



PLANAR MONOLITHICS INDUSTRIES
 7311-G GROVE ROAD, FREDERICK, MD 21704
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 ISO 9001:2000 CERTIFIED

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

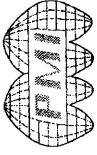
CUSTOMER: <u>NORTHROP GRUMMAN</u>	NORTHROP PART NO: <u>990754-1 REV. C</u>
MODEL NO: <u>SLVAC-06135M</u>	JOB NO: <u>P507033</u>
OPTION NO: <u>A08, LA</u>	TESTED BY: <u>R.AFABLE/ H.HAHN</u>
SERIAL NO: <u>PM510478</u>	TEMPERATURE: <u>25 °C</u>
	DATE: <u>November 29, 2005</u>

NO:	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE	600 TO 1350 MHz	600 TO 1350 MHz	✓
2	INPUT VSWR	1.8:1 (MAX)	1.28:1	✓
3	LOGGING RANGE	-65 dB TO +5 dB (MIN) PLOTS ATTACHED	-65 dB TO +5 dB	✓
4	TSS	-65 dBm (MIN)	-66 dBm	✓
5	LOG SLOPE VARIATION WITH FREQUENCY	±0.7 mV/dB MAX (over any 80 MHz RF bandwidth from 750 MHz to 1350 MHz) ±1.0 mV/dB MAX (over any 80 MHz RF bandwidth from 600 MHz to 750 MHz) PLOTS ATTACHED	±0.61 mV/dB ±0.54 mV/dB	✓
6	LOG SLOPE VARIATION WITH TEMPERATURE	±1 mV (MAX)	±0.98 mV	✓
6	LOG LINEARITY: @ -60 TO 0 dBm @ -65 TO +5dBm	±1.2 dB (MAX) ±1.5 dB(MAX)	±0.99 dB ±1.31 dB	✓
7	RISE TIME (10% TO 90% POINTS)	25 nSec (MAX)	16 nS	✓
8	FALL TIME (90% TO 10% POINTS)	30 nSec (MAX)	15 ns	✓
9	SETTLING TIME	40 nSEC (MAX)	33 nS	✓
10	LIMITED IF OUTPUT	-18 dBm (MIN)	-16.1 dBm -17.53 dBm	✓
11	MINIMUM VIDEO OUTPUT VOLTAGE @ 5dBm (Slope connected to ground with 511 Ohm resistor) (Offset connected to ground with 511 Ohm resistor)	2.7 Volts (MAX) 2 Volts (MIN)	2.31 Volts	✓
12	DC POWER @ +5 VDC (NO LOAD)	30 mA (MAX)	13 mA	✓
13	PROPAGATION DELAY	10 ns MAXIMUM, 7ns typical	7 nS	✓
14	VIDEO LOAD	100 OHMS MAX	100 OHMS	✓
13	DC POWER @ -5 VDC (NO LOAD)	170 mA (MAX)	113 mA	✓

