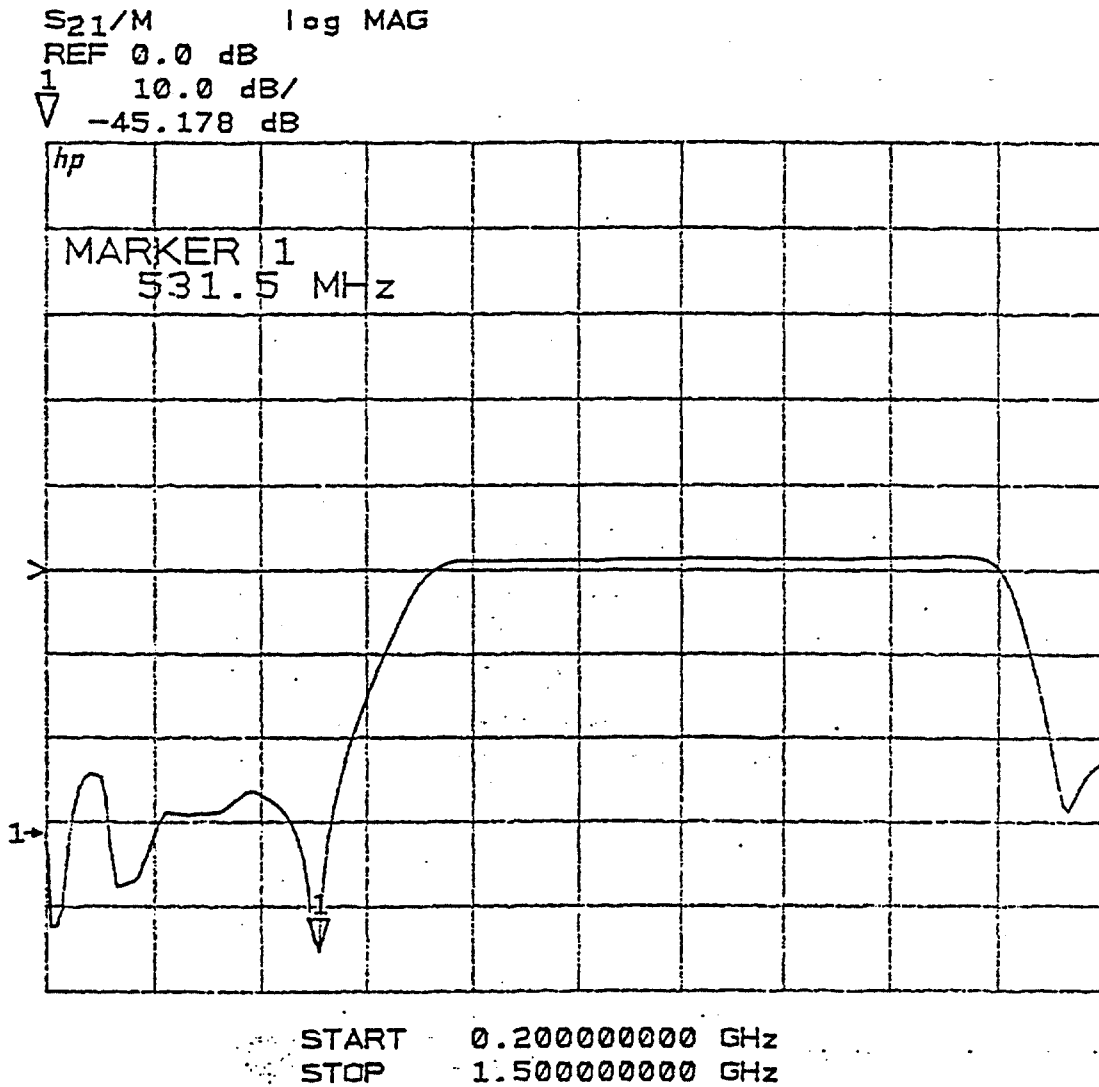
**DESIGNED  
BY  
A. K. GORWARA**

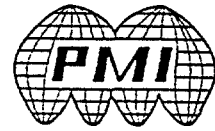
**2<sup>ND</sup> OCTOBER 1997**



### FREQUENCY RESPONSE

SDLVA-0120-70-CONDOR SERIAL No: SDL60614  
AS MEASURED FROM 200 MHz TO 1500 MHz



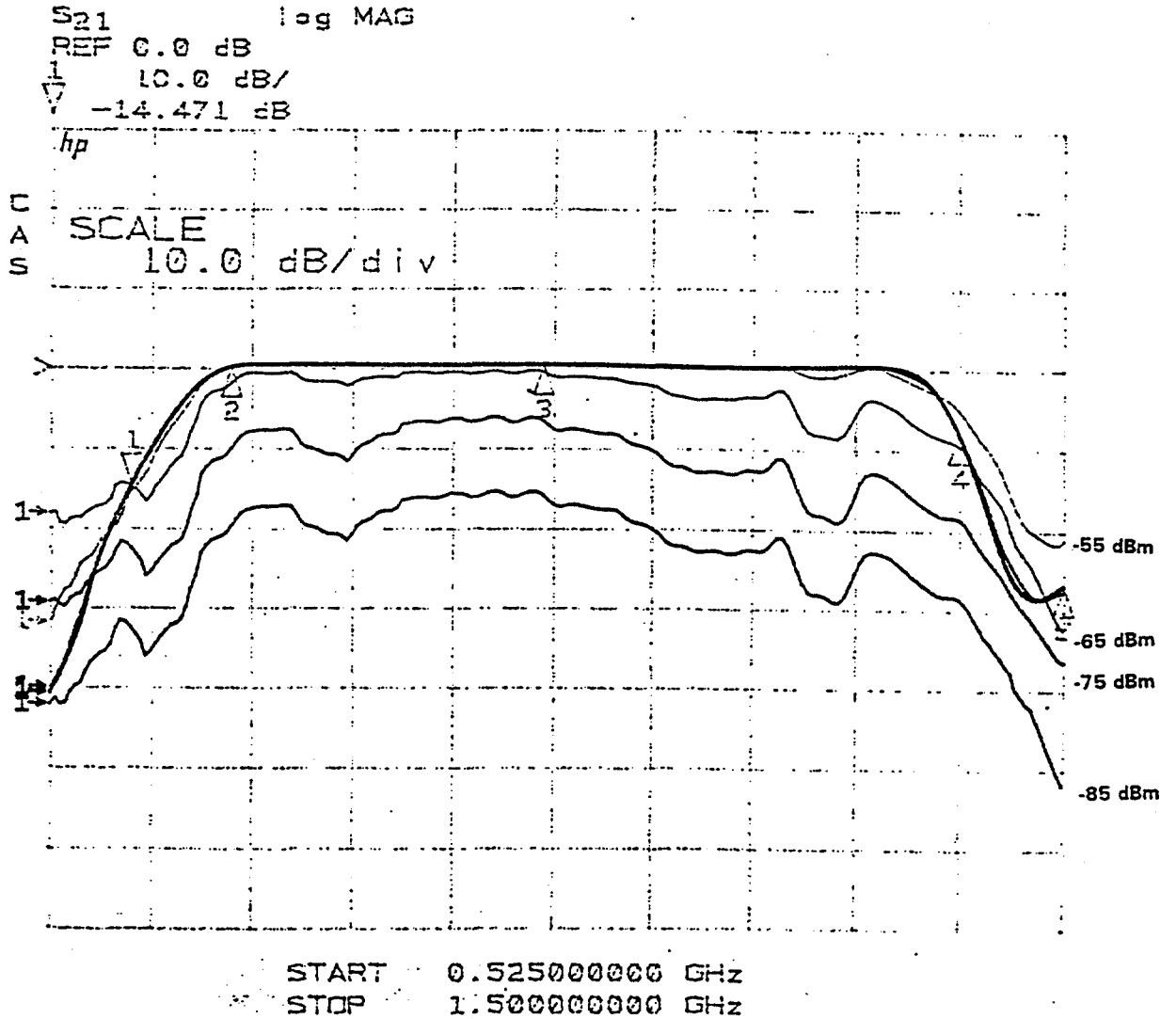


### ABSOLUTE GAIN vs RF INPUT POWER

SDLVA-0120-70-CONDOR SERIAL No: SDL60614

AS MEASURED FROM 525 MHz TO 1500 MHz AT 10 dB PER DIVISION

MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz

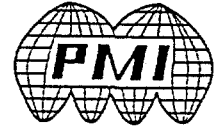


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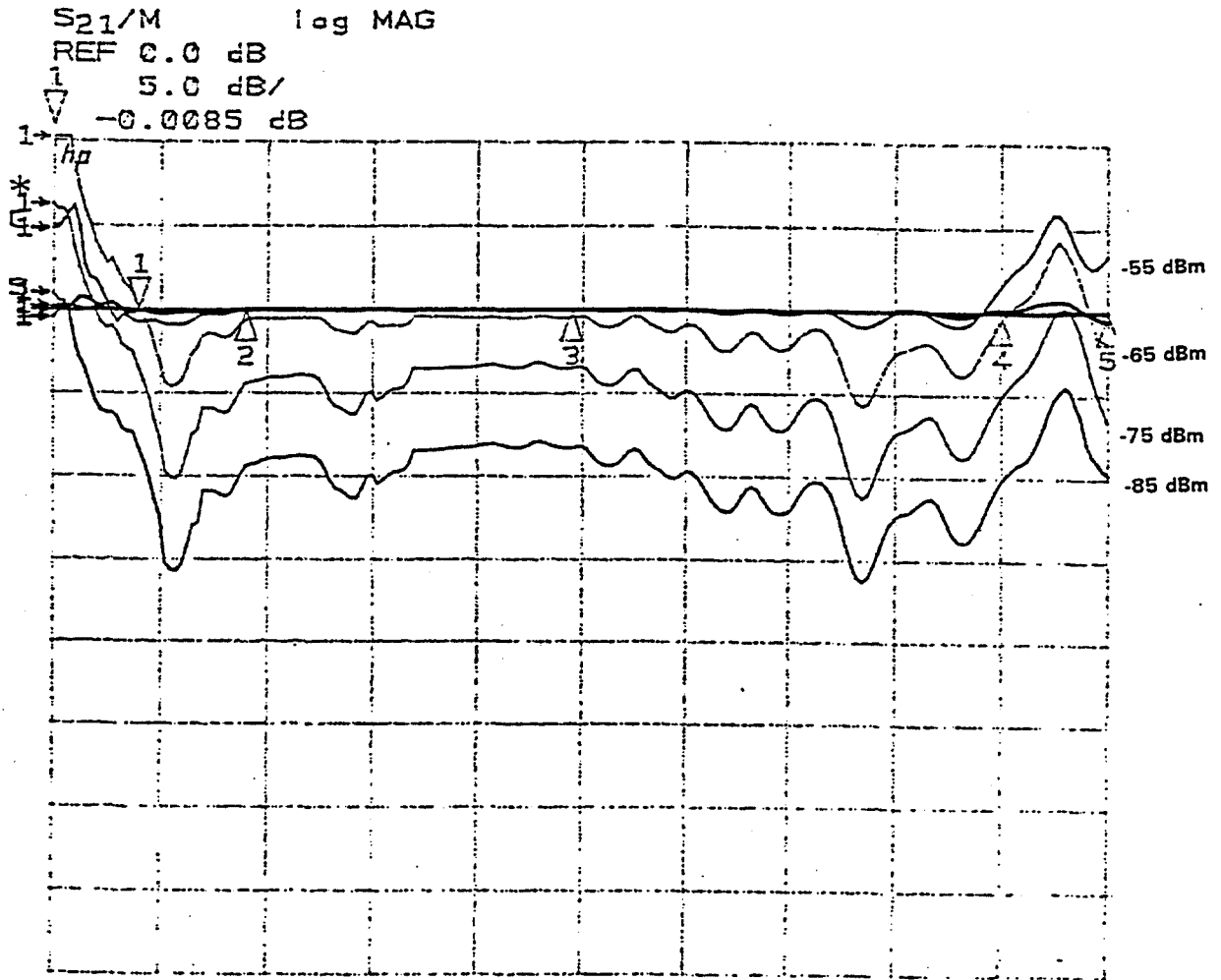


