

SUMMARY

TEST DATA

ON

750 TO 1,250 MHz
(0.3 TO 2.0 GHz UNITS ALSO AVAILABLE)

20nS HIGH SPEED

≥ 70dB DYNAMIC RANGE
(80dB ULTRA HIGH DYNAMIC RANGE AVAILABLE)

LOW AM/PM CONVERSION

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

PMI MODEL No:

SDLVA-07103-70-LA3

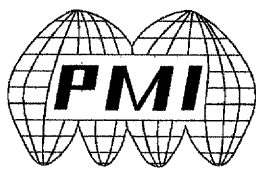
SERIAL No: SDL005002 THRU SDL005005 AND PM010514 THRU PM010518

**DESIGNED
BY
DANIEL J. VESCUSO & FRANK RETHMEIER**

**TESTED
BY
FRANK RETHMEIER & HENRY NIÑO**

**REPORT
BY
PETER WOOD**

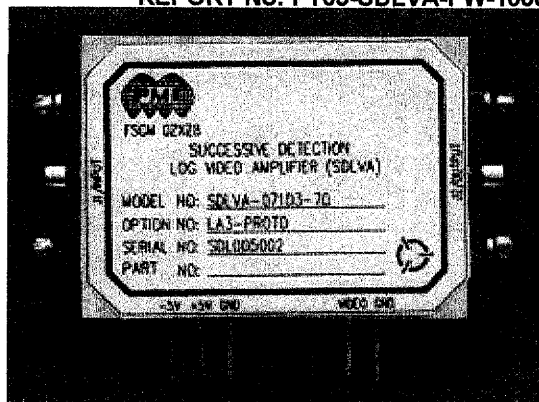
OCTOBER 31th, 2000



PLANAR MONOLITHICS INDUSTRIES

FEATURES:

- 750 TO 1250 MHz FREQUENCY RANGE
- UP TO 80dB ULTRA HIGH DYNAMIC RANGE



SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA) PMI MODEL NO: SDLVA-07103-70-LA3

SPECIFICATIONS:

● FREQUENCY		: 750 TO 1250 MHz (0.3 TO 2.0 GHz AVAILABLE)
● DYNAMIC RANGE		: 70 dB MINIMUM (80dB TYPICAL)
● INPUT & OUTPUT VSWR		: 2.0:1 MAXIMUM (1.5:1 TYPICAL)
● TANGENTIAL SIGNAL SENSITIVITY (TSS)		: -76 dBm MAXIMUM
● LOGGING RANGE		: -65dBm TO +5dBm (-75 TO +5 dBm TYP.)
● LOG LINEARITY		: ± 1.5dB MAXIMUM (± 1.0dB TYPICAL)
● LOG SLOPE (± 5%)		: 30mV/dB (OTHER SLOPES AVAILABLE)
● LOG SLOPE VARIATION OVER FREQUENCY		: ± 1.5mV/dB (OVER 100 MHz RF BANDWIDTH)
● LOG SLOPE VARIATION OVER TEMPERATURE		: ± 2.5mV/dB MAXIMUM
● LOG LINEARITY OVER TEMPERATURE		: ± 2.5 dB MAXIMUM
● UNIT TO UNIT PHASE TRACKING		: ± 2.5° MAXIMUM
● RISE TIME (10% TO 90% POINTS)		: 25nS MAXIMUM, 20nS TYPICAL
● FALL TIME (90% TO 10% POINTS)		: 35nS MAXIMUM, 20nS TYPICAL
● SETTling TIME		: 40nS MAXIMUM (10% INPUT PULSE TO WITHIN 0.5 dB)
● RECOVERY TIME		: 50nS MAXIMUM (90% INPUT PULSE TO WITHIN 0.5 dB)
● LIMITED IF OUTPUT	(INPUT: -65 TO + 5dBm)	: 13dBm MINIMUM
● AM/PM	(INPUT: -65 TO -55dBm)	: 1.2° /dB MAXIMUM
	(INPUT: -55 TO 0dBm)	: 0.75° /dB MAXIMUM
	(INPUT: 0 TO + 5dBm)	: 2.0° /dB MAXIMUM
● OUTPUT COUPLING		: DC
● PROPAGATION DELAY		: 10nS MAXIMUM (7nS TYPICAL)
● VIDEO LOAD		: 100Ω MINIMUM
● DC POWER SUPPLIES		: +5vdc @ 175mA (NO LOAD)
		: -5vdc @ 150mA (NO LOAD)
● RF CONNECTORS		: GPO FEMALES
● DC CONNECTORS		: SOLDER PINS
● SIZE		: 1.30" X 0.95" X 0.27"

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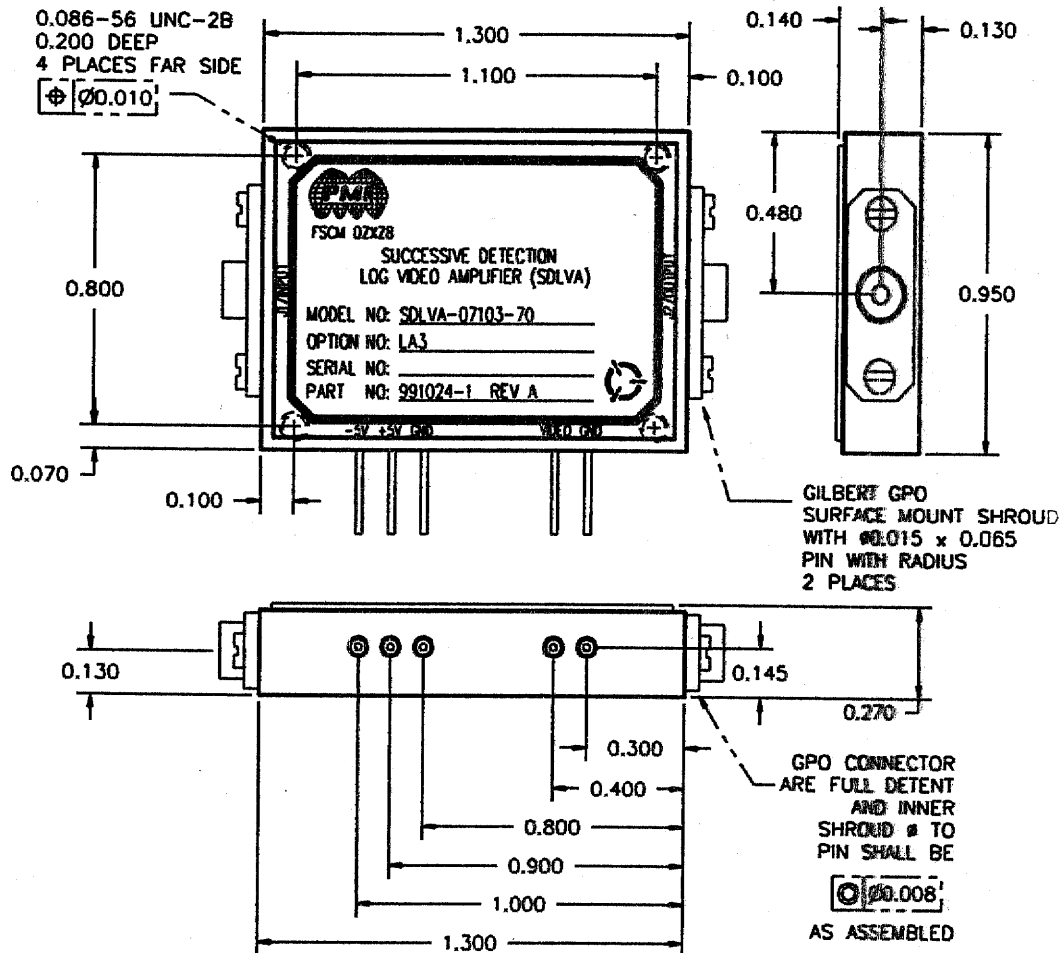
SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

MECHANICAL OUTLINE



ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE	:	-55°C to +85°C Operating -65°C to +125°C Non-Operating
HUMIDITY	:	MIL-STD-202F, Method 103B Cond. B
SHOCK	:	MIL-STD-202F, Method 213B Cond. B
VIBRATION	:	MIL-STD-202F, Method 204D Cond. B
ALTITUDE	:	MIL-STD-202F, Method 105C Cond. B
TEMPERATURE CYCLE	:	MIL-STD-202F, Method 107D Cond. A

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SUMMARY TEST DATA

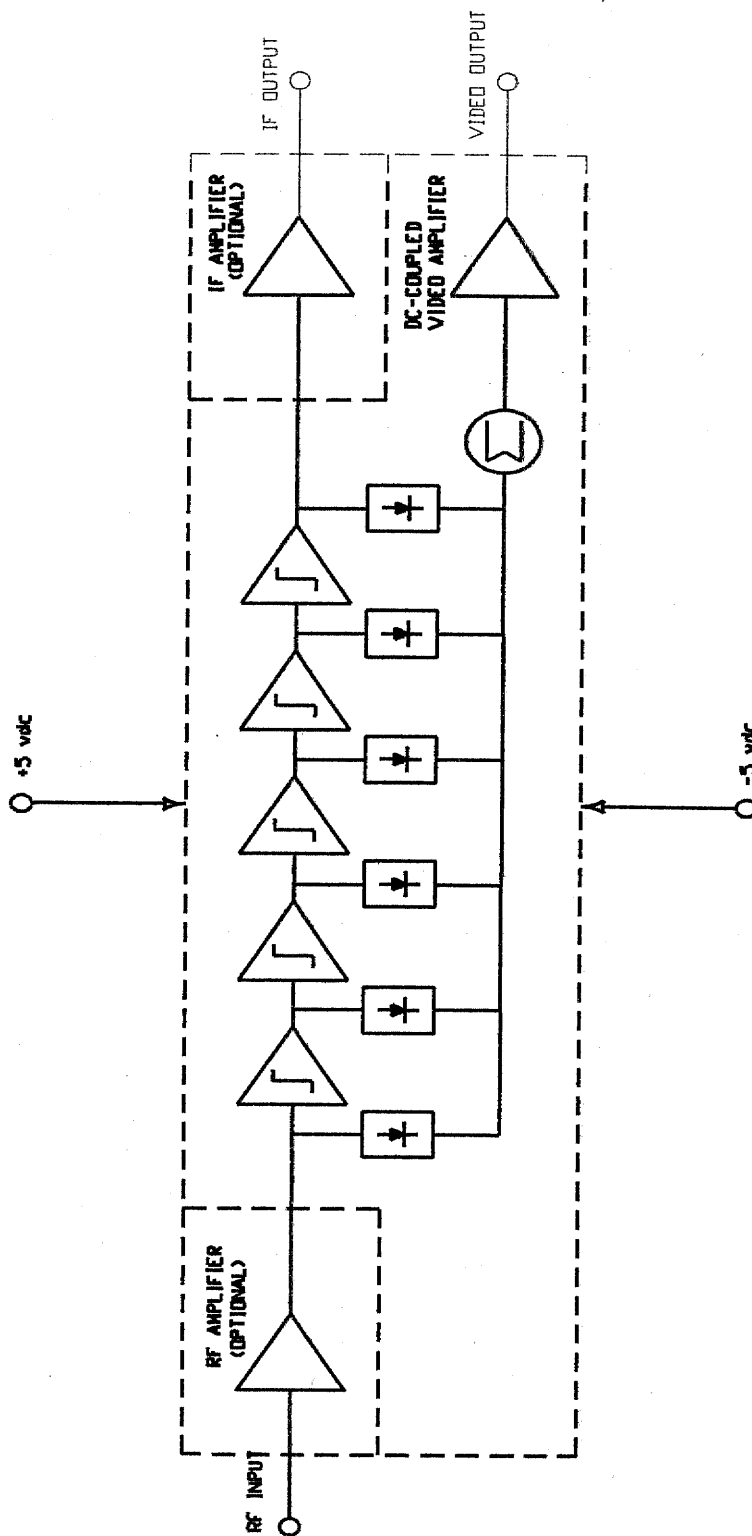
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



FUNCTIONAL SCHEMATIC



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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



<p>REVISIONS</p> <p>DATE</p> <p>11/24/92</p>	<p>DESCRIPTION</p> <p>ORIGINAL RELEASE</p>	<p>ZONE</p> <p>REV</p> <p>A</p>	<p>DATE</p> <p>11/24/92</p>	<p>AS SHOWN</p>
----------------------------------------------	--------------------------------------------	---------------------------------	-----------------------------	-----------------

MECHANICAL OUTLINE

DESCRIPTION

THE MODEL SDLVA-07103-70 OPTION LA3 IS A SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA) THAT OPERATES OVER THE 750 MHz TO 1.25 GHz FREQUENCY RANGE. THIS SDLVA OFFERS 70 dB HIGH DYNAMIC RANGE (MINIMUM) AND A NOMINAL 20 MHz VIDEO BANDWIDTH. LOG LINEARITY IS ± 1.5 dB FROM THE BEST FIT STRAIGHT LINE OVER THE DYNAMIC RANGE OF -65 TO +5 dBm.

SPECIFICATIONS

- FREQUENCY RANGE: 750 TO 1,250 MHz MINIMUM
- DYNAMIC RANGE: 70 dB MINIMUM
- LOG LINEARITY: ± 1.5 dB MAX. (-65 TO +5 dBm)
- MINIMUM LOGGING LEVEL: -65 dBm MAXIMUM
- MAXIMUM LOGGING LEVEL: +5 dBm MINIMUM
- VSWR INPUT AND OUTPUT: 2.0 : 1 MAXIMUM
- MINIMUM TANGENTIAL SENSITIVITY: -70 dBm MAXIMUM
- LIMITED IF OUTPUT: 8.5 dBm MINIMUM (-65 TO -60 dBm)
- UNIT TO UNIT PHASE TRACKING: 9.5 TO 12.5 dBm (-60 TO +5 dBm)
- AM/PM: 2.5° OVER 50 MHz
- LOG VIDEO OUTPUT: 1.2°/dB MAXIMUM (-65 TO -55 dBm)
- OUTPUT COUPLING: 0.75°/dB MAXIMUM (-55 TO 0 dBm)
- MAXIMUM OUTPUT VOLTAGE: 2.0°/dB MAXIMUM (0 TO +5 dBm)
- RISE TIME: 25 ns MAXIMUM (20 ns TYPICAL)
- FALL TIME: 30 ns MAXIMUM
- SETTLING TIME: 40 ns MAXIMUM (10% INPUT PULSE TO WITHIN 0.5 dB)
- RECOVERY TIME: 50 ns MAXIMUM (90% INPUT PULSE TO WITHIN 0.5 dB)
- DC OFFSET: 0.2 V
- SLOPE: 30 mV/dB $\pm 5\%$
- LOG SLOPE VARIATION WITH FREQUENCY: ± 0.5 mV/dB (OVER 100 MHz RF BANDWIDTH)
- LOG SLOPE VARIATION WITH TEMPERATURE: ± 1.5 mV/dB MAXIMUM
- PROPAGATION DELAY: 10 ns MAXIMUM, 7 ns TYPICAL
- VIDEO LOAD: 100 Ω MINIMUM
- DC POWER: +5 V @ 175 mA MAXIMUM
- SIZE: -V
- WEIGHT: 2.75 OZ

ENVIRONMENTAL RATINGS

- TEMPERATURE: -55°C TO +85°C (OPERATING), -65°C TO +100°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A

NOTES:

- 1) DIMENSIONS ARE IN INCHES
- 2) TOLERANCES: X.XX ± 0.020
X.XXX ± 0.010
- 3) WEIGHT: 2.75 OZ

PLANAR MONOLITHICS INDUSTRIES
FREDERICK, MARYLAND

PRODUCT FEATURE
SDLVA-07103-70
OPTION LA3

750 MHz TO 1250 MHz, SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

SIZE: A SHEET 1 OF 2 DWG. # 100-5403

OCTOBER 31st, 2000

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SUMMARY TEST DATA
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER
PMI MODEL No: SDLVA-07103-70-LA3
SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