QA / QC APPROVAL: _____

[Signature]
 E
 #27

DATED: 12/20/05

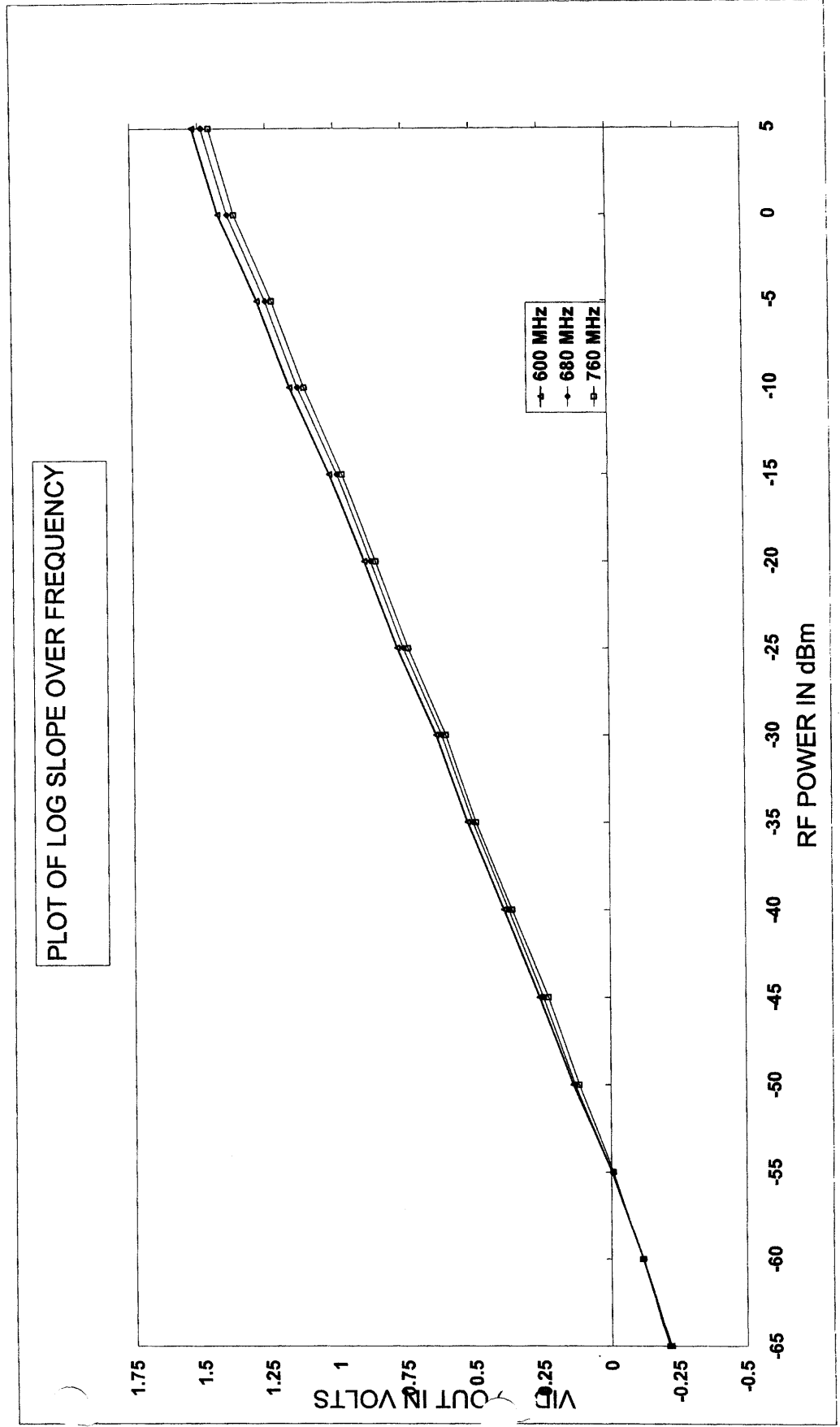


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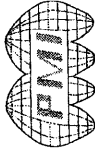
TABULATED TEST DATA @ 600 MHz, 680 MHz AND 760 MHz @ +25 DEGREES C

TECHNICIAN: R.AFABLE/H.HAN MODEL NUMBER: SDLYAC-0613M-A08-LA
DATE: 11/29/2005 SERIAL NUMBER: PM510478

PLOT OF LOG SLOPE OVER FREQUENCY



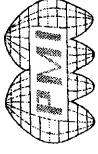
TABULATED TEST DATA @ 840 MHz, 920 MHz AND 1000 MHz @ +25 DEGREES C



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TECHNICIAN: R.AFABLE/H.HAHN MODEL NUMBER: SDLVAC-0613M-A08-LA
 DATE: 11/29/2005 SERIAL NUMBER: PM510478