### RELATIVE GAIN vs RF INPUT POWER

SDLVA-0120-70-CONDOR SERIAL No: SDL60614

AS MEASURED FROM 525 MHz TO 1500 MHz AT 5 dB PER DIVISION

MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz



START 0.525000000 GHz  
STOP 1.500000000 GHz

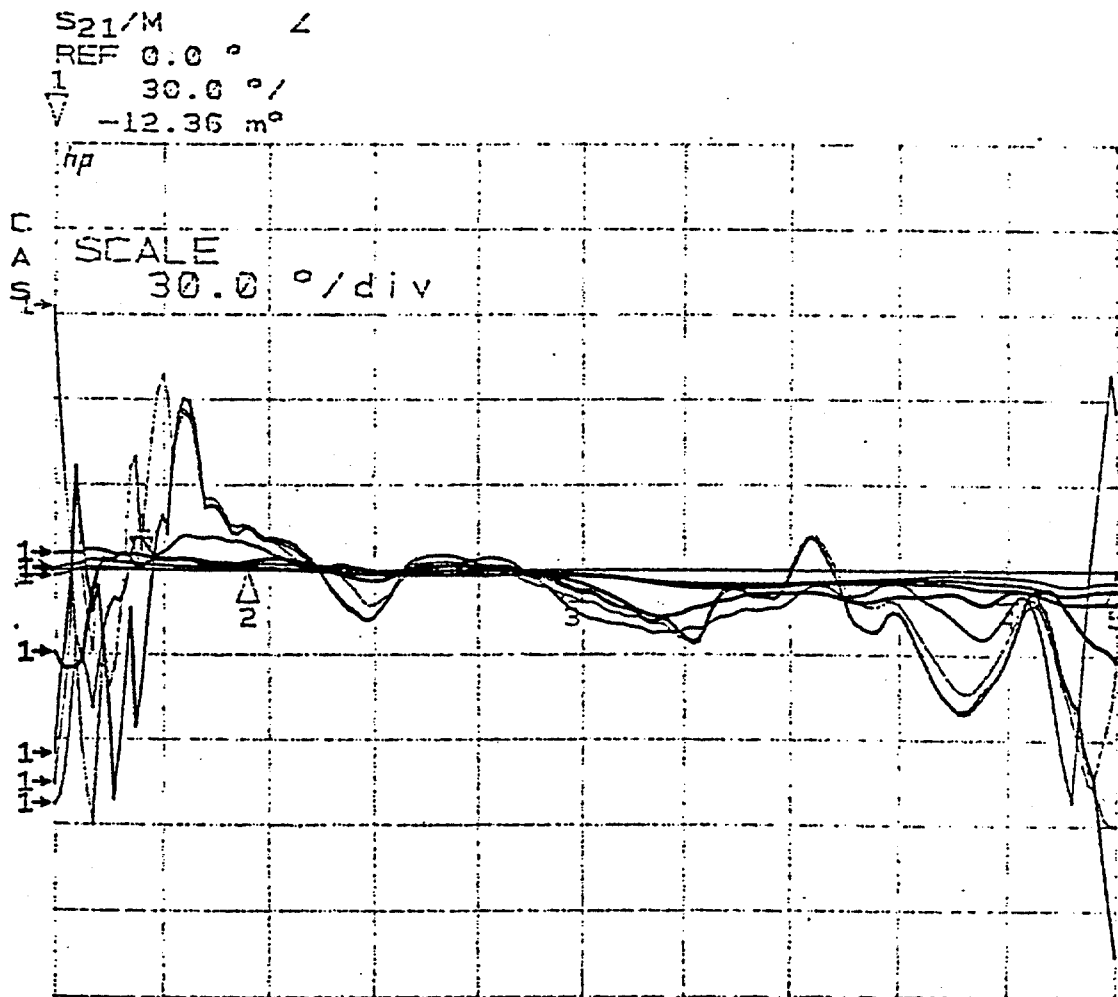


### PHASE vs RF INPUT POWER

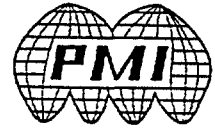
SDLVA-0120-70-CONDOR SERIAL No: SDL60614

AS MEASURED FROM 525 MHz TO 1500 MHz AT 30° PER DIVISION

MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz



START 0.525000000 GHz  
STOP 1.500000000 GHz



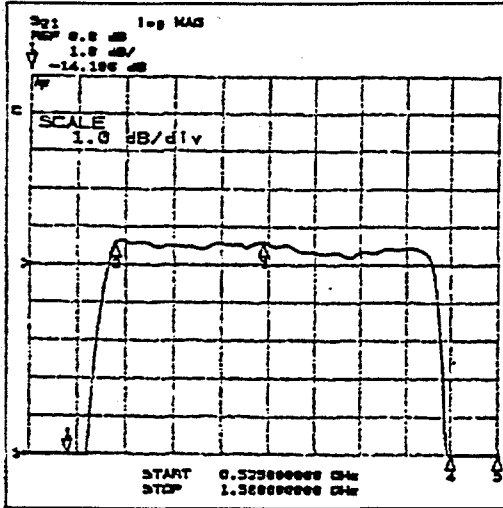
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614