SUMMARY

TEST DATA

ON

750 TO 1,250 MHz
(0.3 TO 2.0 GHz UNITS ALSO AVAILABLE)

20nS HIGH SPEED

>70dB DYNAMIC RANGE
(80dB ULTRA HIGH DYNAMIC RANGE AVAILABLE)

LOW AM/PM CONVERSION

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA)
PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBERS:
PM010514 THRU PM010518

INCLUDING:
TEST DATA OVER TEMPERATURE FOR S/N: PM010514

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



FINAL TEST DATA ON S/N: PM010514

FORM: SD303 90617P2 99/10/20



JOB NO: 0041SP

**SUMMARY TEST DATA
ON**

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA)

CUSTOMER: LITTON ADVANCED TESTED BY: HENRY NIÑO
 JOB NO: 0041SP TEMPERATURE: +25°C
 MODEL NO: SDLVA-07103-70 DATE: 10/24/00
 SERIAL NO: PM010514 OPTION NO: LA3

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE	750-1250 MHz	O.K.	✓
2	INPUT & OUTPUT VSWR:	2.0:1 (maximum) 1.5:1 (typical)	in: 1.2:1 out: 1.8:1	✓
3	MINIMUM LOGGING RANGE	-67 dBm (input)	see plot	✓
	MAXIMUM LOGGING RANGE	+3 dBm (+5 dBm typical)	see plot	✓
4	DYNAMIC RANGE	≥ 70 dB (minimum)	see plot	✓
5	UNIT TO UNIT PHASE TRACKING @ -30 dBm:	± 2.5° (goal)	see plot	✓
6	INSERTION PHASE VARIATION: • INPUT: -55 dBm to 0 dBm	0.75°/dB (maximum)	0.21°/dB	✓
7	LOG LINEARITY	± 1.0 dB (typical) ± 1.5 dB (maximum)	+1.16 dB -1.08 dB	✓
8	LOG SLOPE (+5%)	30 mV/dB	see data	✓
9	LOG SLOPE VARIATION W/ FREQ.	± 1.5mV/dB (typical)	± 1.5 $\frac{mV}{dB}$	✓
10	LOG SLOPE VARIATION W/ TEMP.	± 2.5mV/dB (maximum)	± 0.4 $\frac{mV}{dB}$	✓
11	TSS	-70 dB (maximum)	-72 dBm	✓
12	LIMITED IF OUTPUT: • INPUT: -65 dBm to +5 dBm	13 dBm (minimum)	14.18...14.63 dBm	✓
13	RISE TIME (10% TO 90% POINTS)	25 nsec (maximum) 20 nsec (typical)	20 ns	✓
14	FALL TIME (90% TO 10% POINTS)	35 nsec (maximum) 20 nsec (typical)	20 ns	✓
15	D.C. POWER @ +5 V (no load)	175 mA (maximum)	180 mA	✓
16	D.C. POWER @ -5 V (no load)	150 mA (maximum)	130 mA	✓

PRODUCTION MANAGER APPROVAL: [Signature] DATED: 10/24/00
 QA/QC APPROVAL: [Signature] [Signature] DATED: 10/25/00

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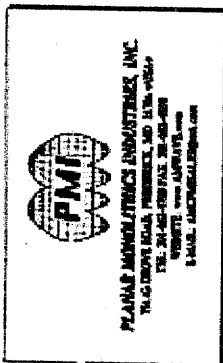
SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

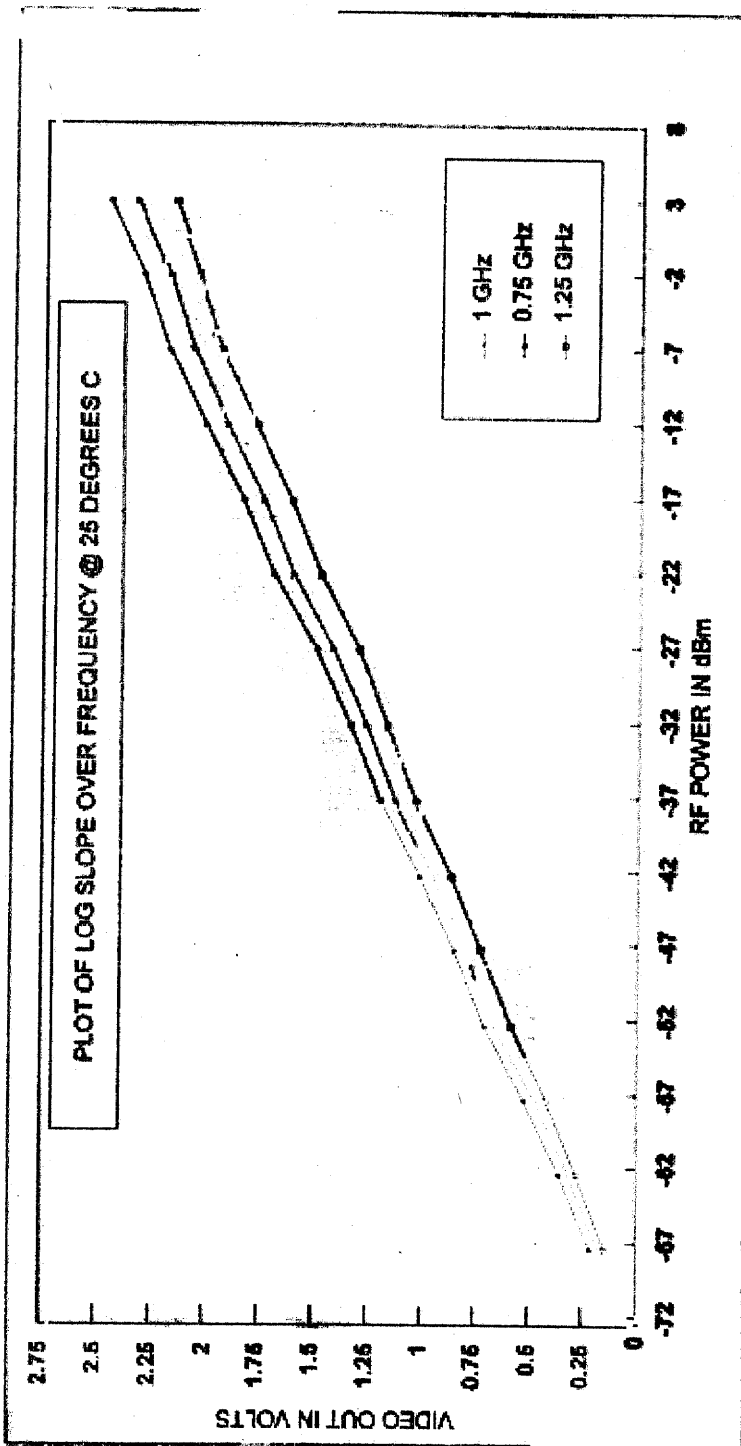
SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

PLOT OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C S/N: PM010514



JOB NUMBER DM11P
 CUSTOMER LITTON ADVANCED
 MODEL NUMBER S01VA-07103-70
 OPTION NUMBER LA3

TECHNICIAN HENRY NINO
 DATE 10/28/00
 S/N PM010514



TRACY, 1/1/01

OCTOBER 31st, 2000

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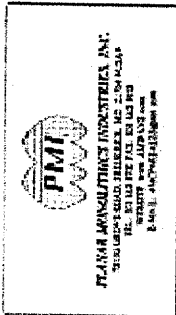


SUMMARY TEST DATA
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER
PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

TABULATED DATA OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C S/N: PM010514

TABULATED TEST DATA @ 1 GHz, 0.75 GHz AND 1.25 GHz @ 25 DEGREES C



JOB NUMBER: 00419P
 CUSTOMER: LOTION ADVANCED
 MODEL NUMBER: SDLVA-07103-70
 OPTION NUMBER: LA3
 TECHNICIAN: HENRY MARIO
 DATE: 10/30/00
 S/N: PM010514

RF POWER (dBm)	1 GHz VOLTAGE OUT (VOLTS)	1 GHz LIMITED F OUT (dBm)	0.75 GHz VOLTAGE OUT (VOLTS)	0.75 GHz LIMITED F OUT (dBm)	1.25 GHz VOLTAGE OUT (VOLTS)	1.25 GHz LIMITED F OUT (dBm)
3	2.332	14.63	2.457	14.97	2.165	14.4
-2	2.189	14.63	2.302	14.97	2.045	14.4
-7	2.075	14.63	2.187	14.97	1.937	14.4
-12	1.913	14.63	2.018	14.97	1.772	14.4
-17	1.741	14.63	1.835	14.97	1.609	14.4
-22	1.601	14.63	1.692	14.97	1.472	14.4
-27	1.418	14.63	1.495	14.97	1.298	14.4
-32	1.263	14.63	1.337	14.97	1.16	14.4
-37	1.125	14.63	1.197	14.97	1.026	14.4
-42	0.948	14.63	1.012	14.97	0.86	14.4
-47	0.802	14.63	0.852	14.97	0.72	14.4
-52	0.651	14.63	0.708	14.97	0.582	14.4
-57	0.471	14.63	0.519	14.97	0.417	14.4
-62	0.373	14.56	0.367	14.84	0.276	14.33
-67	0.173	14.38	0.208	14.61	0.141	14.18
DC POWER @ +1 VOLTS	+210 mA					
DC POWER @ -1 VOLTS	-130 mA					
LOG SLOPE						
BEST FIT FREQUENCY LINE	31.2935	mVdB	32.5679	mVdB	26.5079	mVdB
LOG SLOPE @ 1 GHz	0.78		0.85		1.16	
LOG SLOPE @ 0.75 GHz	-1.01		-0.86		-1.08	
FREQUENCY PLAINES						
LOG SLOPE @ 1.25 GHz	-4.30					
LOG SLOPE @ 0.75 GHz	3.99					

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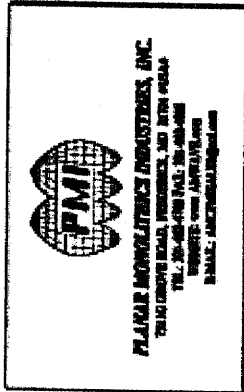
SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

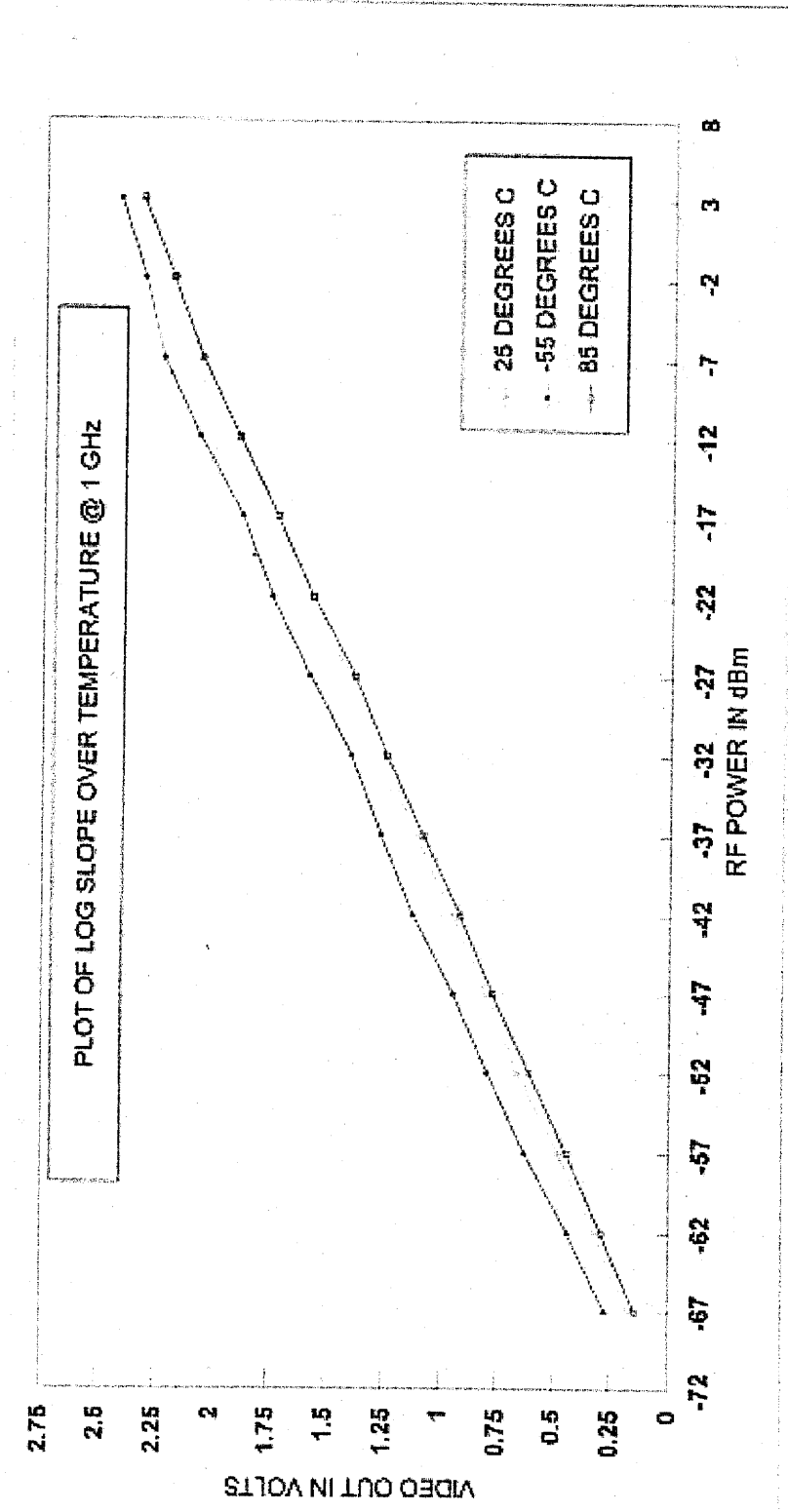
SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

PLOT OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C, -55°C & +85°C



JOB NUMBER 0411P
CUSTOMER LITTON ADVANCED
MODEL NUMBER SDLVA-07103-70
OPTION NUMBER LA3

TECHNICIAN HENRY NIHO
DATE 10/28/08
 S/N PM010514



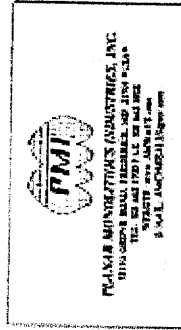
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SUMMARY TEST DATA
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER
 PMI MODEL No: SDLVA-07103-70-LA3
 SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



TABULATED DATA OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C, -55°C & +85°C