RF POWER IN (dBm)	840 MHz		920 MHz		1000 MHz	
	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)
5	1.429	-16.32	1.4	-16.3	1.375	-16.29
0	1.338	-16.28	1.311	-16.27	1.289	-16.25
-5	1.203	-16.26	1.182	-16.24	1.162	-16.24
-10	1.09	-16.25	1.069	-16.24	1.048	-16.24
-15	0.954	-16.26	0.934	-16.25	0.917	-16.26
-20	0.834	-16.26	0.816	-16.27	0.8	-16.28
-25	0.718	-16.25	0.701	-16.26	0.686	-16.28
-30	0.584	-16.23	0.571	-16.26	0.557	-16.27
-35	0.477	-16.21	0.466	-16.26	0.453	-16.27
-40	0.35	-16.22	0.34	-16.24	0.328	-16.24
-45	0.232	-16.23	0.224	-16.45	0.21	-16.18
-50	0.125	-16.25	0.118	-16.18	0.099	-16.18
-55	0.001	-16.32	-0.004	-16.29	-0.025	-16.34
-60	-0.108	-16.44	-0.115	-16.47	-0.136	-16.55
-65	-0.211	-16.76	-0.219	-16.81	-0.235	-16.9
DC POWER @ + 5 VOLTS	+13 mA					
DC POWER @ - 5 VOLTS	-113 mA					
LOG SLOPE						
BEST FIT STRAIGHT LINE	23.8579	mV/dB	23.5286	mV/dB	23.4636	mV/dB
LOG ERROR IN dB @ -5 +5 dBm	0.96		0.80		0.75	
LOG ERROR IN dB @ -40 - 0 dBm	-0.72		-0.65		-0.63	
FREQUENCY FLATNESS						
LOG VIDEO FROM THE VALUE @ 1 GHz IN dB						