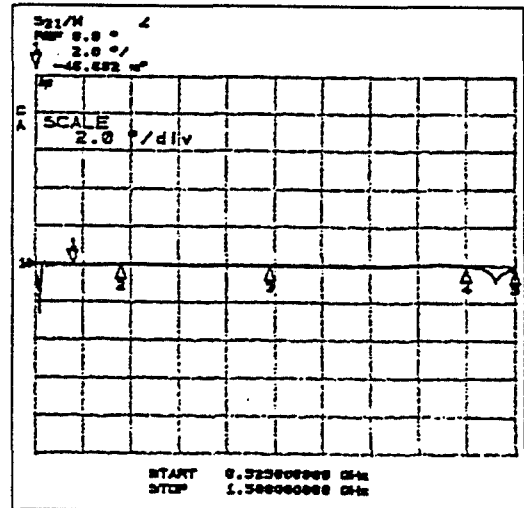
AS MEASURED FROM 525 MHz TO 1500 MHz AT -5 dBm

MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz

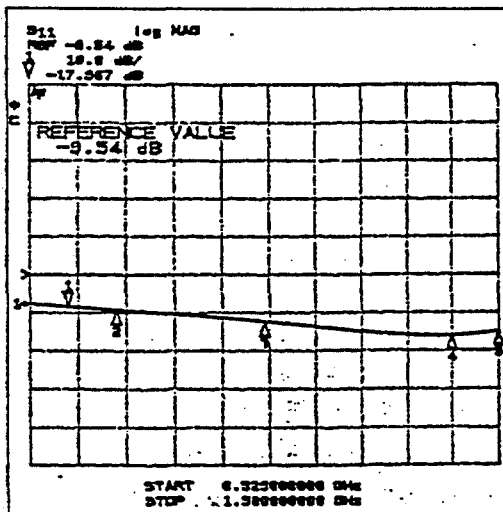
**GAIN**



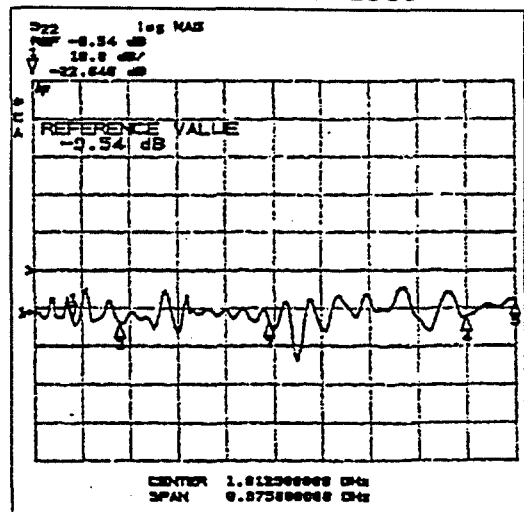
**PHASE**



**INPUT RETURN LOSS**



**OUTPUT RETURN LOSS**



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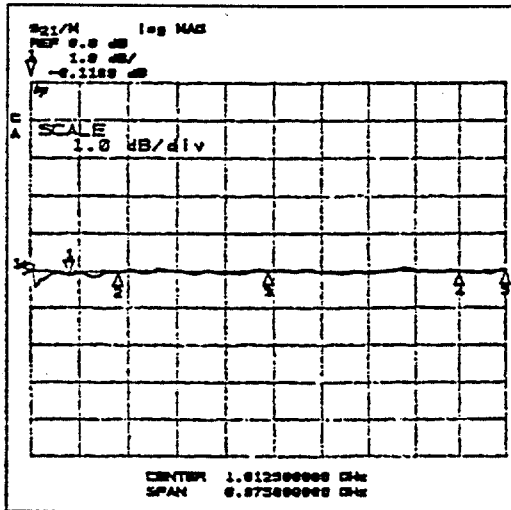
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614

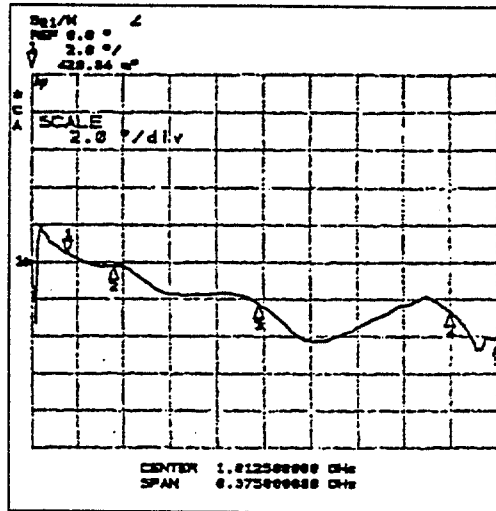
AS MEASURED FROM 525 MHz TO 1500 MHz AT -15 dBm

MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz

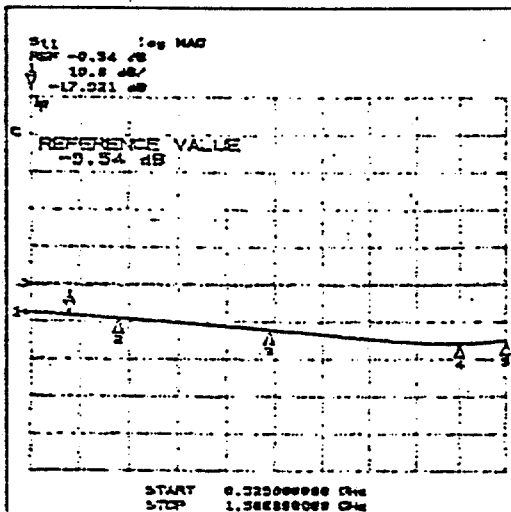
**GAIN**



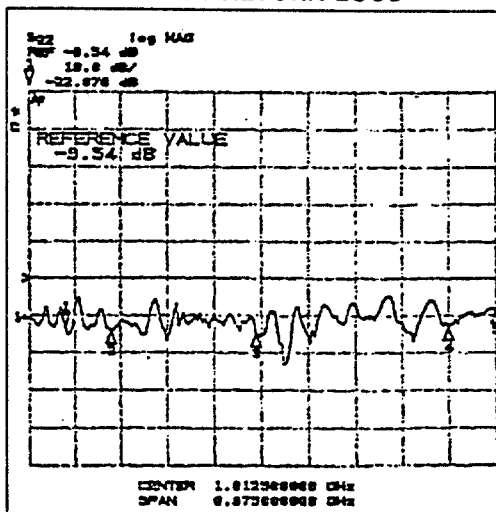
**PHASE**



**INPUT RETURN LOSS**



**OUTPUT RETURN LOSS**

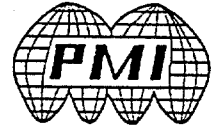


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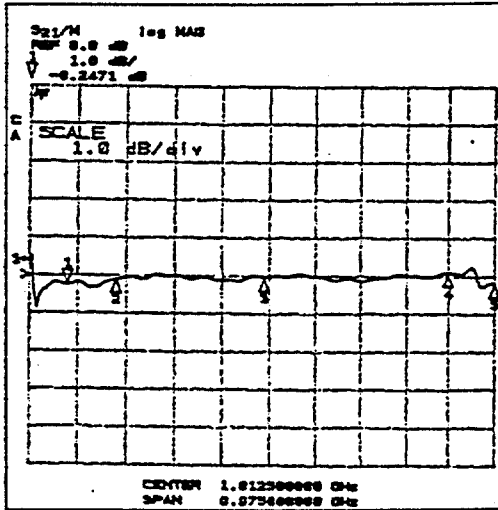
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614

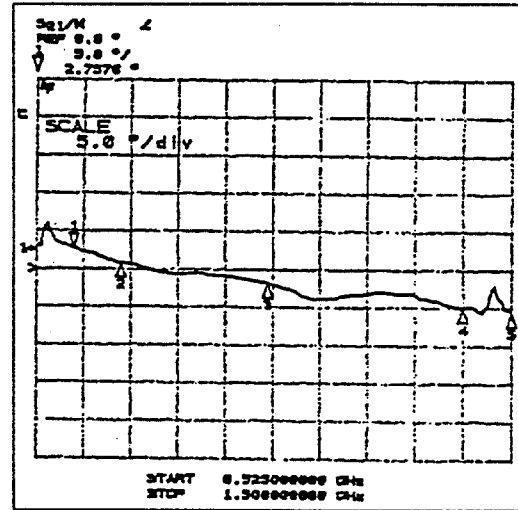
AS MEASURED FROM 525 MHz TO 1500 MHz AT -25 dBm

MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz

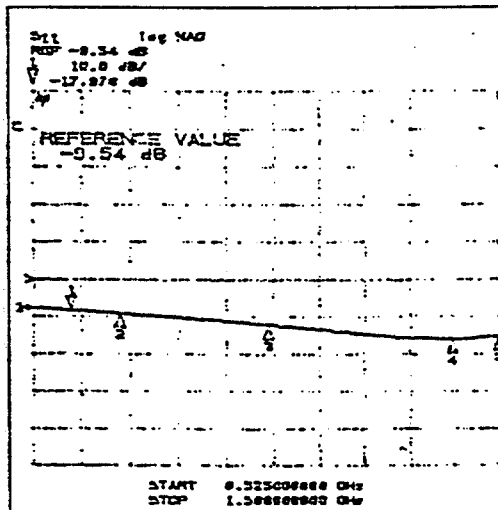
**GAIN**



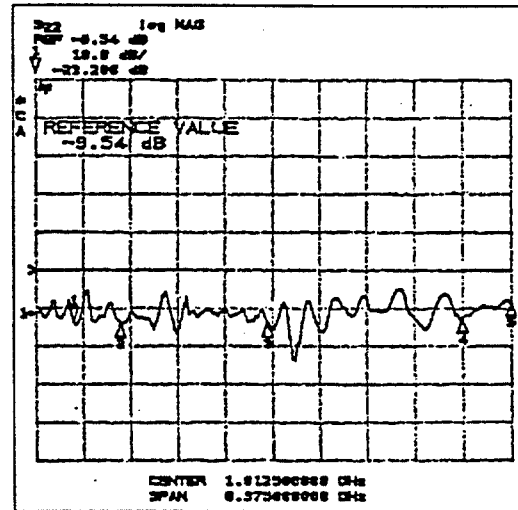
**PHASE**



**INPUT RETURN LOSS**



**OUTPUT RETURN LOSS**



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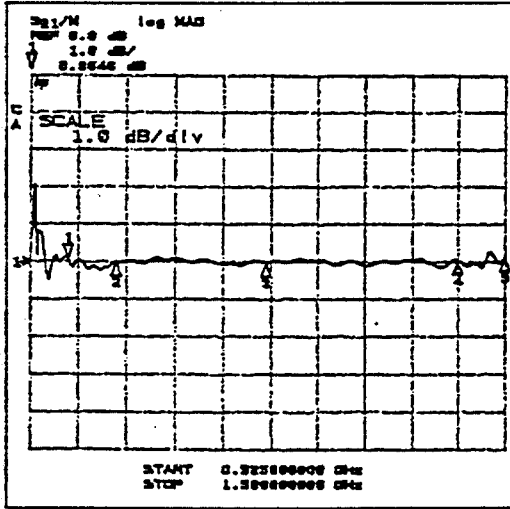
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614

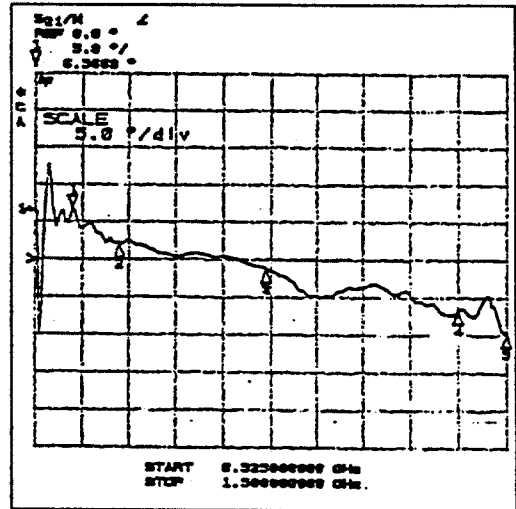
AS MEASURED FROM 525 MHz TO 1500 MHz AT -35 dBm

- MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz

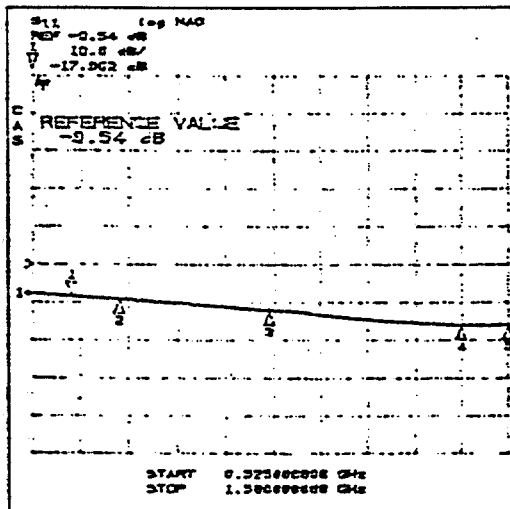
**GAIN**



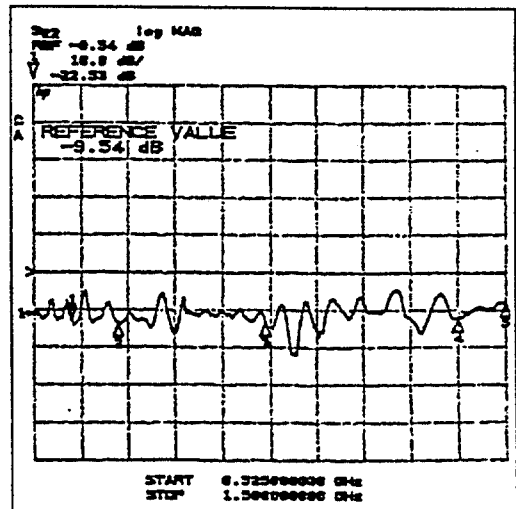
**PHASE**



**INPUT RETURN LOSS**



**OUTPUT RETURN LOSS**



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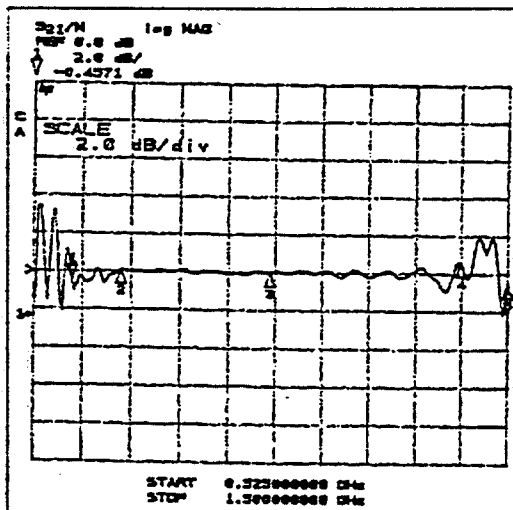
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614

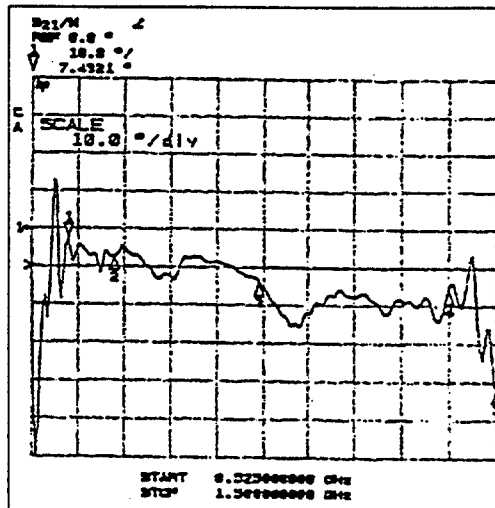
AS MEASURED FROM 525 MHz TO 1500 MHz AT -45 dBm

MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz

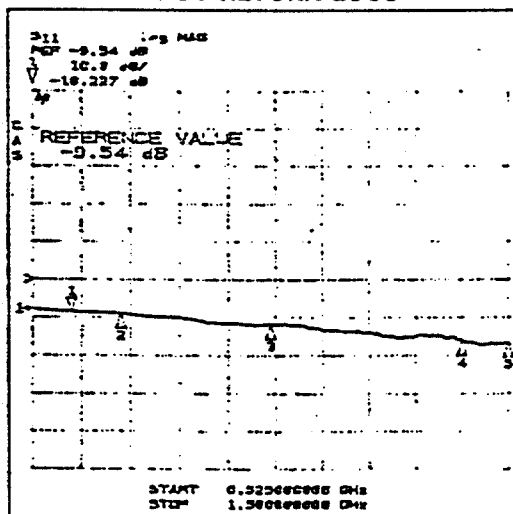
**GAIN**



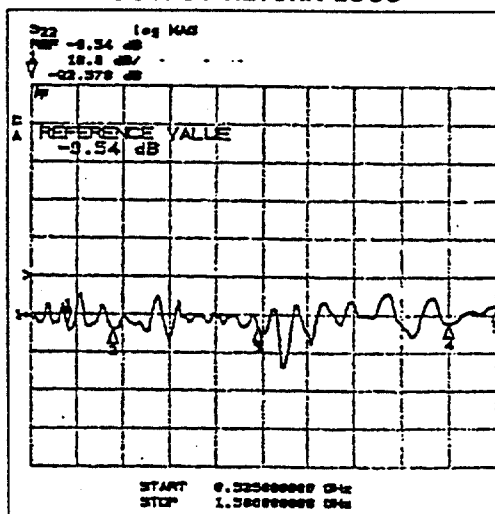
**PHASE**



**INPUT RETURN LOSS**



**OUTPUT RETURN LOSS**



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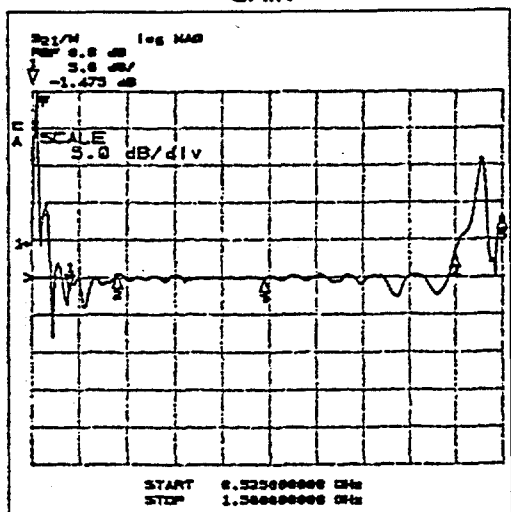
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614