TABULATED TEST DATA @ 25 C, -55 C, 85 C @ 1 GHZ



JOB NUMBER 0041BP
 CUSTOMER LITTON ADVANCED
 MODEL NUMBER SDLVA-07103-70
 OPTION NUMBER LAS

TECHNICIAN HENRY NIND
 DATE 10/25/00

S/N PM010514

RF POWER (dBm)	25 DEGREES C		-55 DEGREES C		+85 DEGREES C	
	IN (VOLTS)	OUT (VOLTS)	IN (VOLTS)	OUT (VOLTS)	IN (VOLTS)	OUT (VOLTS)
3	2.315	2.424	2.315	2.424	2.315	2.424
-2	2.174	2.315	2.174	2.315	2.174	2.315
-7	2.068	2.23	2.068	2.23	2.068	2.23
-12	1.9	2.073	1.9	2.073	1.9	2.073
-17	1.727	1.879	1.727	1.879	1.727	1.879
-22	1.589	1.746	1.589	1.746	1.589	1.746
-27	1.408	1.581	1.408	1.581	1.408	1.581
-32	1.253	1.4	1.253	1.4	1.253	1.4
-37	1.117	1.268	1.117	1.268	1.117	1.268
-42	0.943	1.124	0.943	1.124	0.943	1.124
-47	0.795	0.943	0.795	0.943	0.795	0.943
-52	0.659	0.794	0.659	0.794	0.659	0.794
-57	0.478	0.628	0.478	0.628	0.478	0.628
-62	0.319	0.435	0.319	0.435	0.319	0.435
-67	0.175	0.273	0.175	0.273	0.175	0.273
DC POWER @ +5 VOLTS	+220 mA		+220 mA		+220 mA	
DC POWER @ -5 VOLTS	-120 mA		-120 mA		-120 mA	
LOG SLOPE	30.9506 mV/dB	31.3057 mV/dB	30.9506 mV/dB	31.3057 mV/dB	30.9506 mV/dB	31.3057 mV/dB
REPT PRT REFRACT LINE	0.75	1.27	0.75	1.27	0.75	1.27
LOG ERROR IN DB	-0.95	-2.53	-0.95	-2.53	-0.95	-2.53
LOG ERROR IN dB						

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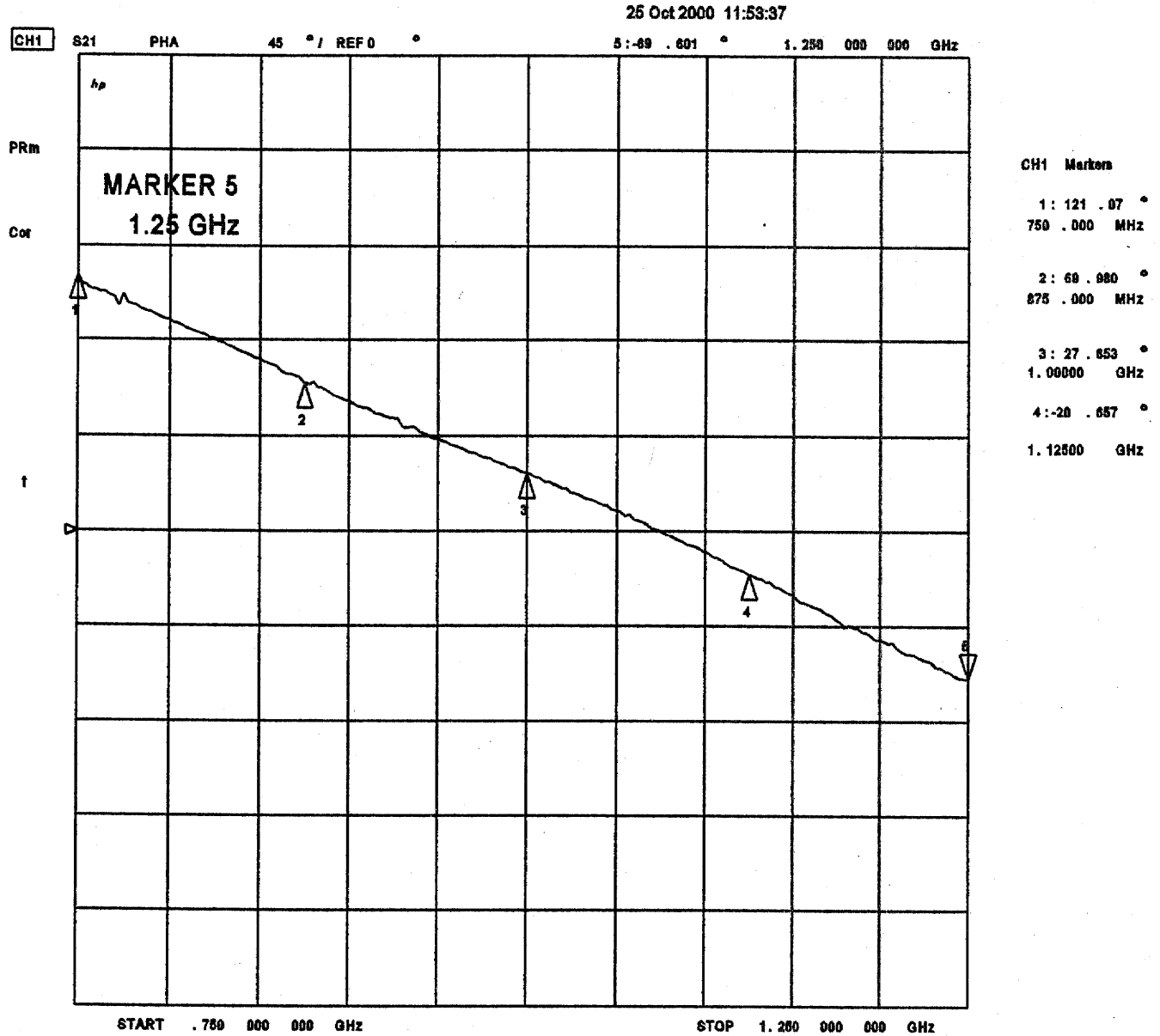
SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

ABSOLUTE PHASE S/N: PM010514



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SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

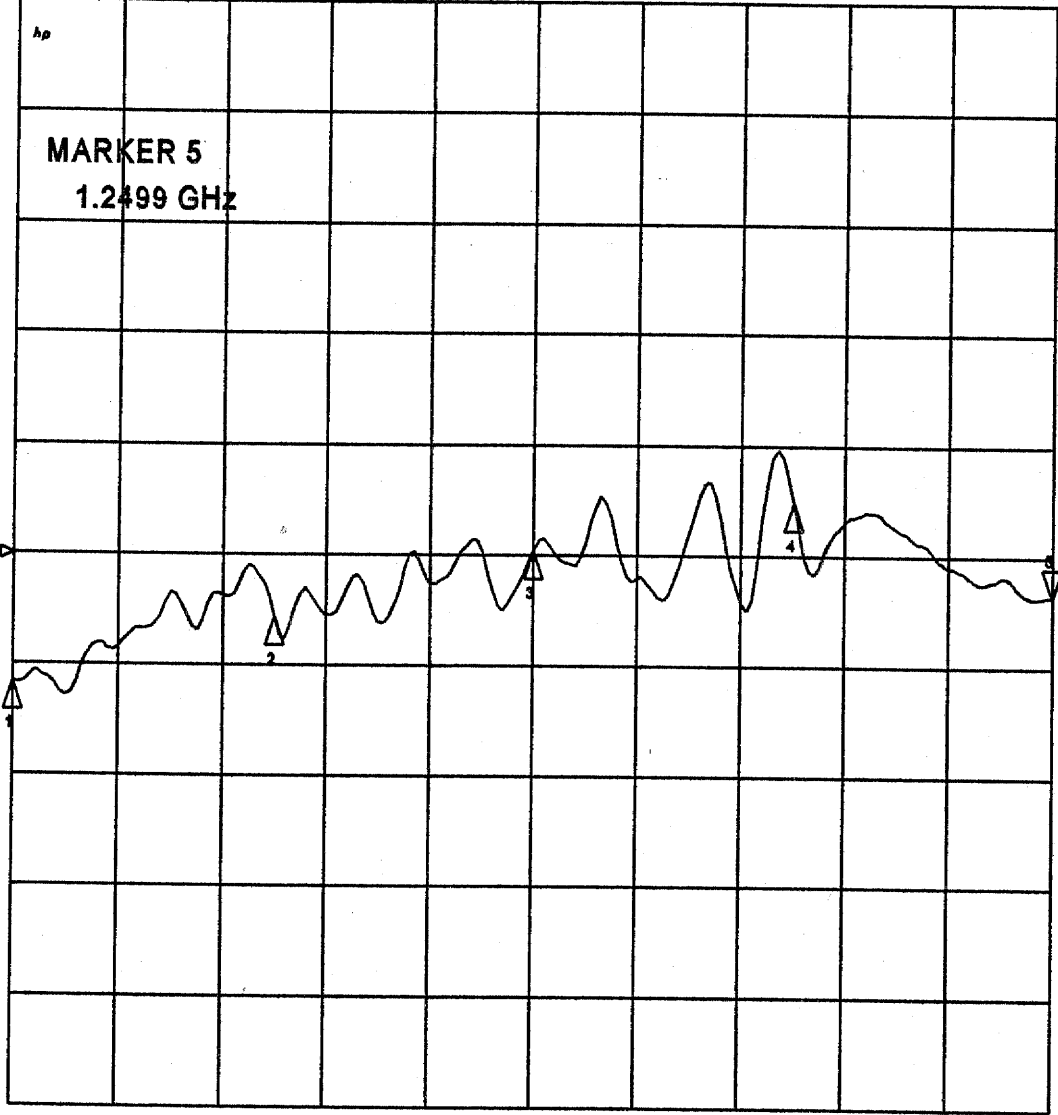
SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

INSERTION PHASE VARIATION@ -55dBm TO 0dBm S/N: PM010514

25 Oct 2000 11:08:51

CH1

S21 /M PHA 10 ° / REF 0 ° 5: -3 . 6923 ° 1. 249 900 000 GHz



CH1 Markers

- 1: -11 . 529 °
750 . 000 MHz
- 2: -6 . 6030 °
875 . 000 MHz
- 3: 498 . 50 m°
1. 00000 GHz
- 4: 4. 9342 °
1. 12500 GHz

START . 750 000 000 GHz

STOP 1. 250 000 000 GHz

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



FINAL TEST DATA ON S/N: PM010515

FORM: SD303 90617P2 99/10/20



PLANAR MONOLITHICS INDUSTRIES
5100 FERRY ROAD, FREDERICK, MD 21704
TEL: (301) 662-4700 FAX: (301) 662-4938

JOB NO: 00418P

SUMMARY TEST DATA

ON

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA)

CUSTOMER: LITTON ADVANCED TESTED BY: HENRY NIÑO
 JOB NO: 00418P TEMPERATURE: +25°C
 MODEL NO: SDLVA-07103-70 DATE: 10/24/00
 SERIAL NO: PM010515 OPTION NO: LA3

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE	750-1250 MHz	O.K.	✓
2	INPUT & OUTPUT VSWR:	2.0:1 (maximum) 1.5:1 (typical)	1.22 : 1 1.43 : 1	✓
3	MINIMUM LOGGING RANGE	-67 dBm (Input)	see plot	✓
	MAXIMUM LOGGING RANGE	+3 dBm (+5 dBm typical)	see plot	✓
4	DYNAMIC RANGE	≥ 70 dB (minimum)	see plot	✓
5	UNIT TO UNIT PHASE TRACKING @ -30 dBm:	±2.5° (goal)	see plot	✓
6	INSERTION PHASE VARIATION: •INPUT: -55 dBm to 0 dBm	0.75°/dB (maximum)	0.2°/dB	✓
7	LOG LINEARITY	±1.0 dB (typical) ±1.5 dB (maximum)	+1.10 dB -0.93 dB	✓
8	LOG SLOPE (±5%)	30 mV/dB	see data	✓
9	LOG SLOPE VARIATION W/ FREQ.	±1.5mV/dB (typical)	±1.4 $\frac{mV}{dB}$	✓
10	LOG SLOPE VARIATION W/ TEMP.	±2.5mV/dB (maximum)	pass	✓
11	TSS	-70 dB (maximum)	-72 dBm	✓
12	LIMITED IF OUTPUT: •INPUT: -65 dBm to +5 dBm	13 dBm (minimum)	14.07...14.89 dBm	✓
13	RISE TIME (10% TO 90% POINTS)	25 nsec (maximum) 20 nsec (typical)	20 ns	✓
14	FALL TIME (90% TO 10% POINTS)	35 nsec (maximum) 20 nsec (typical)	20 ns	✓
15	D.C. POWER @ +5 V (no load)	175 mA (maximum)	170 mA	✓
16	D.C. POWER @ -5 V (no load)	150 mA (maximum)	130 mA	✓

PRODUCTION MANAGER APPROVAL: _____ DATED: 10/24/00
 QA/QC APPROVAL: PHL **Q4** Donald Hammer DATED: 10/25/00

OCTOBER 31st, 2000

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 Tel: 301-662-4700 Fax: 301-662-4938 Website: www.AMWAVE.com E-mail: amcpmi@aol.com

SUMMARY TEST DATA


SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



PLOT OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C S/N: PM010515


PLANAR MONOLITHICS INDUSTRIES, INC.
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 TEL: 301-662-4700 FAX: 301-662-4938
 WWW: WWW.AMWAVE.COM
 E-MAIL: AMCPMI@AOL.COM

JOB NUMBER	0041BP
CUSTOMER	LITTON ADVANCED
MODEL NUMBER	SDLVA-07103-70
OPTION NUMBER	LA3

TECHNICIAN	HENRY NINO
DATE	10/25/00
	S/N PM010515

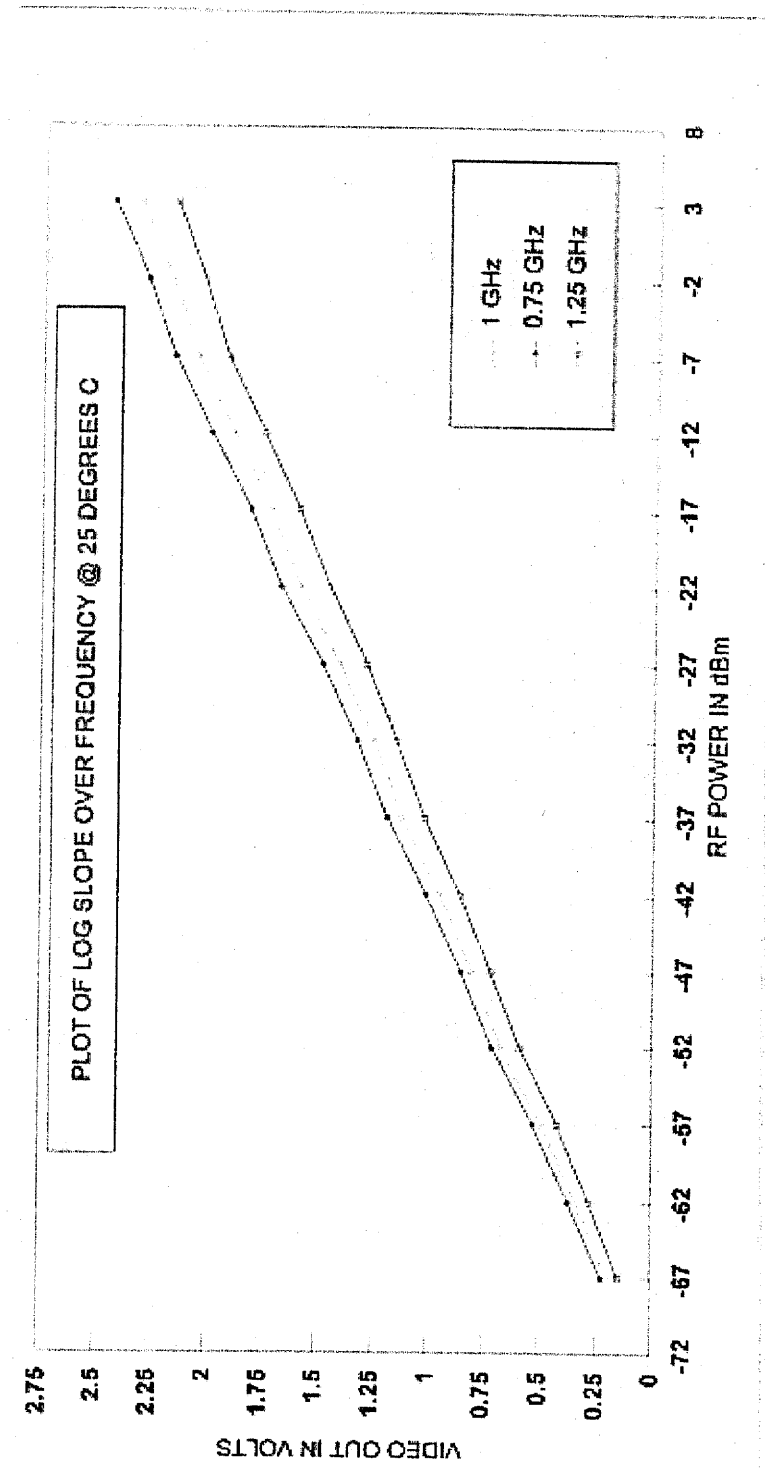


TABLE 3 WMA

OCTOBER 31st, 2000

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 Tel: 301-662-4700 Fax: 301-662-4938 Website: www.AMWAVE.com E-mail: amcpmi@aol.com



SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

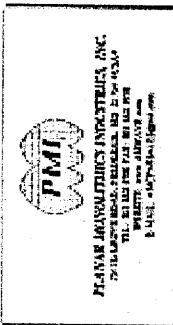
PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

**TABULATED DATA OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C S/N: PM010515**

35003 JMS

TABULATED TEST DATA @ 1 GHz, 0.75 GHz AND 1.25 GHz @ 25 DEGREES C



JOB NUMBER 03418P
 CUSTOMER LITTON ADVANCED
 MODEL NUMBER SOLVA-07103-70
 OPTION NUMBER LAJ

TECHNICIAN HENRY MINO
 DATE 10/28/00
 S/N PM010515

RF POWER IN (dBm)	1 GHz VIDEO OUT (VOLTS)	1 GHz LIMITED F OUT (dBm)	0.75 GHz VIDEO OUT (VOLTS)	0.75 GHz LIMITED F OUT (dBm)	1.25 GHz VIDEO OUT (VOLTS)	1.25 GHz LIMITED F OUT (dBm)
3	2.315	14.58	2.433	14.89	2.153	14.31
-2	2.17	14.58	2.281	14.89	2.029	14.31
-7	2.052	14.58	2.161	14.89	1.918	14.31
-12	1.891	14.58	1.993	14.89	1.752	14.31
-17	1.721	14.58	1.814	14.89	1.592	14.31
-22	1.555	14.58	1.676	14.89	1.458	14.31
-27	1.407	14.58	1.463	14.89	1.285	14.31
-32	1.254	14.58	1.326	14.89	1.181	14.31
-37	1.121	14.58	1.181	14.89	1.022	14.31
-42	0.95	14.58	1.012	14.89	0.86	14.31
-47	0.803	14.58	0.853	14.89	0.72	14.31
-52	0.67	14.58	0.714	14.89	0.587	14.31
-57	0.491	14.58	0.57	14.89	0.423	14.31
-62	0.336	14.48	0.37	14.76	0.261	14.23
-67	0.195	14.33	0.224	14.52	0.148	14.07
DC POWER @ +4 VOLTS	+210 mA					
DC POWER @ -3 VOLTS	-130 mA					
LOG SLOPE						
BEST FIT STRAIGHT LINE	30.6021	mV/dB	31.9293	mV/dB	29.0957	mV/dB
LOG ERROR IN dB	0.75		0.80		1.10	
LOG ERROR IN dB	-0.66		-0.68		-0.83	
PRECISELY FLATNESS						
LOG VIDEO FROM THE VALUE @ 1 GHz IN dB	-5.29					
	3.85					

OCTOBER 31st, 2000



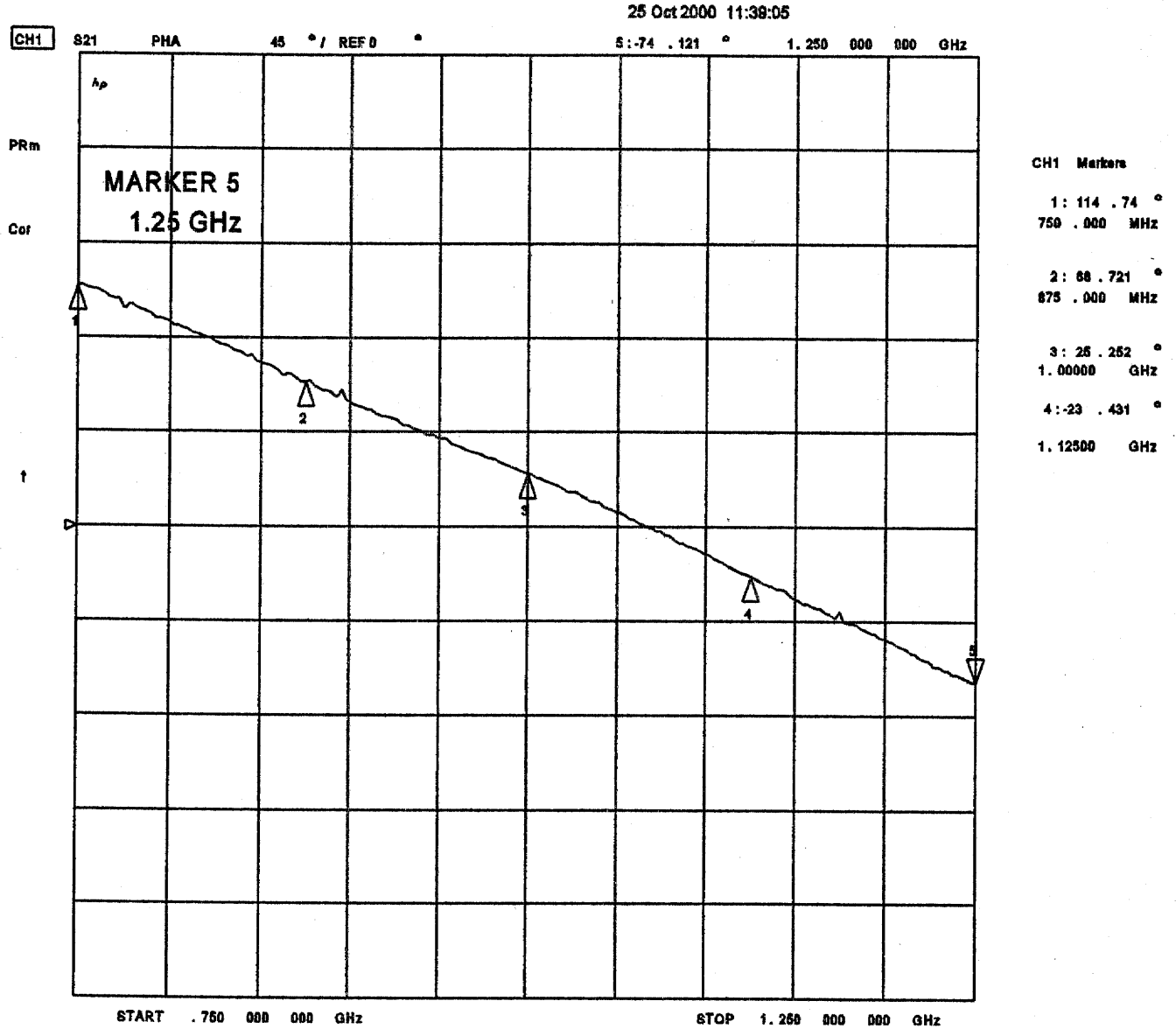
SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

ABSOLUTE PHASE S/N: PM010515



OCTOBER 31th, 2000

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

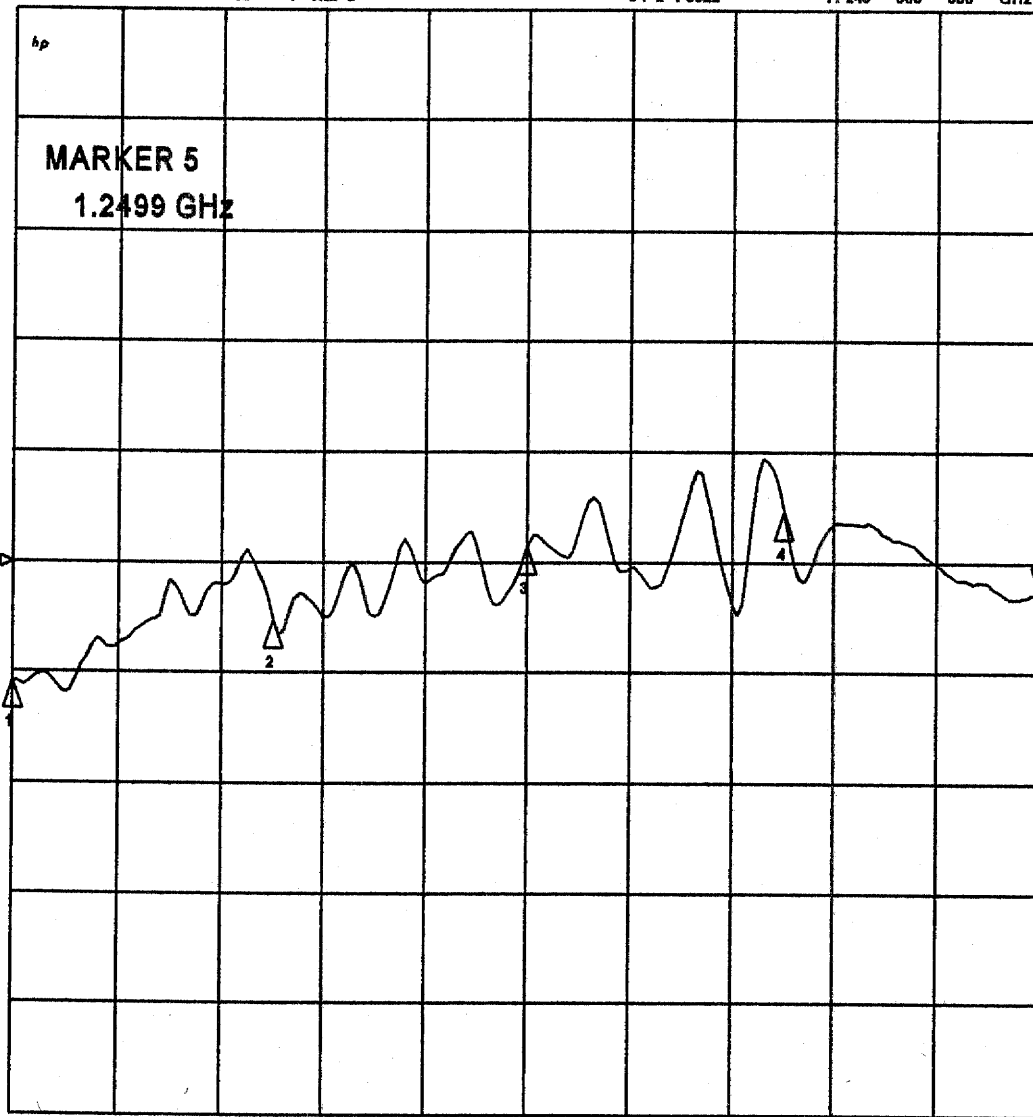
SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



INSERTION PHASE VARIATION@ -55dBm TO 0dBm S/N: PM010515

25 Oct 2000 11:10:15

GH1 S21 M PHA 10 ° / REF 0 ° 5 : -2 . 8622 ° 1 . 249 900 000 GHz



- CH1 Markers
- 1: -10 . 719 °
750 . 000 MHz
 - 2: -6 . 1759 °
875 . 000 MHz
 - 3: 1 . 6068 °
1 . 00000 GHz
 - 4: 4 . 7351 °
1 . 12500 GHz

START . 750 000 000 GHz

STOP 1 . 250 000 000 GHz

OCTOBER 31st, 2000

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



FINAL TEST DATA ON S/N: PM010516

FORM: SD303 90617P2 99/10/20



JOB NO: 0041SP

**SUMMARY TEST DATA
ON**

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA)

CUSTOMER: LITTON ADVANCED TESTED BY: HENRY NIÑO
 JOB NO: 0041SP TEMPERATURE: +35°C
 MODEL NO: SDLVA-07103-70 DATE: 10/24/00
 SERIAL NO: PM010516 OPTION NO: LA3

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE	750-1250 MHz	O.K.	✓
2	INPUT & OUTPUT VSWR:	2.0:1 (maximum) 1.5:1 (typical)	1.29:1 1.43:1	✓
3	MINIMUM LOGGING RANGE	-67 dBm (input)	see plots	✓
	MAXIMUM LOGGING RANGE	+3 dBm (+5 dBm typical)	see plots	✓
4	DYNAMIC RANGE	≥ 70 dB (minimum)	see plots	✓
5	UNIT TO UNIT PHASE TRACKING @ -30 dBm:	±2.5° (goal)	see plots	✓
6	INSERTION PHASE VARIATION: •INPUT: -55 dBm to 0 dBm	0.75°/dB (maximum)	0.25°/dB	✓
7	LOG LINEARITY	±1.0 dB (typical) ±1.5 dB (maximum)	+0.98dB -0.76dB	✓
8	LOG SLOPE (±5%)	20 mV/dB	see data	✓
9	LOG SLOPE VARIATION W/ FREQ.	±1.5mV/dB (typical)	±1.6mV/dB	✓
10	LOG SLOPE VARIATION W/ TEMP.	±2.5mV/dB (maximum)	pass	✓
11	TSS	-70 dB (maximum)	-73dBm	✓
12	LIMITED IF OUTPUT: •INPUT: -65 dBm to +5 dBm	13 dBm (minimum)	14.72...15.02 dBm	✓
13	RISE TIME (10% TO 90% POINTS)	25 nsec (maximum) 20 nsec (typical)	20ns	✓
14	FALL TIME (90% TO 10% POINTS)	35 nsec (maximum) 20 nsec (typical)	20ns	✓
15	D.C. POWER @ +5 V (no load)	175 mA (maximum)	170mA	✓
16	D.C. POWER @ -5 V (no load)	150 mA (maximum)	130mA	✓

PRODUCTION MANAGER APPROVAL: _____ DATED: 10/24/00
 QA/QC APPROVAL: [Signature] [Signature] Donald Harmon DATED: 10/25/00