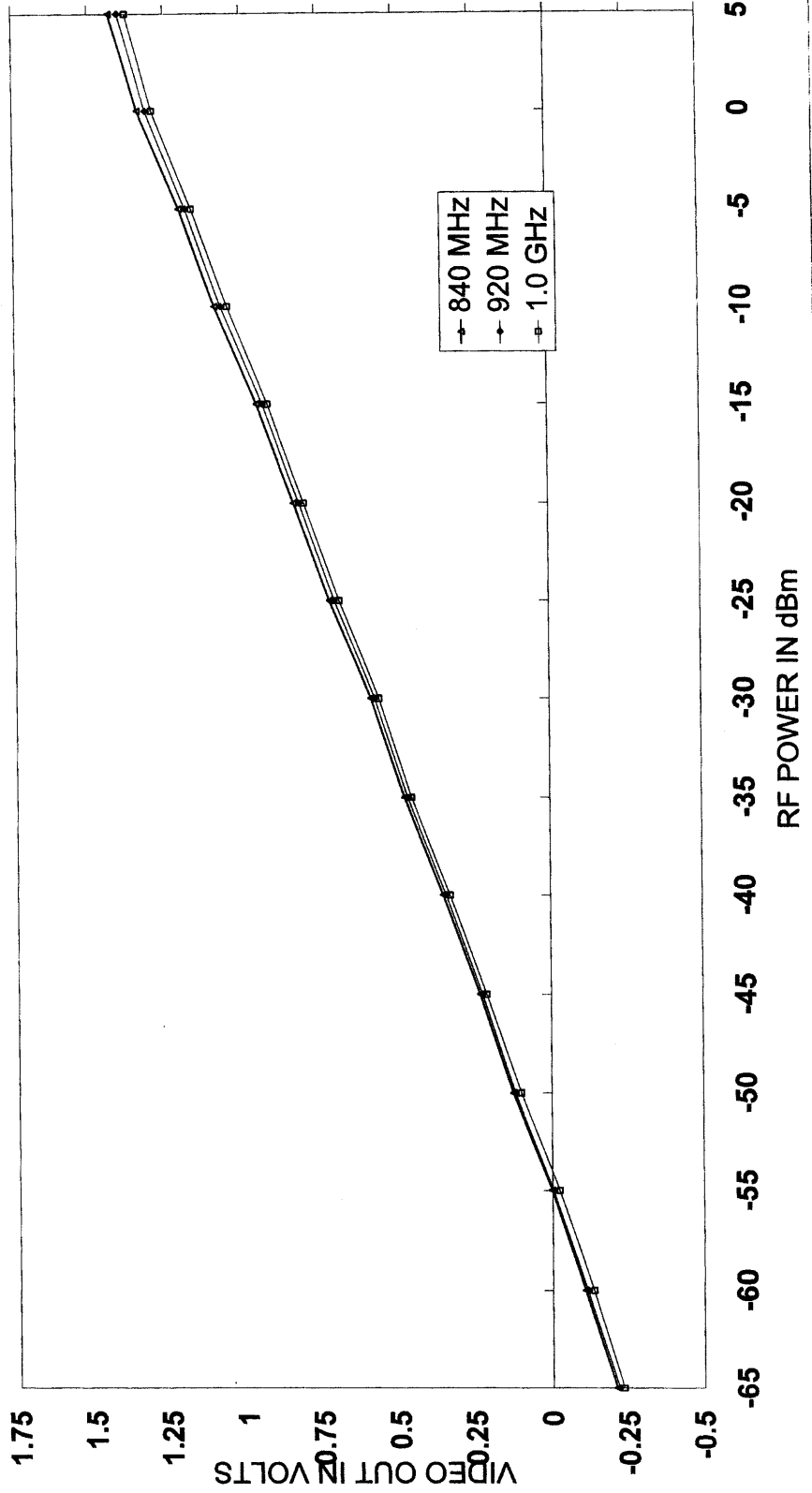


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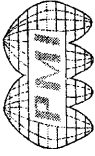
TABULATED TEST DATA @ 840 MHz, 920 MHz AND 1000 MHz @ +25 DEGREES C

TECHNICIAN: R.AFABLE/H.HAHN MODEL NUMBER: SDLVAC-0613M-A08-LA
DATE: 11/29/2005 SERIAL NUMBER: PM510478

PLOT OF LOG SLOPE OVER FREQUENCY



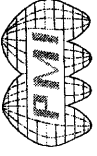
TABULATED TEST DATA @ 1080 MHz, 1160 MHz AND 1240 MHz @ +25 DEGREES C



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TECHNICIAN: R.AFABLE/H.HAHN MODEL NUMBER: SDLVAC-0613M-A08-LA
 DATE: 11/29/2005 SERIAL NUMBER: PM510478

RF POWER IN (dBm)	1080 MHz		1160 MHz		1240 MHz	
	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)
5	1.348	-16.23	1.311	-16.21	1.273	-16.2
0	1.262	-16.21	1.226	-16.21	1.187	-16.21
-5	1.135	-16.2	1.1	-16.21	1.066	-16.22
-10	1.021	-16.21	0.99	-16.22	0.96	-16.22
-15	0.892	-16.23	0.864	-16.23	0.838	-16.23
-20	0.778	-16.24	0.754	-16.23	0.73	-16.23
-25	0.666	-16.25	0.643	-16.24	0.62	-16.23
-30	0.539	-16.25	0.519	-16.23	0.5	-16.21
-35	0.432	-16.26	0.415	-16.2	0.398	-16.17
-40	0.307	-16.21	0.294	-16.11	0.276	-16.12
-45	0.192	-16.1	0.18	-16.03	0.155	-16.15
-50	0.089	-16.13	0.062	-16.17	0.04	-16.32
-55	-0.038	-16.32	-0.069	-16.44	-0.076	-16.43
-60	-0.157	-16.61	-0.178	-16.69	-0.192	-16.72
-65	-0.252	-16.98	-0.266	-17.07	-0.278	-17.13
DC POWER @ + 5 VOLTS	+13 mA					
DC POWER @ - 5 VOLTS	-113 mA					
LOG SLOPE						
BEST FIT STRAIGHT LINE	23.2736	mV/dB	23.0143	mV/dB	22.6429	mV/dB
LOG ERROR IN dB @ +5 dBm	0.70		0.72		0.65	
LOG ERROR IN dB @ -0 dBm	-0.61		-0.76		-0.85	
FREQUENCY FLATNESS						
LOG VIDEO FROM THE VALUE @ 1 GHz IN dB						