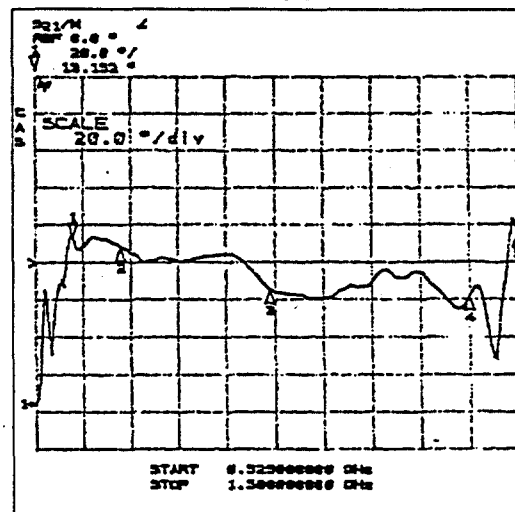
AS MEASURED FROM 525 MHz TO 1500 MHz AT -55 dBm

MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz

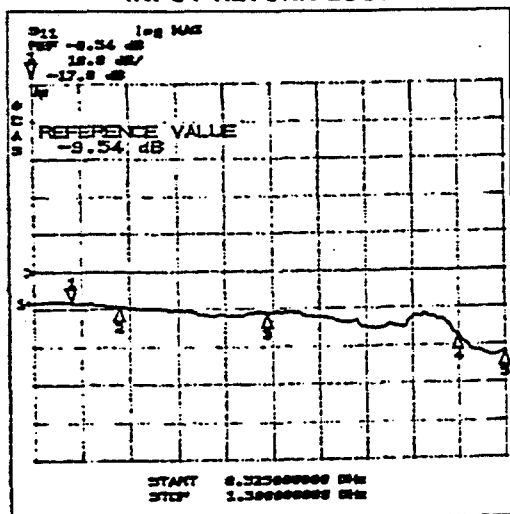
**GAIN**



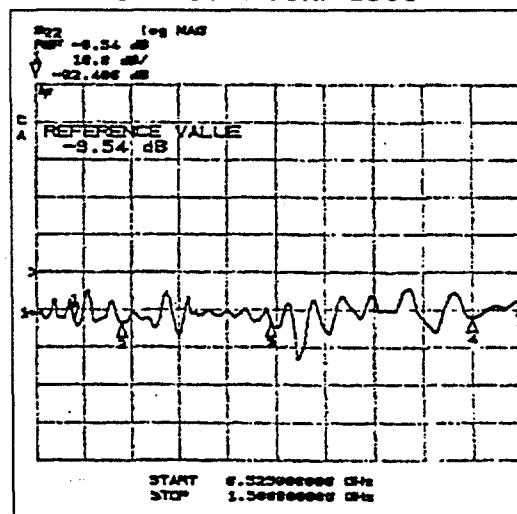
**PHASE**



**INPUT RETURN LOSS**



**OUTPUT RETURN LOSS**



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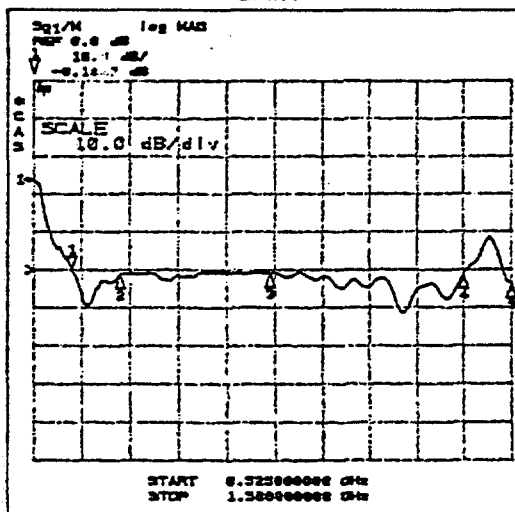
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614

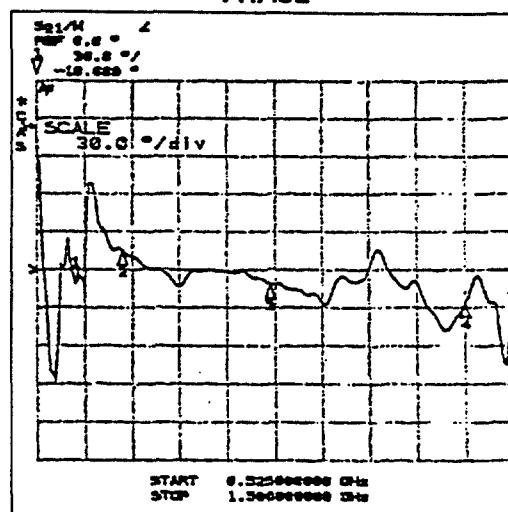
AS MEASURED FROM 525 MHz TO 1500 MHz AT -65 dBm

MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz

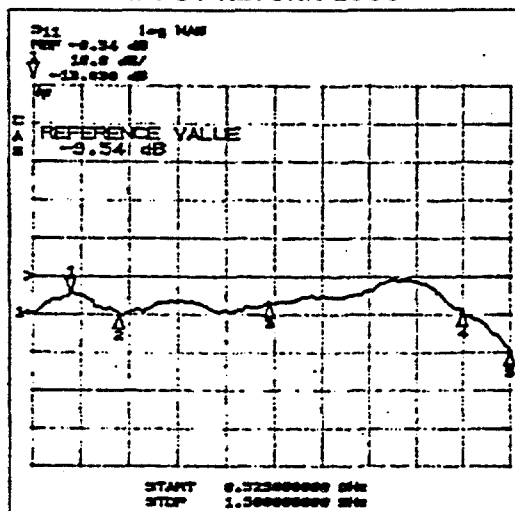
**GAIN**



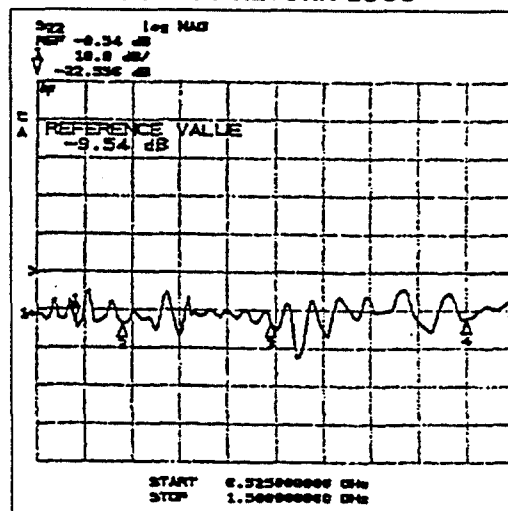
**PHASE**



**INPUT RETURN LOSS**



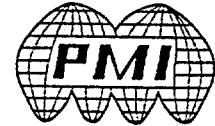
**OUTPUT RETURN LOSS**



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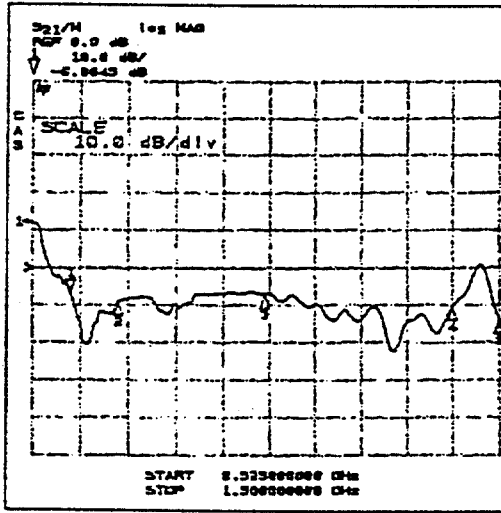
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614