OCTOBER 31st, 2000

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

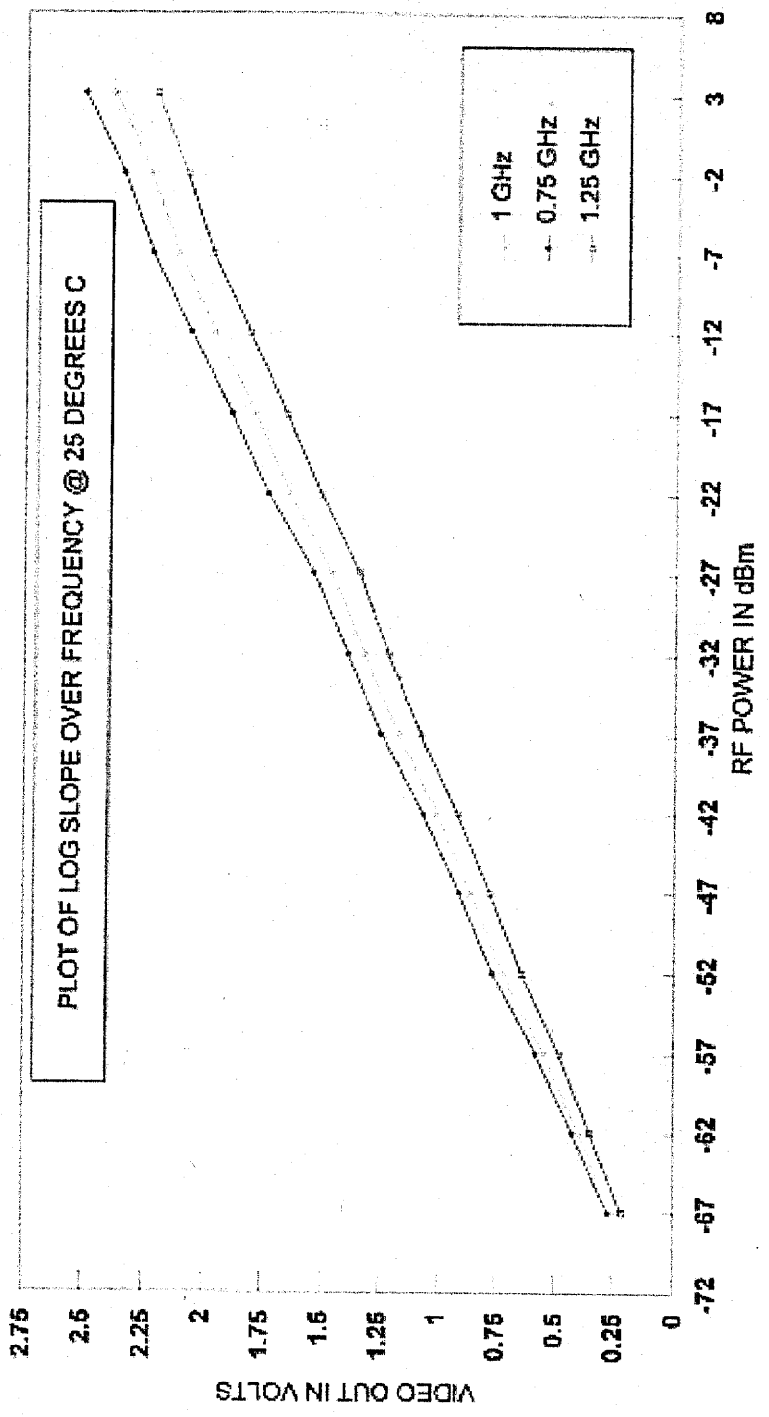
PLOT OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C S/N: PM010516



PLANAR MONOLITHICS INDUSTRIES, INC.
 7311-G GROVE ROAD, FREDERICK, MD 21704-0004
 TEL: 301-662-4700 FAX: 301-662-4938
 WWW.AMWAVE.COM E-MAIL: AMCPMI@AOL.COM

JOB NUMBER 00418P
 CUSTOMER LITTON ADVANCED
 MODEL NUMBER SDLVA-07103-70
 OPTION NUMBER LA3

TECHNICIAN HENRY NINO
 DATE 10/25/00
 S/N PM010516



OCTOBER 31st, 2000

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 Tel: 301-662-4700 Fax: 301-662-4938 Website: www.AMWAVE.com E-mail: amcpmi@aol.com

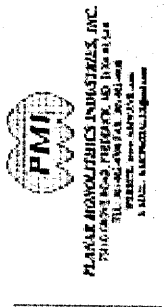


SUMMARY TEST DATA
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER
PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

TABULATED DATA OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C S/N: PM010516

TABULATED TEST DATA @ 1 GHz, 0.75 GHz AND 1.25 GHz @ 25 DEGREES C



JOB NUMBER 00418P
 CUSTOMER LITTON ADVANCED
 MODEL NUMBER SCLVA-07103-70
 OPTION NUMBER LA3

TECHNICIAN HENRY NING
 DATE 10/25/00

S/N PM010516

RF POWER IN (dBm)	1 GHz		0.75 GHz		1.25 GHz		LIMITED P OUT (dBm)
	VIDEO OUT (VOLTS)	VIDEO OUT (VOLTS)	VIDEO OUT (VOLTS)	VIDEO OUT (VOLTS)	VIDEO OUT (VOLTS)	VIDEO OUT (VOLTS)	
3	2.388	15.22	2.509	15.52	2.213	14.9	
-2	2.235	15.22	2.347	15.52	2.084	14.9	
-7	2.117	15.22	2.228	15.52	1.973	14.9	
-12	1.962	15.22	2.065	15.52	1.815	14.9	
-17	1.793	15.22	1.89	15.52	1.68	14.9	
-22	1.645	15.22	1.738	15.52	1.513	14.9	
-27	1.464	15.22	1.539	15.52	1.343	14.9	
-32	1.32	15.22	1.392	15.52	1.218	14.9	
-37	1.17	15.22	1.247	15.52	1.076	14.9	
-42	1.007	15.22	1.066	15.52	0.918	14.9	
-47	0.862	15.22	0.911	15.52	0.78	14.9	
-52	0.723	15.22	0.766	15.52	0.643	14.9	
-57	0.543	15.22	0.58	15.52	0.481	14.9	
-62	0.392	15.12	0.421	15.4	0.345	14.84	
-67	0.25	14.96	0.27	15.19	0.215	14.72	
DC POWER @ 1 VOLTS	+210 mA						
DC POWER @ 10 VOLTS	-130 mA						
BEST FIT STRAIGHT LINE LOG SLOPE	30.8707	mV/dB	32.3100	mV/dB	29.0464	mV/dB	
LOG SLOPE IN dB	0.55		0.59		0.58		
LOG ERROR IN dB	-0.56		-0.53		-0.76		
REGRESSIVITY PLATTNER							
LOG VIDEO FREQUENCY VALUE	-5.67						
@ 1 GHz IN dB	3.92						

OCTOBER 31st, 2000

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

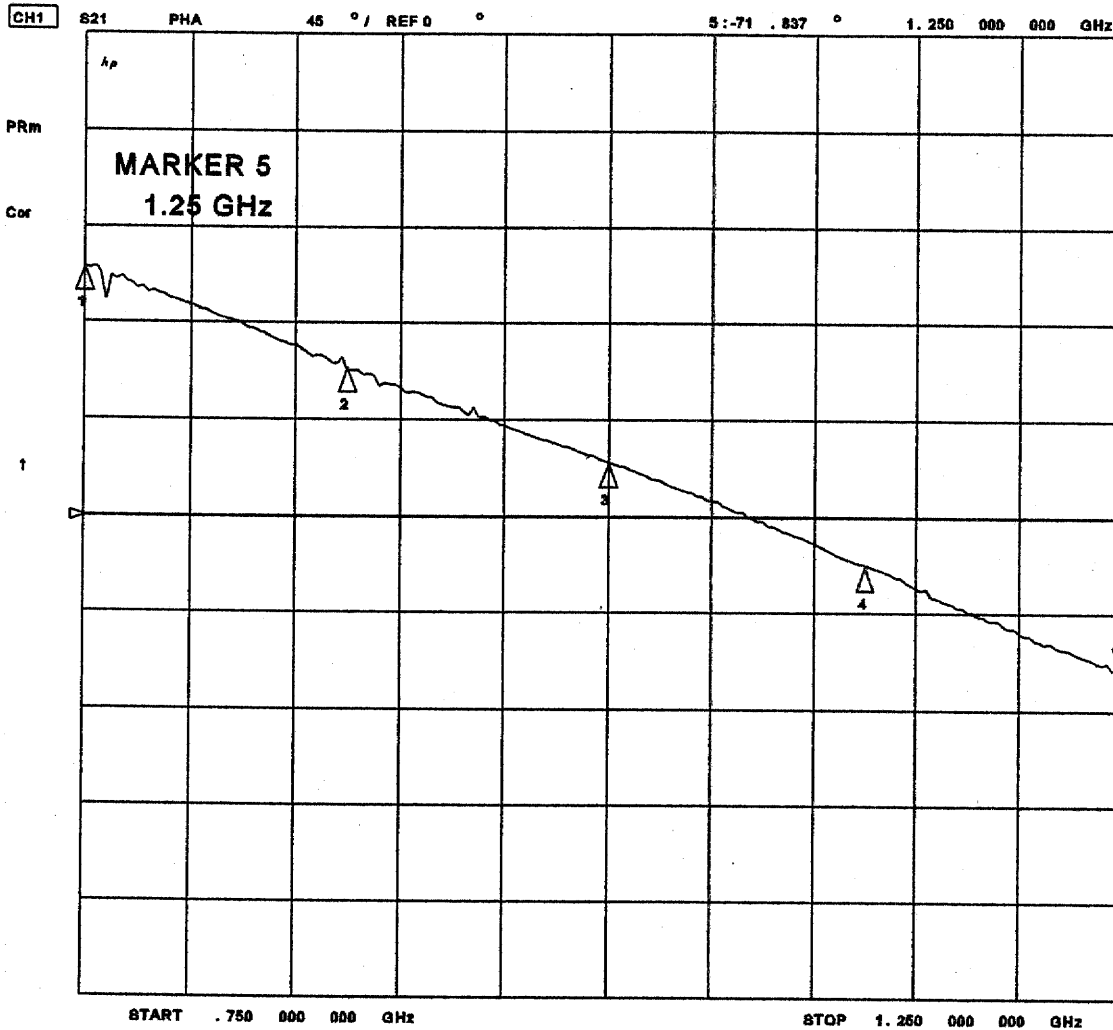
PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



ABSOLUTE PHASE S/N: PM010516

25 Oct 2000 11:59:16



CH1 Markers

1:	118 . 40 °
	750 . 000 MHz
2:	69 . 402 °
	875 . 000 MHz
3:	28 . 601 °
	1. 00000 GHz
4:	-22 . 878 °
	1. 12500 GHz

OCTOBER 31th, 2000

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Tel: 301-662-4700 Fax: 301-662-4938 Website: www.AMWAVE.com E-mail: amcpmi@aol.com

SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

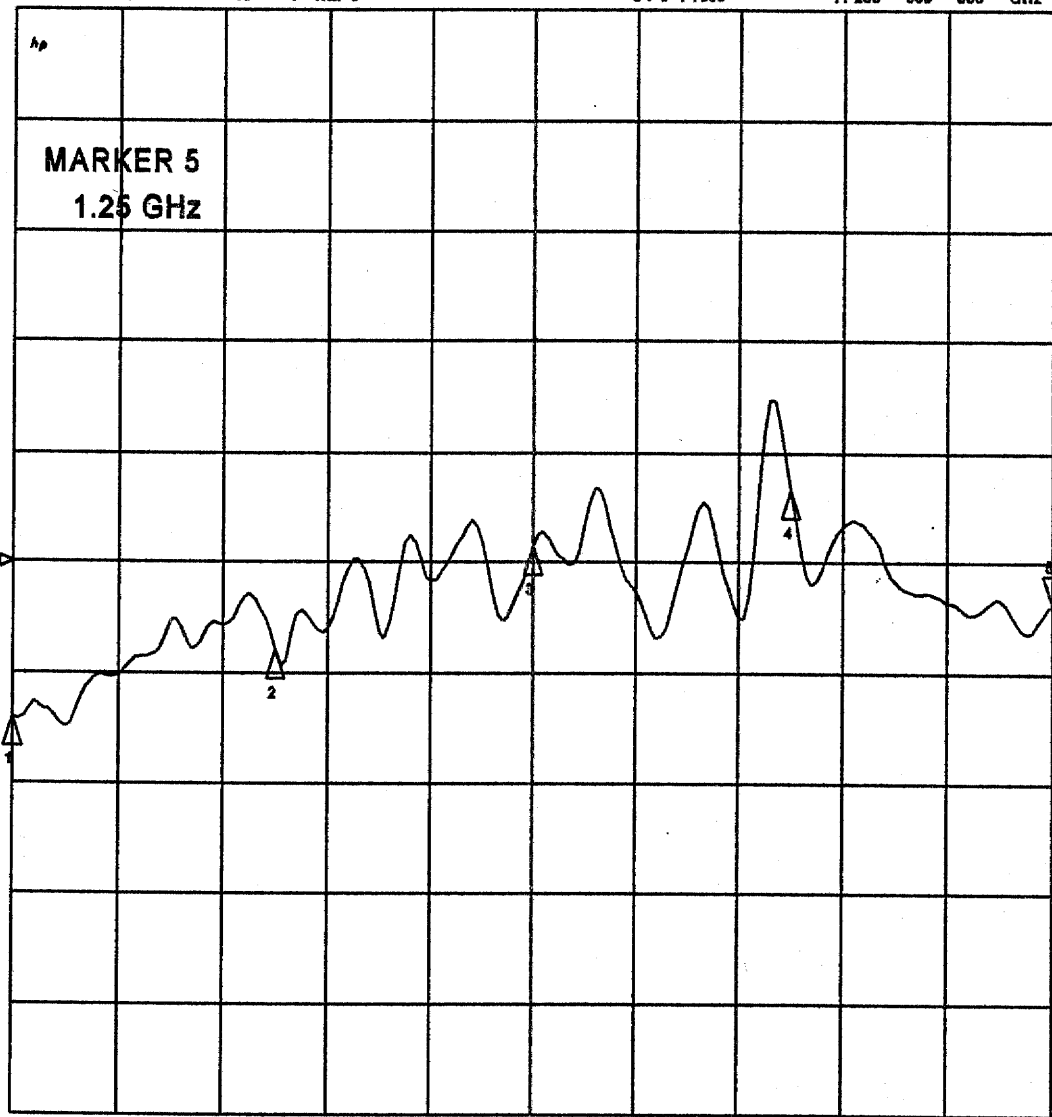
SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



INSERTION PHASE VARIATION@ -55dBm TO 0dBm S/N: PM010516

25 Oct 2000 11:05:17

CH1 S21 M PHA 10 ° / REF 0 ° 5 :-3 . 7000 ° 1. 250 000 000 GHz



- CH1 Markers
- 1 :-13 . 984 °
750 . 000 MHz
 - 2 :-7 . 8374 °
875 . 000 MHz
 - 3 : 1. 4310 °
1. 00000 GHz
 - 4 : 8. 6618 °
1. 12500 GHz

START . 750 000 000 GHz

STOP 1. 250 000 000 GHz

OCTOBER 31st, 2000

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Tel: 301-662-4700 Fax: 301-662-4938 Website: www.AMWAVE.com E-mail: amcpmi@aol.com



SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

FINAL TEST DATA ON S/N: PM010517

FORM: SD303 90617P2 99/10/20



PLANAR MONOLITHICS INDUSTRIES, INC. 7311-G GROVE ROAD, FREDERICK, MD 21704 TEL: 301-662-4700 FAX: 301-662-4938

JOB NO: 00418P

SUMMARY TEST DATA

ON

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA)

CUSTOMER: LITTON ADVANCED

TESTED BY: HENRY NIÑO

JOB NO: 00418P

TEMPERATURE: +25°C

MODEL NO: SDLVA-07103-70

DATE: 10/24/00

SERIAL NO: PM010517

OPTION NO: LA3

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QW/QC
1	FREQUENCY RANGE	750-1250 MHz	O.K.	✓
2	INPUT & OUTPUT VSWR:	2.0:1(maximum) 1.5:1 (typical)	1.29:1 1.38:1	✓
3	MINIMUM LOGGING RANGE	-67 dBm (input)	see plot	✓
	MAXIMUM LOGGING RANGE	+3 dBm (+5 dBm typical)	see plot	✓
4	DYNAMIC RANGE	≥ 70 dB (minimum)	see plot	✓
5	UNIT TO UNIT PHASE TRACKING @ -30 dBm:	± 2.5° (goal)	see plot	✓
6	INSERTION PHASE VARIATION: *INPUT: -55 dBm to 0 dBm	0.75°/dB (maximum)	0.72°/dB	✓
7	LOG LINEARITY	± 1.0 dB (typical) ± 1.5 dB (maximum)	+1.02 dB -0.74 dB	✓
8	LOG SLOPE (±5%)	30 mV/dB	see data	✓
9	LOG SLOPE VARIATION W/ FREQ.	± 1.5mV/dB (typical)	± 1.6 mV/dB	✓
10	LOG SLOPE VARIATION W/ TEMP.	± 2.5mV/dB(maximum)	pass	✓
11	TSS	- 70 dB (maximum)	-72dB	✓
12	LIMITED IF OUTPUT: *INPUT: -65 dBm to +5 dBm	13 dBm (minimum)	14.75-15.62 dBm	✓
13	RISE TIME (10% TO 90% POINTS)	25 nsec (maximum) 20 nsec (typical)	20ns	✓
14	FALL TIME (90% TO 10% POINTS)	35 nsec (maximum) 20 nsec (typical)	20ns	✓
15	D.C. POWER @ +5 V (no load)	175 mA (maximum)	190mA	✓
16	D.C. POWER @ -5 V (no load)	150 mA (maximum)	130mA	✓