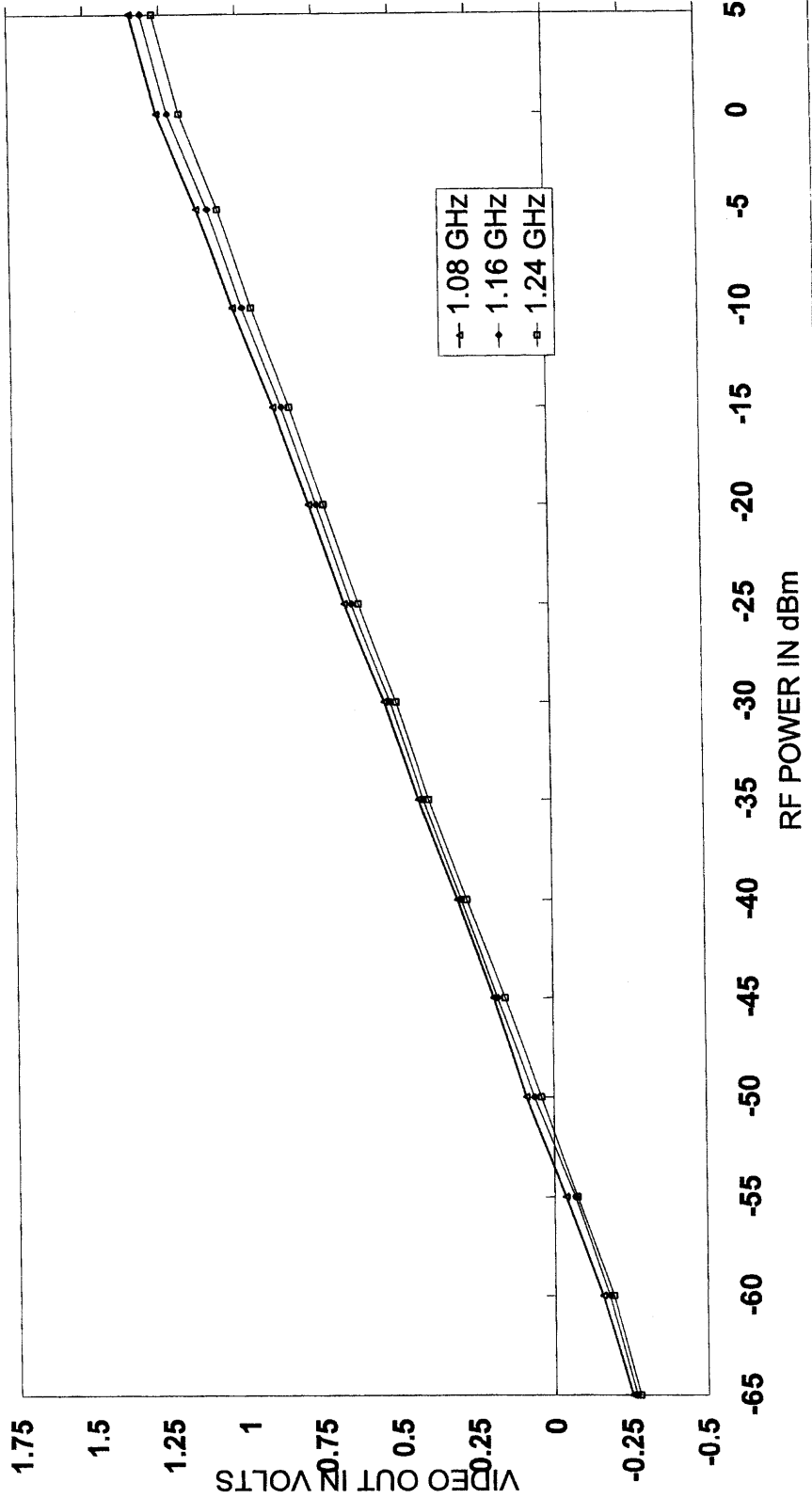


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TABULATED TEST DATA @ 1080 MHz, 1160 MHz AND 1240 MHz @ +25 DEGREES C

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PLOT OF LOG SLOPE OVER FREQUENCY



TABULATED TEST DATA @ 1320 MHz AND 1350 MHz @ +25 DEGREES C



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TECHNICIAN: **R.AFABLE/H.HAHN** MODEL NUMBER: **SDLVAC-0613M-A08-LA**
 DATE: **11/29/2005** SERIAL NUMBER: **PM510478**