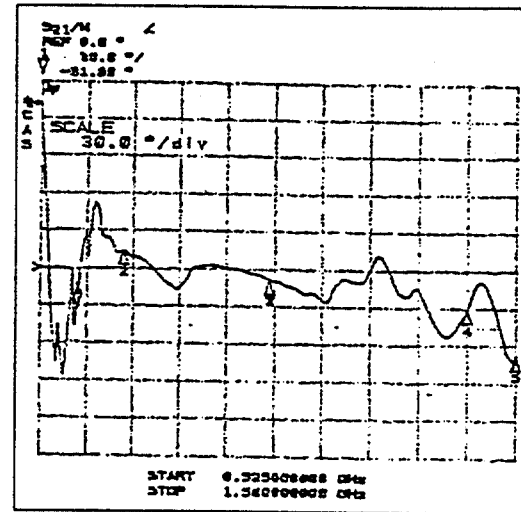
AS MEASURED FROM 525 MHz TO 1500 MHz AT -75 dBm

MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz

**GAIN**



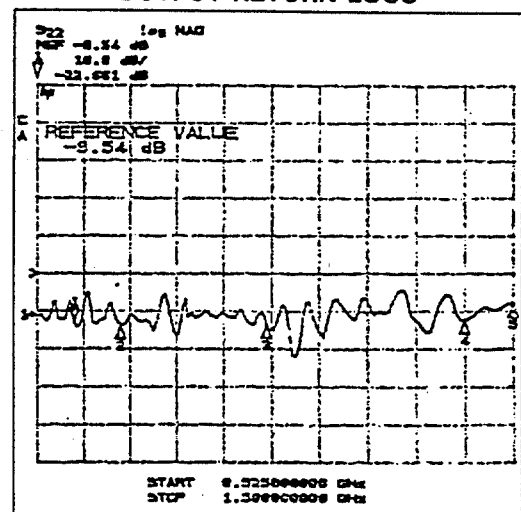
**PHASE**



**INPUT RETURN LOSS**

ACCURATE DATA  
 NOT  
 AVAILABLE  
 DUE TO EXTREME  
 LOW POWER  
 MEASUREMENT

**OUTPUT RETURN LOSS**

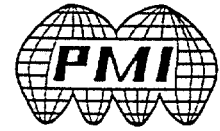


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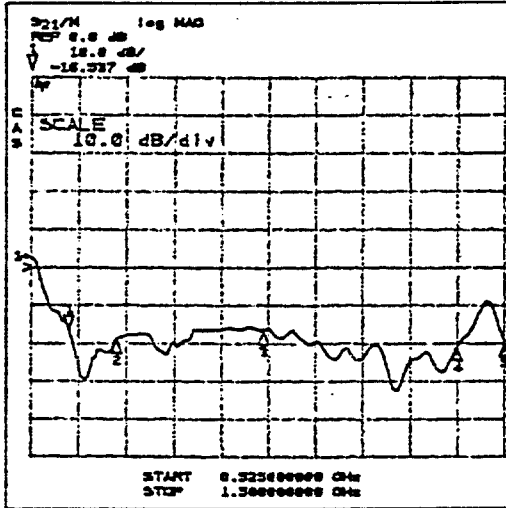
**GAIN, PHASE & RETURN LOSS vs RF INPUT POWER**

SDLVA-0120-70-CONDOR SERIAL No: SDL60614

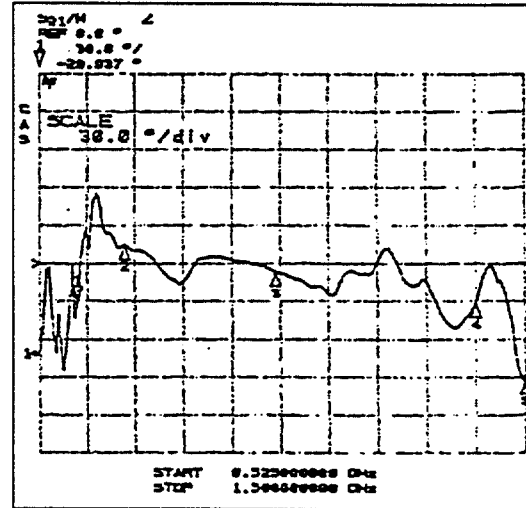
AS MEASURED FROM 525 MHz TO 1500 MHz AT -85 dBm

MARKERS AT: #1 = 600 MHz, #2 = 700 MHz, #3 = 1000 MHz, #4 = 1400 MHz, #5 = 1500 MHz

**GAIN**



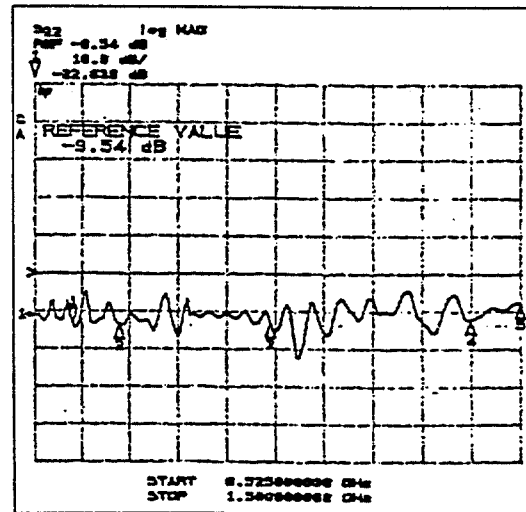
**PHASE**



**INPUT RETURN LOSS**

ACCURATE DATA  
 NOT  
 AVAILABLE  
 DUE TO EXTREME  
 LOW POWER  
 MEASUREMENT

**OUTPUT RETURN LOSS**



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**SUMMARY TEST DATA**  
 AS PRESENTED TO THE CUSTOMER  
 SDLVA-0120-70-CONDOR SERIAL No: SDL51019

FORM. SCND102-50917P



JOB NO: 50917P

SUMMARY TEST DATA  
 ON  
 SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA.

CUSTOMER: CONDOR  
 JOB NO: 50917P  
 MODEL NO: SDLVA-0120-70-CONDOR  
 SERIAL NO: SDL51019

TESTED BY: B. B.  
 TEMPERATURE: 40°C TO 70°C  
 DATE: 6/18/96

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	CENTER FREQUENCY	1 GHz	PASS	
2	BANDWIDTH @ 1 dB POINTS	600 MHz (min)	PASS	
3	INPUT LOGGING RANGE	-65 to +5 dBm (min)	PASS	
4	INPUT NOISE FLOOR	-70 dBm (min)	PASS	
5	LOG VIDEO OUTPUT	20 mV/dB(min) 30mV/dB(max)	PASS	
6	LOG VIDEO LINEARITY BEST FIT STRAIGHT LINE (-65 dBm to +5 dBm)	±2.5 dB(max) @ 1 GHz @ ROOM TEMPERATURE	-2.5 dB	
7	LIMITED OUTPUT	-6 dBm (Nom), ±2.0 dB (max) @ Room ±2.5 dB (max) Over Temperature	-5.5 to -6.6 @ Room, -5.5 to -8.5 w/ temp	
8	LIMITED OUTPUT FLATNESS	±1.75 dB (max) @ ROOM	±0.4 dB	
9	VSWR (+25°C) - INPUT	1.8:1 (max)	PASS	
10	VSWR (+25°C) - OUTPUT	2.5:1 (max)	PASS	
11	DC POWER +9 TO +18V	200 mA (max)	PASS	
12	D.C. POWER -9 TO -18V	200 mA (max)	PASS	

PRODUCTION MANAGER APPROVAL: \_\_\_\_\_

DATED: \_\_\_\_\_

QA/QC APPROVAL: \_\_\_\_\_

DATED: 6/18/96

*Approved*  
*July*  
*1996*

*B.B.*

**PLANAR MONOLITHIC INDUSTRIES, INC.**

CORPORATE & ENGINEERING OFFICES : 1112 PERKIOMENVILLE ROAD, PERKIOMVILLE, PA 18951  
 SALES & MANUFACTURING OFFICE : 7311-G GROVE ROAD, FREDERICK, MD 21704  
 TEL. No: 301-662-4700 FAX No: 301-662-4938



**SUMMARY TEST DATA**  
 AS PRESENTED TO THE CUSTOMER  
 SDLVA-0120-70-CONDOR SERIAL No: SDL51020

FORM: SCOND102-50917P



JOB NO: 50917P

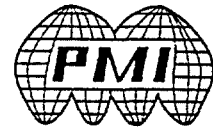
SUMMARY TEST DATA  
 ON  
 SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: CONDOR  
 JOB NO: 50917P  
 MODEL NO: SDLVA-0120-70-CONDOR  
 SERIAL NO: SDL51020