PRODUCTION MANAGER APPROVAL:

DATED: 10/24/00

QW/QC APPROVAL:

Handwritten signature: Ronald Harmon

DATED: 10/25/00

OCTOBER 31st, 2000

PLANAR MONOLITHICS INDUSTRIES, INC., 7311-G Grove Road, Frederick, MD 21704

Tel: 301-662-4700 Fax: 301-662-4938 Website: www.AMWAVE.com E-mail: amcpmi@aol.com

SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

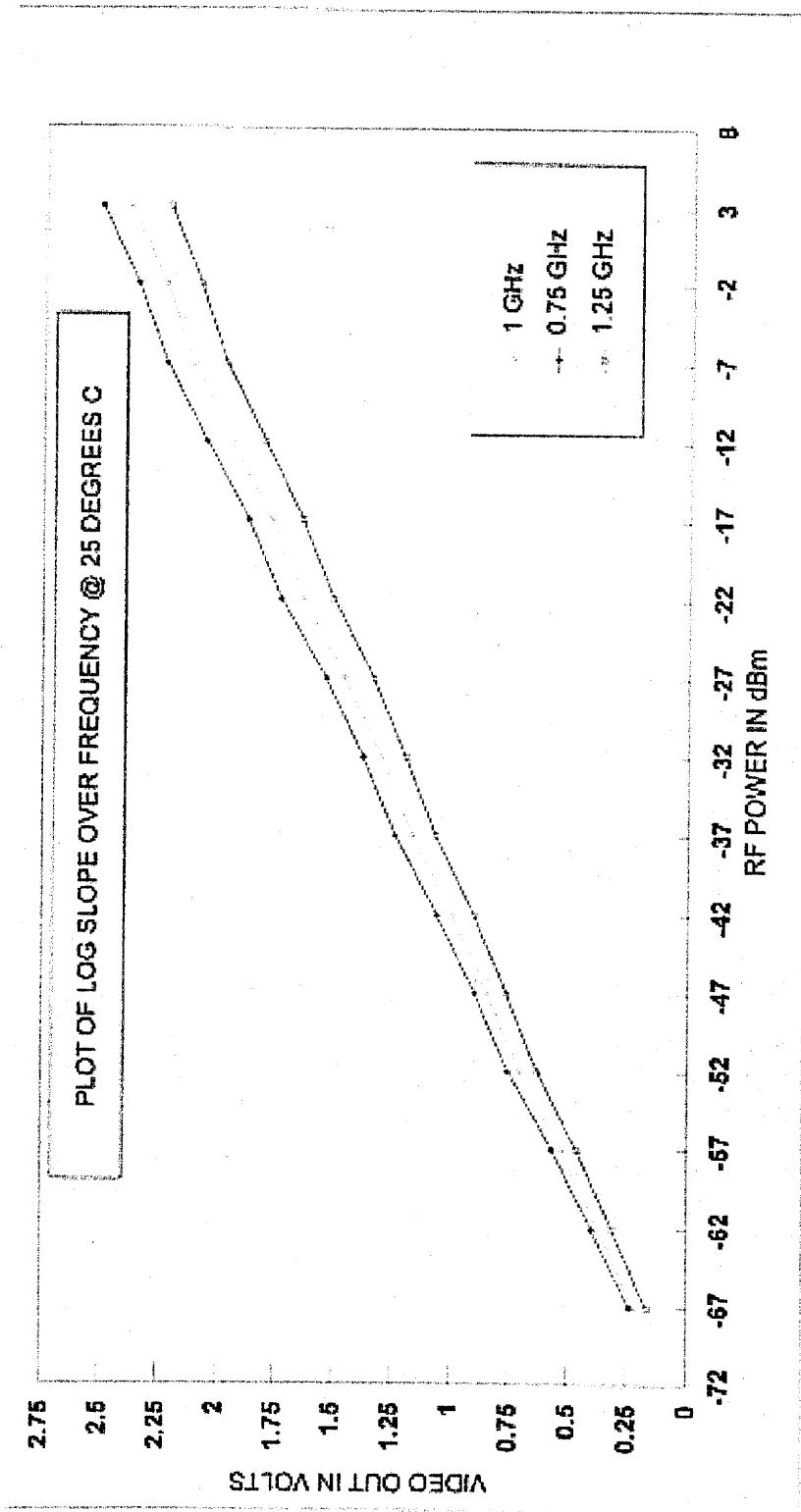


PLOT OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C S/N: PM010517

PMI
 PLANAR MONOLITHICS INDUSTRIES, INC.
 7311-G GROVE ROAD, FREDERICK, MD 21704
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 E-MAIL: AMCPMI@aol.com

JOB NUMBER 0416P
CUSTOMER LITTON ADVANCED
MODEL NUMBER SDLVA-07103-70
OPTION NUMBER LA3

TECHNICIAN HENRY NIÑO
DATE 10/25/00
 S/N PM010517



OCTOBER 31st, 2000

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 Tel: 301-662-4700 Fax: 301-662-4938 Website: www.AMWAVE.com E-mail: amcpmi@aol.com

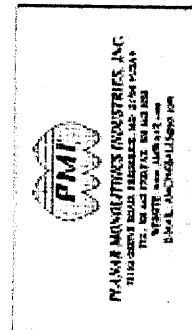


SUMMARY TEST DATA
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER
PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

TABULATED DATA OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C S/N: PM010517

TABULATED TEST DATA @ 1 GHz, 0.75 GHz AND 1.25 GHz @ 25 DEGREES C



JOB NUMBER 0411P
CUSTOMER LITTON ADVANCED
MODEL NUMBER SDLVA-07103-70
OPTION NUMBER LA3
TECHNICIAN HENRY NINO
DATE 10/30/00
S/N PM010517

LOG POWER IN (dBm)	1 GHz VDC OUT (VOLTS)	1 GHz LIMITED F OUT (dBm)	0.75 GHz VDC OUT (VOLTS)	0.75 GHz LIMITED F OUT (dBm)	1.25 GHz VDC OUT (VOLTS)	1.25 GHz LIMITED F OUT (dBm)
3	2.387	15.28	2.507	15.62	2.215	14.99
-2	2.231	15.28	2.348	15.62	2.083	14.99
-7	2.112	15.28	2.227	15.62	1.972	14.99
-12	1.95	15.28	2.067	15.62	1.804	14.99
-17	1.777	15.28	1.875	15.62	1.643	14.99
-22	1.639	15.28	1.734	15.62	1.508	14.99
-27	1.458	15.28	1.538	15.62	1.333	14.99
-32	1.302	15.28	1.379	15.62	1.197	14.99
-37	1.167	15.28	1.242	15.62	1.067	14.99
-42	0.994	15.28	1.059	15.62	0.902	14.99
-47	0.842	15.28	0.896	15.62	0.762	14.99
-52	0.708	15.28	0.764	15.62	0.63	14.99
-57	0.524	15.28	0.584	15.62	0.46	14.99
-62	0.365	15.18	0.396	15.48	0.313	14.9
-67	0.221	15.02	0.238	15.24	0.168	14.75
DC POWER @ -8 VOLTS	+230 mA					
DC POWER @ -5 VOLTS	+130 mA					
LOG SLOPE						
BEST FIT STRAIGHT LINE	31.1814	mVdB	32.6484	mVdB	29.5186	mVdB
LOG ERROR IN dB	0.66		0.71		1.02	
LOG ERROR IN dB	-0.52		-0.71		-0.74	
FREQUENCY PLAINERS						
LOG VIDEO FROM THE VALLE	-5.52					
@ 1 GHz IN dB	3.85					

OCTOBER 31st, 2000

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 Tel: 301-662-4700 Fax: 301-662-4938 Website: www.AMWAVE.com E-mail: amcpmi@aol.com



SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

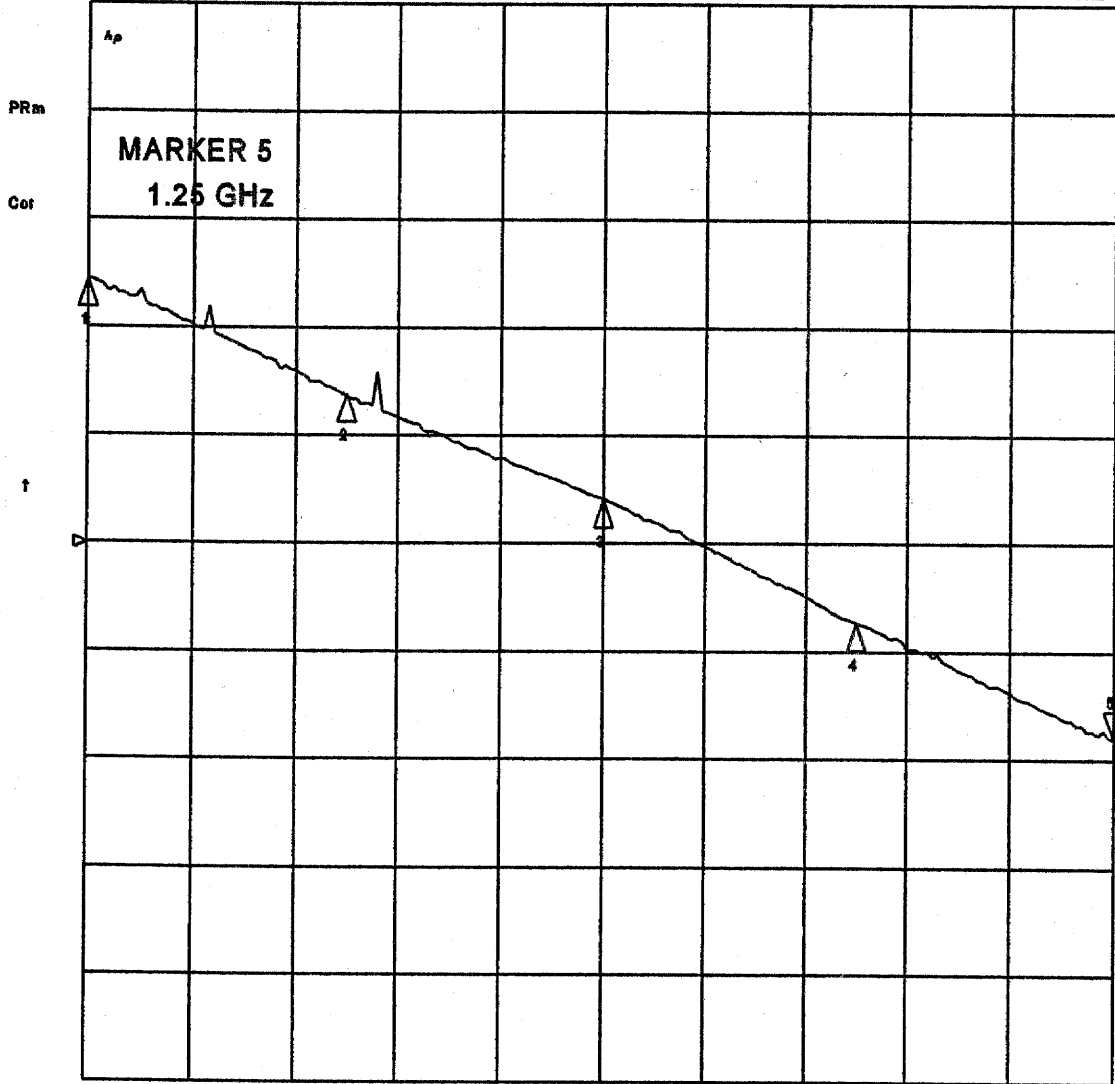
PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

ABSOLUTE PHASE S/N: PM010517

25 Oct 2000 11:48:47

CH1 S21 PHA 45 ° / REF 0 ° 5 : -81 . 288 ° 1. 250 000 000 GHz



CH1 Markers

1 :	110 . 19 °
	750 . 000 MHz
2 :	82 . 446 °
	875 . 000 MHz
3 :	18 . 397 °
	1. 00000 GHz
4 :	-32 . 647 °
	1. 12500 GHz

START . 750 000 000 GHz STOP 1. 250 000 000 GHz

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

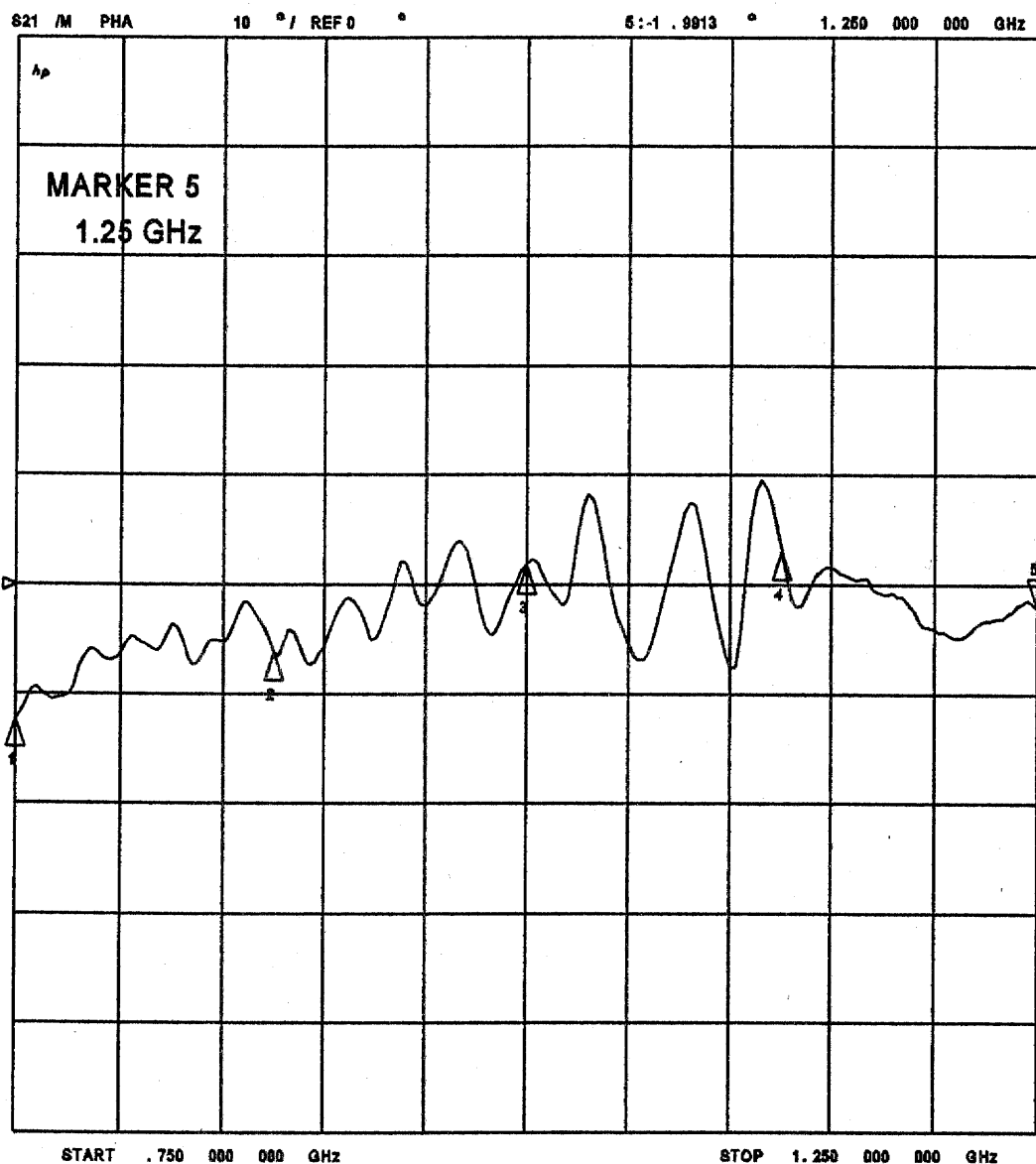
SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