RF POWER IN (dBm)	1320 MHz		1350 MHz	
	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)
5	1.245	-16.21	1.239	-16.13
0	1.158	-16.25	1.152	-16.19
-5	1.041	-16.27	1.037	-16.22
-10	0.938	-16.27	0.935	-16.24
-15	0.816	-16.29	0.812	-16.27
-20	0.709	-16.29	0.704	-16.28
-25	0.599	-16.29	0.594	-16.29
-30	0.481	-16.28	0.477	-16.29
-35	0.381	-16.27	0.377	-16.29
-40	0.26	-16.25	0.256	-16.25
-45	0.151	-16.22	0.149	-16.13
-50	0.042	-16.31	0.036	-16.09
-55	-0.084	-16.77	-0.092	-16.43
-60	-0.208	-17.21	-0.213	-16.95
-65	-0.287	-17.47	-0.289	-17.53
DC POWER @ + 5 VOLTS	+13 mA			
DC POWER @ - 5 VOLTS	-113 mA			
LOG SLOPE				
BEST FIT STRAIGHT LINE	22.3143	mV/dB	22.3064	mV/dB
LOG ERROR IN dB @ -45 - +5 dBm	0.50		0.60	
LOG ERROR IN dB @ -60 - 0 dBm	-0.96		-0.99	
FREQUENCY FLATNESS				
LOG VIDEO FROM THE VALUE @ 1 GHz IN dB				