TESTED BY: G.B.  
 TEMPERATURE: -40°C TO 70°C  
 DATE: 9/15/97

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	CENTER FREQUENCY	1 GHz	PASS	✓
2	BANDWIDTH @ 1 dB POINTS	600 MHz (min)	PASS	✓
3	INPUT LOGGING RANGE	-65 to +5 dBm (min)	PASS	✓
4	INPUT NOISE FLOOR	-70 dBm (min)	PASS	✓
5	LOG VIDEO OUTPUT	20 mV/dB(min) 30mV/dB(max)	24.1 to 26.6 mV/dB	✓
6	LOG VIDEO LINEARITY BEST FIT STRAIGHT LINE (-65 dBm to +5 dBm)	±2.5 dB(max) @ 1 GHz @ ROOM TEMPERATURE	-2.0 dB	✓
7	LIMITED OUTPUT	-6 dBm (Nom), ±2.0 dB (max) @ Room ±2.5 dB (max) Over Temperature	-4.2 to -7 dBm @ room -4.2 to -8 dBm min Temp	✓
8	LIMITED OUTPUT FLATNESS	±1.75 dB (max) @ ROOM	±1.0 dB	✓
9	VSWR (+25°C) - INPUT	1.8:1 (max)	PASS	✓
10	VSWR (+25°C) - OUTPUT	2.5:1 (max)	PASS	✓
11	DC POWER +9 TO +18V	200 mA (max)	+138 mA	✓
12	D.C. POWER -9 TO -18V	200 mA (max)	-158 mA	✓

PRODUCTION MANAGER APPROVAL: [Signature] DATED: 9/16/97  
 QA/QC APPROVAL: [Signature] DATED: 9/16/97



**SUMMARY TEST DATA**  
 AS PRESENTED TO THE CUSTOMER  
 SDLVA-0120-70-CONDOR SERIAL No: SDL51023

FORM: SCOND102-50917P



JOB NO: 50917P

SUMMARY TEST DATA  
 ON  
 SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA.

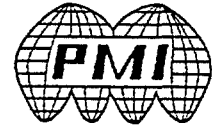
CUSTOMER: CONDOR  
 JOB NO: 50917P  
 MODEL NO: SDLVA-0120-70-CONDOR  
 SERIAL NO: SDL51023

TESTED BY: P. B.  
 TEMPERATURE: 40°C TO 70°C  
 DATE: 6/18/96

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QAI/QC
1	CENTER FREQUENCY	1 GHz	PASS	
2	BANDWIDTH @ 1 dB POINTS	600 MHz (min)	PASS	
3	INPUT LOGGING RANGE	-65 to +5 dBm (min)	PASS	
4	INPUT NOISE FLOOR	-70 dBm (min)	PASS	
5	LOG VIDEO OUTPUT	20 mV/dB(min) 30mV/dB(max)	PASS	
6	LOG VIDEO LINEARITY BEST FIT STRAIGHT LINE (-65 dBm to +5 dBm)	±2.5 dB(max) @ 1 GHz @ ROOM TEMPERATURE	-1.6dB	
7	LIMITED OUTPUT	-6 dBm (Nom), ±2.0 dB (max) @ Room ±2.5 dB (max) Over Temperature	-4.4 to -6.2 dB @ Room -4.4 to -8.5 w/Temp	
8	LIMITED OUTPUT FLATNESS	±1.75 dB (max) @ ROOM	±0.7dB	
9	VSWR (+25°C) - INPUT	1.8:1 (max)	PASS	
10	VSWR (+25°C) - OUTPUT	2.5:1 (max)	PASS	
11	DC POWER +9 TO +18V	200 mA (max)	PASS-	
12	D.C. POWER -9 TO -18V	200 mA (max)	PASS	

PRC PRODUCTION MANAGER APPROVAL: \_\_\_\_\_ DATED: \_\_\_\_\_

QA/QC APPROVAL: [Signature] DATED: 6/18/96  
[Signature] 6/18/96



**SUMMARY TEST DATA**  
 AS PRESENTED TO THE CUSTOMER  
 SDLVA-0120-70-CONDOR SERIAL No: SDL51026

FORM: SCOND102-50917P



JOB NO: 50917P

SUMMARY TEST DATA  
 ON  
 SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA

CUSTOMER: CONDOR  
 JOB NO: 50917P  
 MODEL NO: SDLVA-0120-70-CONDOR  
 SERIAL NO: SDL51026

TESTED BY: B.B.  
 TEMPERATURE: -40°C TO 70°C  
 DATE: 6/18/96

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QAI/QC
1	CENTER FREQUENCY	1 GHz	PASS	
2	BANDWIDTH @ 1 dB POINTS	600 MHz (min)	PASS	
3	INPUT LOGGING RANGE	-65 to +5 dBm (min)	PASS	
4	INPUT NOISE FLOOR	-70 dBm (min)	PASS	
5	LOG VIDEO OUTPUT	20 mV/dB(min) 30mV/dB(max)	PASS	
6	LOG VIDEO LINEARITY BEST FIT STRAIGHT LINE (-65 dBm to +5 dBm)	±2.5 dB(max) @ 1 GHz @ ROOM TEMPERATURE	-2.0db	
7	LIMITED OUTPUT	-6 dBm (Nom), ±2.0 dB (max) @ Room ±2.5 dB (max) Over Temperature	-4.4 to -6.4 dB @ Room -4.4 to -8.4 w/ temp	
8	LIMITED OUTPUT FLATNESS	±1.75 dB (max) @ ROOM	±0.7dB	
9	VSWR (+25°C) - INPUT	1.8:1 (max)	PASS	
10	VSWR (+25°C) - OUTPUT	2.5:1 (max)	PASS	
11	DC POWER +9 TO +18V	200 mA (max)	PASS	
12	D.C. POWER -9 TO -18V	200 mA (max)	PASS	

PRODUCTION MANAGER APPROVAL: \_\_\_\_\_

DATED: \_\_\_\_\_

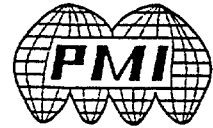
QAI/QC APPROVAL: \_\_\_\_\_

DATED: 6/18/96

*Handwritten:* B.B. 6/18/96

**PLANAR MONOLITHIC INDUSTRIES, INC.**

CORPORATE & ENGINEERING OFFICES : 1112 PERKIOMENVILLE ROAD, PERKIOMENVILLE, PA 18951  
 SALES & MANUFACTURING OFFICE : 7311-G GROVE ROAD, FREDERICK, MD 21704  
 TEL. No: 301-662-4700 FAX No: 301-662-4938



**SUMMARY TEST DATA**  
 AS PRESENTED TO THE CUSTOMER  
 SDLVA-0120-70-CONDOR SERIAL No: SDL60105

FORM: SCOND102-50917P



JOB NO: 50917P

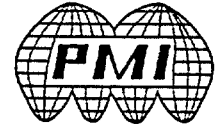
SUMMARY TEST DATA  
 ON  
 SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA .

CUSTOMER: CONDOR  
 JOB NO: 50917P  
 MODEL NO: SDLVA-0120-70-CONDOR  
 SERIAL NO: SDL60105

TESTED BY: B.B.  
 TEMPERATURE: 40°C TO 70°C  
 DATE: 6/17/96

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	CENTER FREQUENCY	1 GHz	PASS	✓
2	BANDWIDTH @ 1 dB POINTS	600 MHz (min)	PASS	✓
3	INPUT LOGGING RANGE	-65 to +5 dBm (min)	PASS	✓
4	INPUT NOISE FLOOR	-70 dBm (min)	PASS	✓
5	LOG VIDEO OUTPUT	20 mV/dB(min) 30mV/dB(max)	PASS	✓
6	LOG VIDEO LINEARITY BEST FIT STRAIGHT LINE (-65 dBm to +5 dBm)	±2.5 dB(max) @ 1 GHz @ ROOM TEMPERATURE	-2.4dB	✓
7	LIMITED OUTPUT	-6 dBm (Nom), ±2.0 dB (max) @ Room ±2.5 dB (max) Over Temperature	-4.5 to -6.7 dB @ room -4.5 to -8.5 w/Temp	✓
8	LIMITED OUTPUT FLATNESS	±1.75 dB (max) @ ROOM	±1.4dB	✓
9	VSWR (+25°C) - INPUT	1.8:1 (max)	1.22:1	✓
10	VSWR (+25°C) - OUTPUT	2.5:1 (max)	1.22:1	✓
11	DC POWER +9 TO +18V	200 mA (max)	119 uA	✓
12	D.C. POWER -9 TO -18V	200 mA (max)	159 uA	✓

PRODUCTION MANAGER APPROVAL: [Signature] DATED: 6/29/96  
 QA/QC APPROVAL: [Signature] DATED: 6/29/96  
 Approved by [Signature] May 31st, 1996



**SUMMARY TEST DATA**  
 AS PRESENTED TO THE CUSTOMER  
 SDLVA-0120-70-CONDOR SERIAL No: SDL60106

FORM: SCOND102-50917P



JOB NO: 50917P

SUMMARY TEST DATA  
 ON  
 SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA.