INSERTION PHASE VARIATION@ -55dBm TO 0dBm S/N: PM010517

25 Oct 2000 11:08:37

CH1



CH1 Markers

1 : -12 . 198 °
760 . 000 MHz

2 : -6 . 1290 °
875 . 000 MHz

3 : 1 . 8773 °
1 . 00000 GHz

4 : 3 . 0995 °
1 . 12500 GHz

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SUMMARY TEST DATA
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER
PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

FINAL TEST DATA ON S/N: PM010518

FORM: SD303 90617P2 99/10/20



PLANAR MONOLITHICS INDUSTRIES
 7311-G ROVE ROAD, FREDERICK, MD 21704
 TEL: 301-662-4700 FAX: 301-662-4938

JOB NO: 00418P

SUMMARY TEST DATA
ON

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA)

CUSTOMER: LITTON ADVANCED TESTED BY: HENRY NIÑO
 JOB NO: 00418P TEMPERATURE: +25°C
 MODEL NO: SDLVA-07103-70 DATE: 10/24/00
 SERIAL NO: PM010518 OPTION NO: LA3

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE	750-1250 MHz	O.K.	✓
2	INPUT & OUTPUT VSWR:	2.0:1 (maximum) 1.5:1 (typical)	1.22:1 1.43:1	✓
3	MINIMUM LOGGING RANGE	-67 dBm (input)	see plot	✓
	MAXIMUM LOGGING RANGE	+3 dBm (+5 dBm typical)	see plot	✓
4	DYNAMIC RANGE	≥ 70 dB (minimum)	see plot	✓
5	UNIT TO UNIT PHASE TRACKING @ -30 dBm:	± 2.5° (goal)	see plot	✓
6	INSERTION PHASE VARIATION: • INPUT: -55 dBm to 0 dBm	0.75°/dB (maximum)	0.29°/dB	✓
7	LOG LINEARITY	± 1.0 dB (typical) ± 1.5 dB (maximum)	+1.17 dB -1.01 dB	✓
8	LOG SLOPE (± 5%)	30 mV/dB	see data	✓
9	LOG SLOPE VARIATION W/ FREQ.	± 1.5mV/dB (typical)	± 1.6 mV/dB	✓
10	LOG SLOPE VARIATION W/ TEMP.	± 2.5mV/dB (maximum)	pass	✓
11	TSS	-70 dB (maximum)	-72 dBm	✓
12	LIMITED IF OUTPUT: • INPUT: -65 dBm to +5 dBm	13 dBm (minimum)	14.72...15.51 dBm	✓
13	RISE TIME (10% TO 90% POINTS)	25 nsec (maximum) 20 nsec (typical)	20 ns	✓
14	FALL TIME (90% TO 10% POINTS)	35 nsec (maximum) 20 nsec (typical)	20 ns	✓
15	D.C. POWER @ +5 V (no load)	175 mA (maximum)	130 mA	✓
16	D.C. POWER @ -5 V (no load)	150 mA (maximum)	120 mA	✓

PRODUCTION MANAGER APPROVAL: [Signature] DATED: 10/24/00
 QA/QC APPROVAL: [Signature] **Q4** Donald Harmon DATED: 10/26/00

OCTOBER 31st, 2000

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

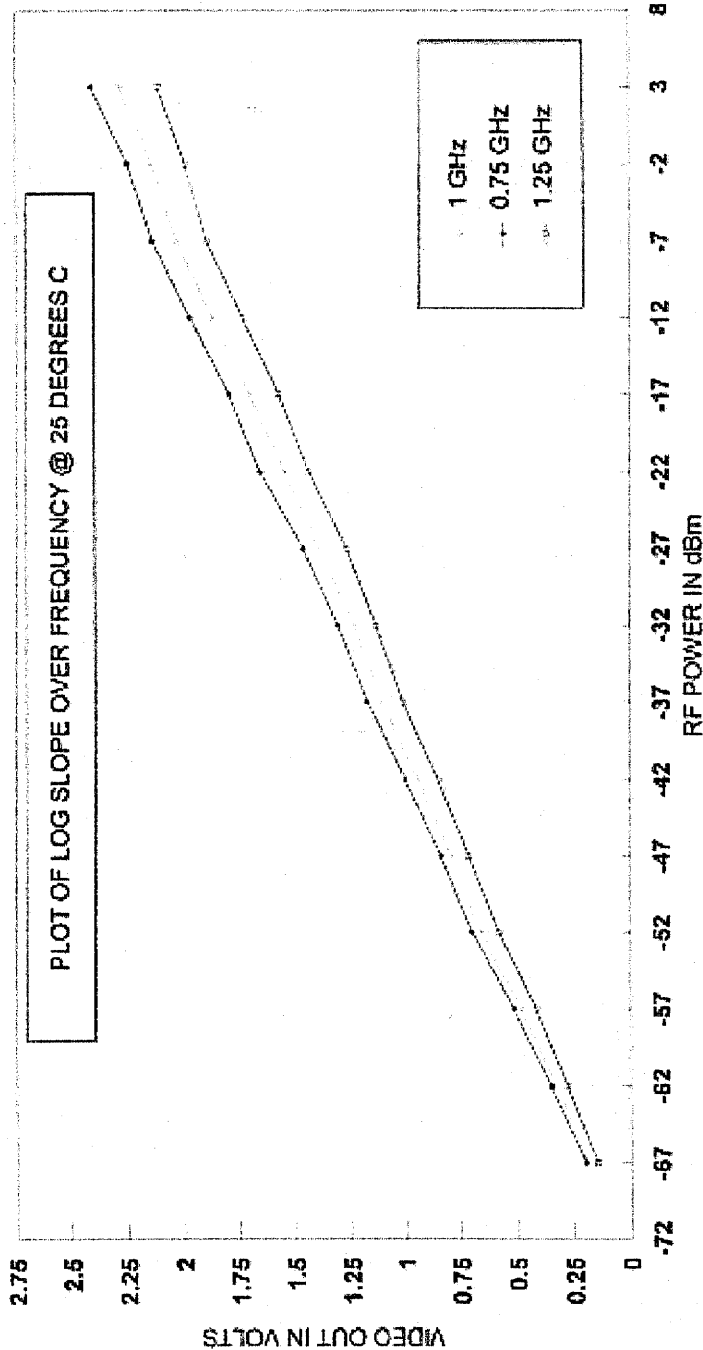
PLOT OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C S/N: PM010518



PLANAR MONOLITHICS INDUSTRIES, INC.
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 E-MAIL: AMCPMI@AOL.COM

JOB NUMBER 00418P
CUSTOMER LITTON ADVANCED
MODEL NUMBER SDLVA-07103-70
OPTION NUMBER LA3

TECHNICIAN HENRY NINO
DATE 10/26/00
 PM010518



OCTOBER 31th, 2000

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

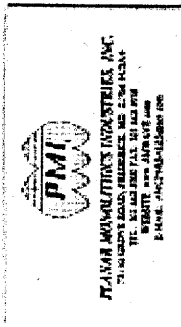
PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



**TABULATED DATA OF LOG SLOPE OVER FREQUENCY
AS MEASURED @ 25°C S/N: PM010518**

TABULATED TEST DATA @ 1 GHz, 0.75 GHz AND 1.25 GHz @ 25 DEGREES C



JOB NUMBER 0041UP
CUSTOMER LITTON ADVANCED
MODEL NUMBER SDLVA-07103-70
OPTICAN NUMBER LA3

TECHNICIAN HENRY NIND
DATE 10/25/00
PM010518

	1 GHz LOG SLOPE (dB/Hz)	1 GHz LIMITED IF OUT (dBm)	0.75 GHz VIDEO OUT (VOLTS)	0.75 GHz LIMITED IF OUT (dBm)	0.75 GHz VIDEO OUT (VOLTS)	1.25 GHz VIDEO OUT (VOLTS)	1.25 GHz LIMITED IF OUT (dBm)	1.25 GHz LIMITED IF OUT (dBm)
3	2.266	15.2	2.409	15.51	2.118	14.94	14.94	14.94
-2	2.14	15.2	2.25	15.51	1.996	14.94	14.94	14.94
-7	2.031	15.2	2.139	15.51	1.894	14.94	14.94	14.94
-12	1.873	15.2	1.973	15.51	1.793	14.94	14.94	14.94
-17	1.704	15.2	1.795	15.51	1.674	14.94	14.94	14.94
-22	1.549	15.2	1.658	15.51	1.442	14.94	14.94	14.94
-27	1.392	15.2	1.466	15.51	1.271	14.94	14.94	14.94
-32	1.24	15.2	1.311	15.51	1.137	14.94	14.94	14.94
-37	1.109	15.2	1.177	15.51	1.01	14.94	14.94	14.94
-42	0.94	15.2	0.998	15.51	0.85	14.94	14.94	14.94
-47	0.792	15.2	0.839	15.51	0.712	14.94	14.94	14.94
-52	0.661	15.2	0.7	15.51	0.581	14.94	14.94	14.94
-57	0.482	15.2	0.514	15.51	0.418	14.94	14.94	14.94
-62	0.328	15.08	0.351	15.39	0.279	14.87	14.87	14.87
-67	0.188	14.93	0.2	15.15	0.148	14.72	14.72	14.72
DC POWER @ 5 VOLTS	+230 mA							
DC POWER @ 1 VOLT	-120 mA							
LOG SLOPE								
TEST AT STRAIGHT LINE	30.2771	mVdB	31.8221	mVdB	28.6507	mVdB	mVdB	mVdB
LOG ERROR IN dB	0.87		0.78		1.17			
LOG ERROR IN dB	-0.71		-0.74		-1.01			
FREQUENCY FLATNESS								
LOG VIDEO FROM THIS VALUE	-5.65							
@ 1 GHz @ 1 dB	4.06							

OCTOBER 31st, 2000

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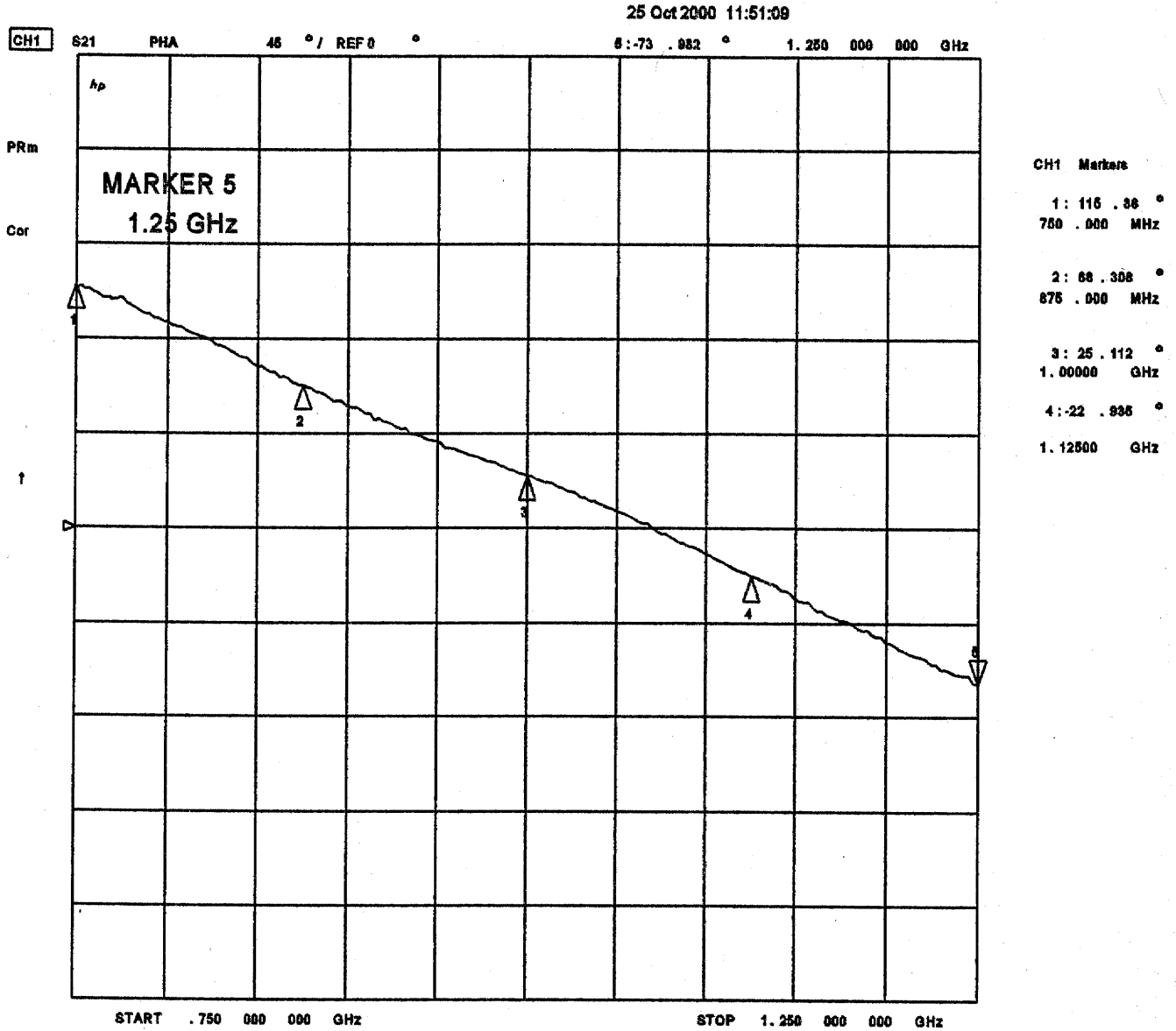
SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

ABSOLUTE PHASE S/N: PM010518



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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