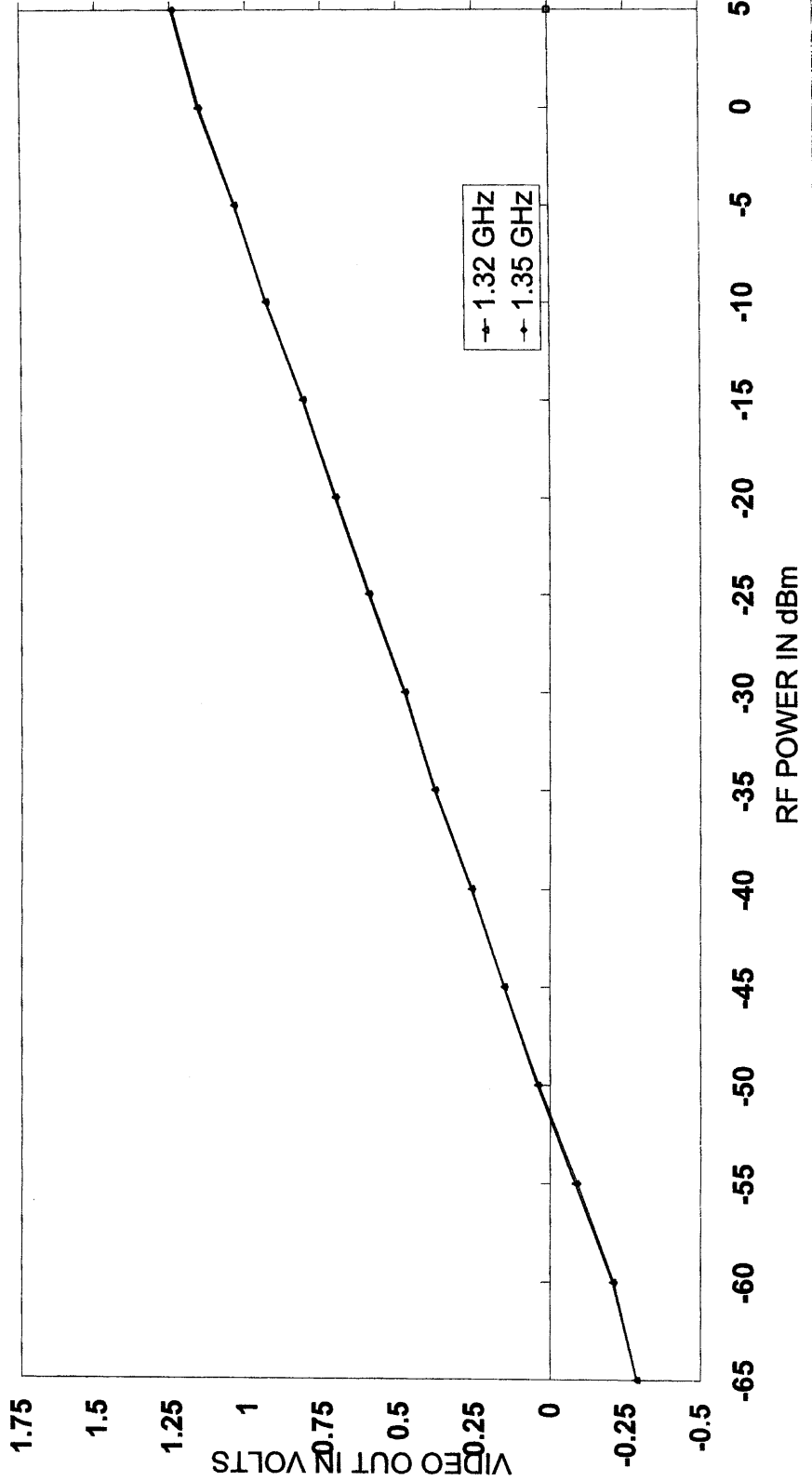


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TABULATED TEST DATA @ 1320 MHz AND 1350MHz @ +25 DEGREES C

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PLOT OF LOG SLOPE OVER FREQUENCY



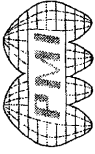
TABULATED TEST DATA @ 600 MHz, 1.0 GHz AND 1.35 GHz @ -40 DEGREES C



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RF POWER IN (dBm)	600 MHz		1.0 GHz		1.35 GHz	
	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)
5	1.692		1.554		1.42	
0	1.601		1.466		1.334	
-5	1.454		1.336		1.211	
-10	1.336		1.226		1.109	
-15	1.194		1.094		0.985	
-20	1.057		0.966		0.871	
-25	0.945		0.859		0.767	
-30	0.798		0.723		0.642	
-35	0.674		0.608		0.534	
-40	0.554		0.493		0.408	
-45	0.415		0.356		0.32	
-50	0.292		0.258		0.21	
-55	0.152		0.141		0.1	
-60	0.001		0.006		-0.015	
-65	-0.12		-0.121		-0.12	
DC POWER @ + 5 VOLTS	13 mA					
DC POWER @ - 5 VOLTS	113 mA					
LOG SLOPE						
BEST FIT STRAIGHT LINE	26.1314	mV/dB	24.1021	mV/dB	22.2707	mV/dB
LOG ERROR IN dB	0.54		0.54		0.64	
LOG ERROR IN dB	-0.98		-0.85		-0.94	
FREQUENCY FLATNESS						
LOG VIDEO FROM THE VALUE						
@ 1 GHz IN dB						