CUSTOMER: CONDOR  
 JOB NO: 50917P  
 MODEL NO: SDLVA-0120-70-CONDOR  
 SERIAL NO: SDL60106

TESTED BY: B. B.  
 TEMPERATURE: 40°C TO 70°C  
 DATE: 6/28/96

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QAI/QC
1	CENTER FREQUENCY	1 GHz	PASS	✓
2	BANDWIDTH @ 1 dB POINTS	600 MHz (min)	PASS	✓
3	INPUT LOGGING RANGE	-65 to +5 dBm (min)	PASS	✓
4	INPUT NOISE FLOOR	-70 dBm (min)	PASS	✓
5	LOG VIDEO OUTPUT	20 mV/dB(min) 30mV/dB(max)	PASS	✓
6	LOG VIDEO LINEARITY BEST FIT STRAIGHT LINE (-65 dBm to +5 dBm)	±2.5 dB(max) @ 1 GHz @ ROOM TEMPERATURE	-2.2dB	✓
7	LIMITED OUTPUT	-6 dBm (Nom), ±2.0 dB (max) @ Room ±2.5 dB (max) Over Temperature	-4.3 TO -6.4 @ Room -4.3 to -8.5 dB w/ temp	✓
8	LIMITED OUTPUT FLATNESS	±1.75 dB (max) @ ROOM	±0.8dB	✓
9	VSWR (+25°C) - INPUT	1.8:1 (max)	1.22:1	✓
10	VSWR (+25°C) - OUTPUT	2.5:1 (max)	1.18:1	✓
11	DC POWER +9 TO +18V	200 mA (max)	124mA	✓
12	D.C. POWER -9 TO -18V	200 mA (max)	159mA	✓

PRODUCTION MANAGER APPROVAL: [Signature] DATED: 6/29/96  
 QA/QC APPROVAL: [Signature] DATED: 6/29/96  
 Approved by: [Signature] May 31, 1996



**SUMMARY TEST DATA**  
 AS PRESENTED TO THE CUSTOMER  
 SDLVA-0120-70-CONDOR SERIAL No: SDL60610

FORM: SCOND102-50917P



JOB NO: 50917P

**SUMMARY TEST DATA**  
 ON  
 SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA

CUSTOMER: CONDOR  
 JOB NO: 50917P  
 MODEL NO: SDLVA-0120-70-CONDOR  
 SERIAL NO: SDL60610

TESTED BY: D.B.  
 TEMPERATURE: 40°C TO 70°C  
 DATE: 7/9/96

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	CENTER FREQUENCY	1 GHz	PASS	✓
2	BANDWIDTH @ 1 dB POINTS	600 MHz (min)	PASS	✓
3	INPUT LOGGING RANGE	-65 to +5 dBm (min)	PASS	✓
4	INPUT NOISE FLOOR	-70 dBm (min)	PASS	✓
5	LOG VIDEO OUTPUT	20 mV/dB(min) 30mV/dB(max)	PASS	✓
6	LOG VIDEO LINEARITY BEST FIT STRAIGHT LINE (-65 dBm to +5 dBm)	±2.5 dB(max) @ 1 GHz @ ROOM TEMPERATURE	-1.7dB	✓
7	LIMITED OUTPUT	-6 dBm (Nom), ±2.0 dB (max) @ Room ±2.5 dB (max) Over Temperature	-4.9 to -6 dB @ room -4.9 to -5.5 dB with temp	✓
8	LIMITED OUTPUT FLATNESS	±1.75 dB (max) @ ROOM	±0.3dB	✓
9	VSWR (+25°C) - INPUT	1.8:1 (max)	1.18:1	✓
10	VSWR (+25°C) - OUTPUT	2.5:1 (max)	1.18:1	✓
11	DC POWER +9 TO +18V	200 mA (max)	126 mA	✓
12	D.C. POWER -9 TO -18V	200 mA (max)	158 mA	✓

PRODUCTION MANAGER APPROVAL: R. Moller

DATED: 7/9/96

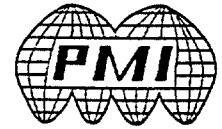
QA/QC APPROVAL: D.B.

DATED: 7/9/96

Approved by May 31st, 1996

**PLANAR MONOLITHIC INDUSTRIES, INC.**

CORPORATE & ENGINEERING OFFICES : 1112 PERKIOMENVILLE ROAD, PERKIOMVILLE, PA 18951  
 SALES & MANUFACTURING OFFICE : 7311-G GROVE ROAD, FREDERICK, MD 21704  
 TEL. No: 301-662-4700 FAX No: 301-662-4938



**SUMMARY TEST DATA**  
 AS PRESENTED TO THE CUSTOMER  
 SDLVA-0120-70-CONDOR SERIAL No: SDL60611

FORM: SCOND102-50917P



PLANAR MONOLITHIC INDUSTRIES  
 1517 GROVE ROAD, FREDERICK, MD, 21704  
 TEL: (301)311-4871 FAX: (301)311-4838

JOB NO: 50917P

SUMMARY TEST DATA  
 ON  
 SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA

CUSTOMER: CONDOR  
 JOB NO: 50917P  
 MODEL NO: SDLVA-0120-70-CONDOR  
 SERIAL NO: SDL60611

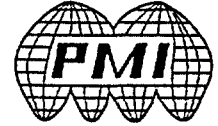
TESTED BY: B.B.  
 TEMPERATURE: 40°C TO 70°C  
 DATE: 7/9/96

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	CENTER FREQUENCY	1 GHz	PASS	✓
2	BANDWIDTH @ 1 dB POINTS	600 MHz (min)	PASS	✓
3	INPUT LOGGING RANGE	-65 to +5 dBm (min)	PASS	✓
4	INPUT NOISE FLOOR	-70 dBm (min)	PASS	✓
5	LOG VIDEO OUTPUT	20 mV/dB(min) 30mV/dB(max)	PASS	✓
6	LOG VIDEO LINEARITY BEST FIT STRAIGHT LINE (-65 dBm to +5 dBm)	±2.5 dB(max) @ 1 GHz @ ROOM TEMPERATURE	-1.35dB	✓
7	LIMITED OUTPUT	-6 dBm (Nom), ±2.0 dB (max) @ Room ±2.5 dB (max) Over Temperature	-4.1 to -6.4 dB @ nom -4.1 to -8.3 dB w/ temp	✓
8	LIMITED OUTPUT FLATNESS	±1.75 dB (max) @ ROOM	±0.6dB	✓
9	VSWR (+25°C) - INPUT	1.8:1 (max)	1.25:1	✓
10	VSWR (+25°C) - OUTPUT	2.5:1 (max)	1.15:1	✓
11	DC POWER +9 TO +18V	200 mA (max)	134mA	✓
12	D.C. POWER -9 TO -18V	200 mA (max)	151mA	✓

PRODUCTION MANAGER APPROVAL: [Signature] DATED: 7/9/96  
 QA/QC APPROVAL: [Signature] DATED: 7/9/96

Approved  
 Aug 31st, 1996  
 B.B.





**SUMMARY TEST DATA**  
 AS PRESENTED TO THE CUSTOMER  
 SDLVA-0120-70-CONDOR SERIAL No: SDL60613

FORM: SCOND102-50917P



JOB NO: 50917P

SUMMARY TEST DATA  
 ON  
 SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA.

CUSTOMER: CONDOR  
 JOB NO: 50917P  
 MODEL NO: SDLVA-0120-70-CONDOR  
 SERIAL NO: SDL60613

TESTED BY: B.B.  
 TEMPERATURE: -40°C TO 70°C  
 DATE: 7/9/96

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	CENTER FREQUENCY	1 GHz	PASS	✓
2	BANDWIDTH @ 1 dB POINTS	600 MHz (min)	PASS	✓
3	INPUT LOGGING RANGE	-65 to +5 dBm (min)	PASS	✓
4	INPUT NOISE FLOOR	-70 dBm (min)	PASS	✓
5	LOG VIDEO OUTPUT	20 mV/dB(min) 30mV/dB(max)	PASS	✓
6	LOG VIDEO LINEARITY BEST FIT STRAIGHT LINE (-65 dBm to +5 dBm)	±2.5 dB(max) @ 1 GHz @ ROOM TEMPERATURE	-1.45dB	✓
7	LIMITED OUTPUT	-6 dBm (Nom), ±2.0 dB (max) @ Room ±2.5 dB (max) Over Temperature	-4.5 TO -5.3 @ Nom, -4.5 To -8.4dB w/10mg	✓
8	LIMITED OUTPUT FLATNESS	±1.75 dB (max) @ ROOM	±0.3dB	✓
9	VSWR (+25°C) - INPUT	1.8:1 (max)	1.3:1	✓
10	VSWR (+25°C) - OUTPUT	2.5:1 (max)	1.18:1	✓
11	DC POWER +9 TO +18V	200 mA (max)	130mA	✓
12	D.C. POWER -9 TO -18V	200 mA (max)	155mA	✓

PRODUCTION MANAGER APPROVAL: P. M. [Signature] DATED: 7/9/96  
 QA/QC APPROVAL: [Signature] DATED: 7/9/96

Approved by  
 May 31st, 1996  
 B.B.