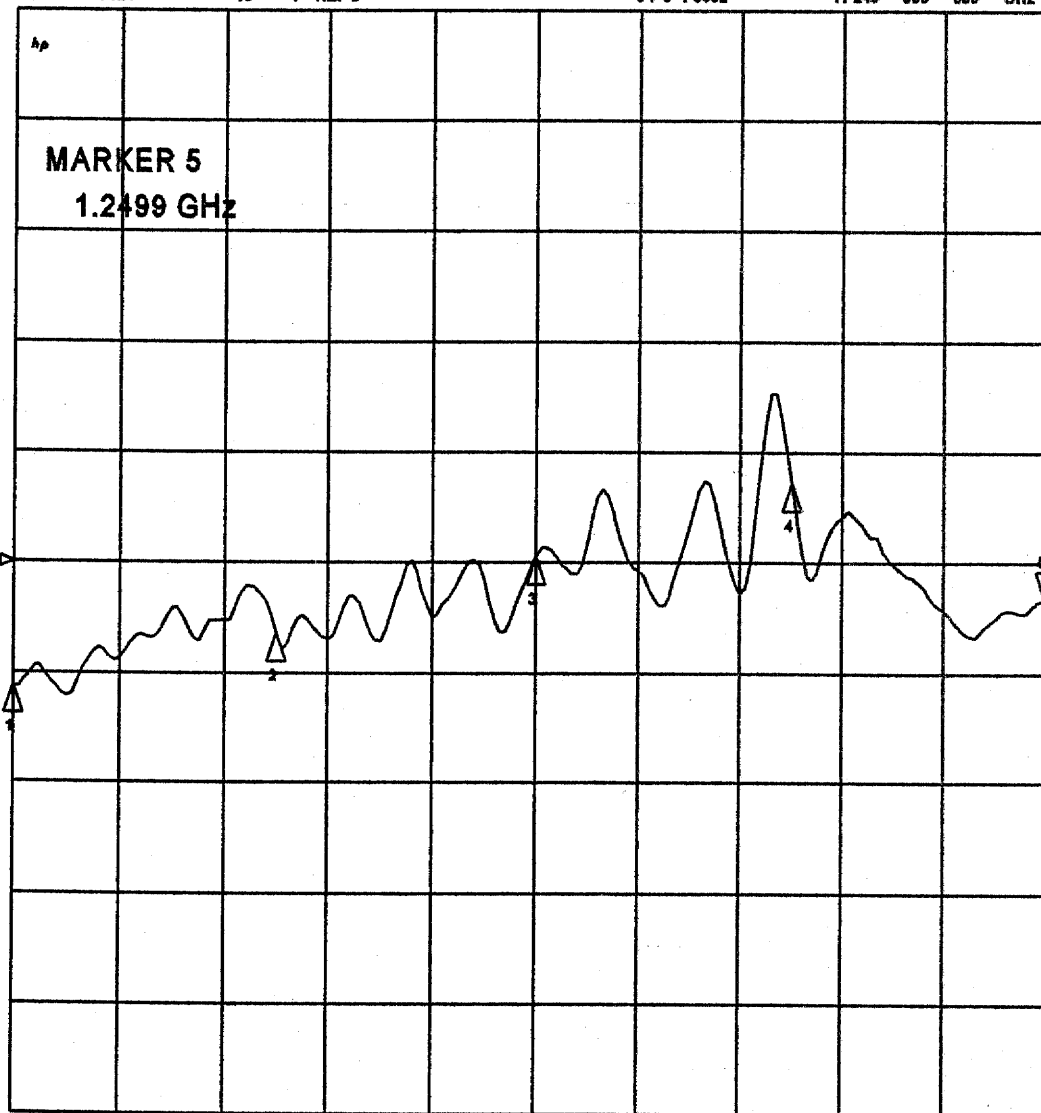
PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

INSERTION PHASE VARIATION@ -55dBm TO 0dBm S/N: PM010518

25 Oct 2000 11:07:42

CH1 821 /M PHA 10 ° / REF 0 ° 5:-3 .3852 ° 1.240 900 000 GHz



CH1 Markers

- 1 :-11 .000 °
750 .000 MHz
- 2 :-6 .3322 °
875 .000 MHz
- 3 : 615 .23 m°
1.00000 GHz
- 4 : 7 .2729 °
1.12500 GHz

START .750 000 000 GHz

STOP 1.250 000 000 GHz

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

SUMMARY

TEST DATA

ON

700 TO 1,300 MHz

25nS HIGH SPEED

≥70dB DYNAMIC RANGE

LOW AM/PM CONVERSION

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA)

PMI MODEL No: SDLVA-07103-70-LA3

PRE-PRODUCTION UNITS

SERIAL NUMBERS:

SDL005002 THRU SDL005005

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**SUMMARY TEST DATA**

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

FINAL DATA ON S/N: SDL005002

FORM: 304-SD

JOB NO: 00417PE

SUMMARY TEST DATA

ON

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER--SDLVA

CUSTOMER: Litton Advanced
 JOB NO: 00417PE
 MODEL NO: SDLVA-07103-70
 SERIAL NO: SDL005002

TESTED BY: R.B. FRZOV.
 DATE: 5/12/00

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE	0.7 TO 1.3 GHz (min)	OK	
2	DYNAMIC RANGE	77 dB (min)	OK	
3	LOG LINEARITY -75 to +3 dBm	±1.5 dB (max)	N/A	
	LOG LINEARITY 0 to +85°C	±2.5 dB (max)		
4	LOG SLOPE	SEE PLOTS		
5	TSS (TANGENTIAL SENSITIVITY)	-76 dBm (max)	-76 dBm	
6	VSWR (INPUT)	1.8:1 (max)	1.8:1	
7	LIMITED OUTPUT	-20 dBm (min)	-13.74 dBm	
8	RISE TIME	25 ns (max)	25 ns	
9	FALL TIME	30 ns (max)	30 ns	
10	CURRENT DRAW + 5 Volts	115 mA (max)	212 mA	
11	CURRENT DRAW - 5 Volts	145 mA (max)	122 mA	

PRODUCTION MANAGER APPROVAL: [Signature] DATED: 5/12/00

QA/QC APPROVAL: [Signature] DATED: 5/12/00

OCTOBER 31st, 2000

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SUMMARY TEST DATA

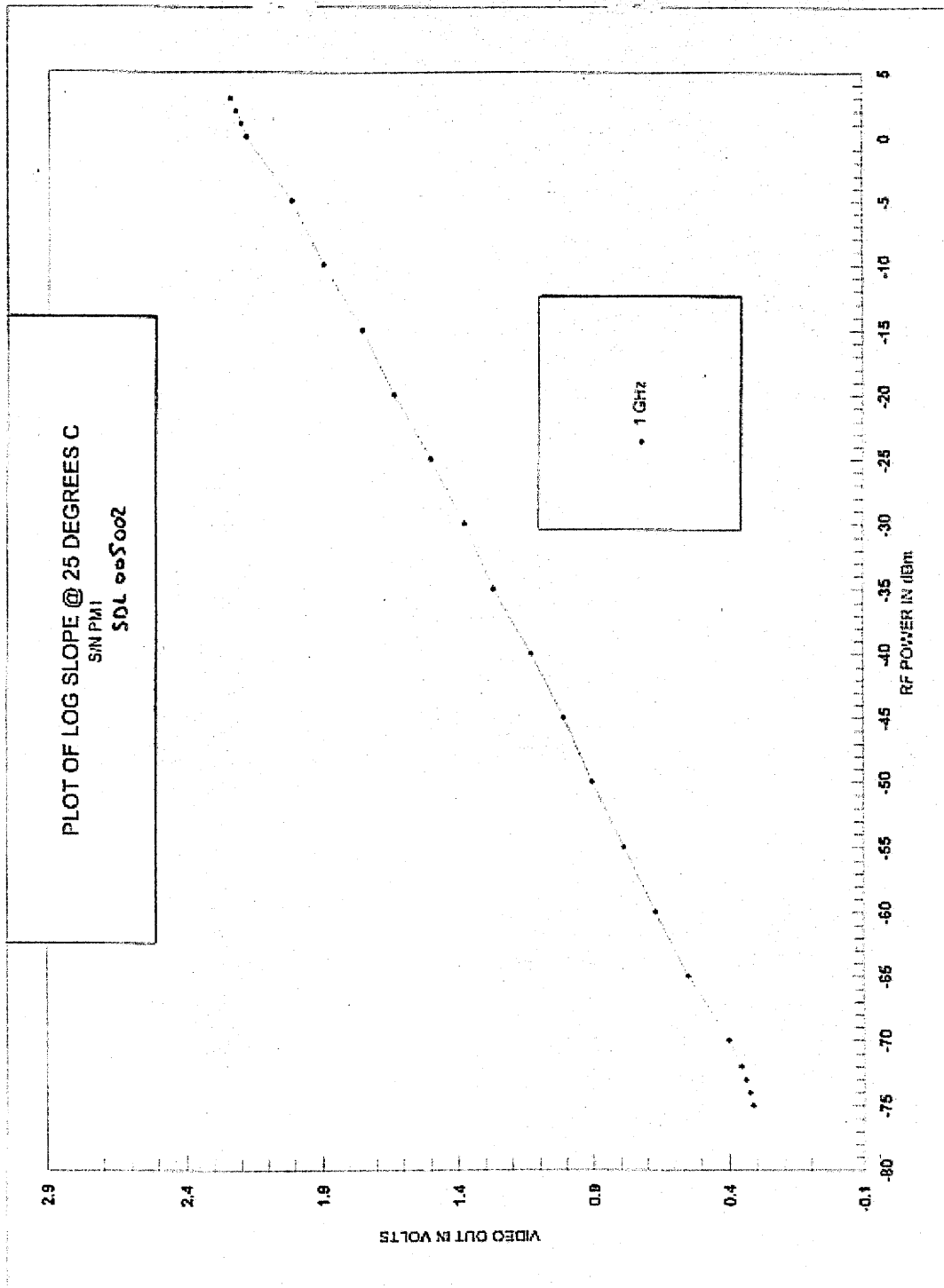
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



PLOT OF LOG SLOPE S/N: SDL005002
AS MEASURED @ 25C



OCTOBER 31th, 2000

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

TABULATED DATA OF PLOT OF LOG SLOPE S/N: SDL005002
AS MEASURED @ 25C

IRF POWER IN (dBm)	+25 DEGREES C		+25 DEGREES C		+85 DEGREES C	
	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)
3	2.24	13.74				
2	2.22	13.74				
1	2.2	13.74				
0	2.18	13.74				
-5	2.01	13.74				
-10	1.894	13.74				
-15	1.75	13.74				
-20	1.633	13.74				
-25	1.5	13.74				
-30	1.378	13.74				
-35	1.272	13.74				
-40	1.132	13.74				
-45	1.011	13.74				
-50	0.908	13.72				
-55	0.787	13.7				
-60	0.67	13.67				
-65	0.549	13.56				
-70	0.401	12.28				
-72	0.356	11.21				
-73	0.339	10.65				
-74	0.324	10.08				
-75	0.313	9.54				
DC POWER @ + 5 VOLTS	+212 mA					
DC POWER @ - 5 VOLTS	-122 mA					
LOG SLOPE						
BEST FIT STRAIGHT LINE	24.8308					mV/dB
LOG ERROR* IN dB	1.29					
LOG ERROR* IN dB	-1.09					

* LOG ERROR IS CALCULATED AT 77 dB DYNAMIC RANGE (+3 dBm TO -74 dBm) USING LOG SLOPE AT + 25 DEGREES C AS A REFERENCE

OCTOBER 31st, 2000

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SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

**FINAL DATA ON S/N: SDL005003**

FORM: 304-SD

JOB NO: 00417PE

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA

CUSTOMER: Liton Advanced
 JOB NO: 00417PE
 MODEL NO: SDLVA-07103-70
 SERIAL NO: SDL005003

TESTED BY: R.B. FR. P.O.V.
 DATE: 5/12/00

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS Q/A/QC
1	FREQUENCY RANGE	0.7 TO 1.3 GHz (min)	OK	
2	DYNAMIC RANGE	77 dB (min)	OK	
3	LOG LINEARITY -75 to +3 dBm	±1.5 dB (max)	N/A	
	LOG LINEARITY 0 to +35°C	±2.5 dB (max)		
4	LOG SLOPE	SEE PLOTS		
5	TSS (TANGENTIAL SENSITIVITY)	-76 dBm (max)	-76 dBm	
6	VSWR (INPUT)	1.3:1 (max)	1.8:1	
7	LIMITED OUTPUT	-20 dBm (min)	+15.4 dBm	
8	RISE TIME	25 ns (max)	25 ns	
9	FALL TIME	30 ns (max)	30 ns	
10	CURRENT DRAW + 5 Volts	115 mA (max)	212 mA	
11	CURRENT DRAW - 5 Volts	145 mA (max)	120 mA	

PRODUCTION MANAGER APPROVAL: _____

DATED: _____

Q/A/QC APPROVAL: _____

DATED: _____

OCTOBER 31st, 2000

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 Tel: 301-662-4700 Fax: 301-662-4938 Website: www.AMWAVE.com E-mail: amcpmi@aol.com



SUMMARY TEST DATA

SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005

FINAL DATA ON S/N: SDL005004

FORM: 304-SD



PLANAR MONOLITHICS INDUSTRIES
1200 GARDNER ROAD, FREDERICK, MD 21704
TEL: 301-662-4700 FAX: 301-662-4938

JOB NO: 00417PE

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA

CUSTOMER: Liton Advanced
JOB NO: 00417PE
MODEL NO: SDLVA-07103-70
SERIAL NO: SDL005004

TESTED BY: R.B. F.R.D.O.V.
DATE: 5/12/00

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE	0.7 TO 1.3 GHz (min)	OK	
2	DYNAMIC RANGE	77 dB (min)	OK	
3	LOG LINEARITY -75 to +3 dBm	± 1.5 dB (max)	N/A	
	LOG LINEARITY 0 to +35°C	± 2.5 dB (max)		
4	LOG SLOPE	SEE PLOTS		
5	TSS (TANGENTIAL SENSITIVITY)	-76 dBm (max)	-76 dBm	
6	VSWR (INPUT)	1.3:1 (max)	1.8:1	
7	LIMITED OUTPUT	-20 dBm (min)	+15.98 dBm	
8	RISE TIME	25 ns (max)	25 ns	
9	FALL TIME	50 ns (max)	30 ns	
10	CURRENT DRAW + 5 Volts	115 mA (max)	212 mA	
11	CURRENT DRAW - 5 Volts	145 mA (max)	120 mA	

PRODUCTION MANAGER APPROVAL: Ai

QA/QC APPROVAL: Jo

DATED: 5/12/00
5/12/00

OCTOBER 31st, 2000

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SUMMARY TEST DATA
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER

PMI MODEL No: SDLVA-07103-70-LA3

SERIAL NUMBER: PM010514 THRU PM010518 AND SDL005002 THRU SDL005005



FINAL DATA ON S/N: SDL005005

FORM: 304-SD



PLANAR MONOLITHICS INDUSTRIES
 7311-G GROVE ROAD, FREDERICK, MD 21704
 TEL: 301-662-4700 FAX: 301-662-4938

JOB NO: 00417PE

SUMMARY TEST DATA
ON
SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER-SDLVA

CUSTOMER: Litton Advanced
 JOB NO: 00417PE
 MODEL NO: SDLVA-07103-70
 SERIAL NO: SDL005005

TESTED BY: R.B. FR. P.O.V.
 DATE: 5/12/00

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS O.A.V.C.
1	FREQUENCY RANGE	0.7 TO 1.3 GHz (min)	OK	
2	DYNAMIC RANGE	77 dB (min)	OK	
3	LOG LINEARITY -75 to +3 dBm	±1.5 dB (max)	N/A	
	LOG LINEARITY 0 to +35°C	±1.5 dB (max)		
4	LOG SLOPE	SEE PLOTS		
5	TSS (TANGENTIAL SENSITIVITY)	-76 dBm (max)	-76 dBm	
6	VSWR (INPUT)	1.3:1 (max)	1.8:1	
7	LIMITED OUTPUT	-20 dBm (min)	+16.35 dBm	
8	RISE TIME	25 ns (max)	25 ns	
9	FALL TIME	30 ns (max)	30 ns	
10	CURRENT DRAW + 5 Volts	115 mA (max)	212 mA	
11	CURRENT DRAW - 5 Volts	145 mA (max)	120 mA	

PRODUCTION MANAGER APPROVAL: [Signature] DATED: 5/12/00

Q.A.V.C. APPROVAL: [Signature] DATED: 5/12/00

OCTOBER 31th, 2000

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