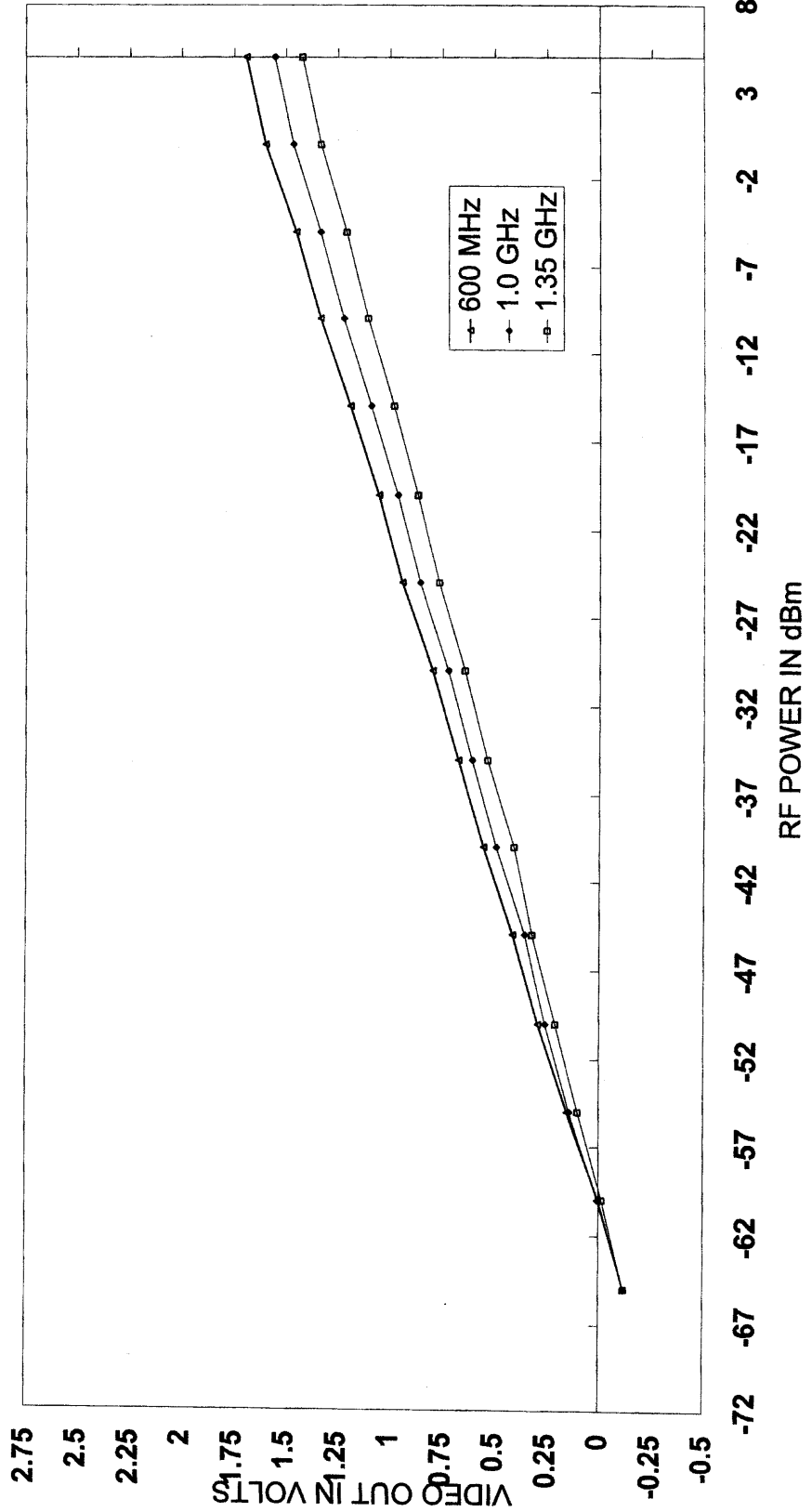


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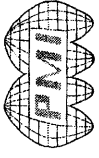
TABULATED TEST DATA @ 600 MHz, 1.0 GHz AND 1.35 GHz @ -40 DEGREES C

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PLOT OF LOG SLOPE OVER FREQUENCY



TABULATED TEST DATA @ 600 MHz, 1.0 GHz AND 1.35 GHz @ +85 DEGREES C



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TECHNICIAN: R.AFABLE/H.HAHN MODEL NUMBER: SDLVAC-0613M-A08-LA
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RF POWER IN (dBm)	600 MHz		1.0 GHz		1.35 GHz	
	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)	VIDEO OUT (VOLTS)	LIMITED IF OUT (dBm)
5	1.394		1.225		1.092	
0	1.297		1.135		1.002	
-5	1.141		1.01		0.891	
-10	1.017		0.893		0.785	
-15	0.876		0.765		0.667	
-20	0.756		0.654		0.562	
-25	0.625		0.532		0.447	
-30	0.494		0.413		0.34	
-35	0.378		0.303		0.234	
-40	0.237		0.176		0.116	
-45	0.12		0.069		0.013	
-50	-0.007		-0.053		-0.109	
-55	-0.129		-0.174		-0.226	
-60	-0.234		-0.286		-0.346	
-65	-0.324		-0.367		-0.398	
DC POWER @ + 5 VOLTS	13 mA					
DC POWER @ - 5 VOLTS	113 mA					
LOG SLOPE						
BEST FIT STRAIGHT LINE	25.1507	mV/dB	23.3193	mV/dB	21.9614	mV/dB
LOG ERROR IN dB	1.86		1.27		1.49	
LOG ERROR IN dB	-0.83		-0.46		-1.15	
FREQUENCY FLATNESS						
LOG VIDEO FROM THE VALUE						
@ 1 GHz IN dB						



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TABULATED TEST DATA @ 600 MHz, 1.0 GHz AND 1.35 GHz @ +85 DEGREES C

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PLOT OF LOG SLOPE OVER FREQUENCY

